

# **ANEXO N° 5**

**Informe de Análisis Estadístico (CENERGÍA)**

# **INFORME DE ANÁLISIS ESTADISTICO (CENERGÍA)**

**Elaborado por**

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## INFORME DE ANÁLISIS ESTADISTICO

### 1. OBJETIVO

Presentar una metodología de selección de muestras representativas de suministros sujetos a los procesos de cortes y reconexión para estimar los tiempos de desplazamiento de suministro a suministro, y otros tiempos vinculados a las actividades de corte y reconexión.

### 2. ALCANCE

Esta metodología permite la inferencia estadística a nivel de los siguientes ámbitos:

- Para zonas urbanas y rurales.
- Las modalidades de traslado a pie, en moto y en camioneta.

Se describe una metodología de selección de muestras donde se reconoce que los tiempos de desplazamiento entre suministros varían en función de la densidad de corte y reconexiones programados para una determinada zona. Esta metodología de selección de muestras se aplicó para las áreas urbanas y para el área rural considerada.

Las zonas de análisis fueron las siguientes: Lima urbano, según lo indicado en los términos de referencia, una zona urbana de provincias, Piura urbano, y una zona rural, Valle del Mantaro. Los criterios de elección de dichas ciudades se describen más adelante en este documento.

### 3. TIPO DE MUESTREO

El muestreo realizado es el de un muestreo por conglomerados bietápico con selección aleatoria. Las Unidades Primarias de Muestreo (UPM) son los cuadrantes de 1 km<sup>2</sup>, las Unidades Secundarias de Muestreo (USM) son las Rutas de corte de una determinada fecha. Las Unidades de Análisis son los suministros sujetos a corte.

Es bietápico en la medida que se realizó una primera selección aleatoria de los cuadrantes de 1 km<sup>2</sup> que configuran la ciudad (urbana o rural) en estudio, y dentro del cuadrante elegido, se realizó una segunda selección aleatoria de las rutas que pueden contener dicho cuadrante.

Dentro de este esquema se clasificaron los cuadrantes definidos por estratos de densidades de corte.



#### 4. CONSIDERACIONES PREVIAS

Para el desarrollo del diseño metodológico se han considerado las siguientes premisas:

- 1) A las ciudades elegidas se les configuró los conglomerados definiéndolas por cuadrantes cuyas áreas son de 1 km<sup>2</sup> utilizando las coordenadas UTM. En ese sentido son conglomerados de similar tamaño.
- 2) La referencia temporal de las fechas de corte de una empresa concesionaria es un mes, pues se asume que en dicho período se utilizan todas las rutas de las programaciones de corte de una empresa concesionaria.
- 3) La elección del mes de referencia se basa en un período con menor desviación típica respecto al promedio mensual del último año, por tanto no se considera un mes que incluye valores extremos de un número alto o un número bajo de cortes programados en el mes.
- 4) Según los programas de corte a medir de cada empresa concesionaria, tendremos conglomerados con diferentes densidades de corte, por lo que se determinó tres estratos: Alta Densidad, Media Densidad y Baja Densidad. Se asume que se encontrarán rutas de corte de alta densidad en los cuadrantes de alta densidad, y rutas de corte de baja densidad en los cuadrantes de baja densidad.
- 5) Dentro de las ciudades elegidas y probablemente dentro de los conglomerados, existen distintas características geográficas y de accesibilidad hacia los suministros programados para corte y reconexión, la elección aleatoria de los cuadrantes y de las rutas, recogen esa variabilidad.
- 6) De las muestras elegidas, se aplicó la medición de los tiempos de desplazamiento utilizando los medios: a pie, en moto, en furgoneta y en camioneta. Se asigna los tipos de medios a evaluar según los estratos de densidades de cortes como se muestra en el cuadro N°1:

**Cuadro N° 1 Asignación de los Medios de Traslado por Tipo de Estrato**

| Medio               | Alta densidad | Media densidad | Baja densidad |
|---------------------|---------------|----------------|---------------|
| A pie               | X             |                |               |
| Moto                |               | X              | X             |
| Furgoneta/Camioneta |               |                | X             |

Se realizó esta asignación en función de los resultados de rendimientos eficientes según zonas de densidad llevados a cabo en la regulación anterior. Dada las características muy heterogéneas en los estratos de baja densidad, su alta dispersión de suministros, se decidió utilizar dos modalidades de traslado indicadas en el cuadro 1 para comparar los rendimientos.

- 7) Se asume que existe homogeneidad en la ejecución de los procesos de corte y reconexión en todas las fechas programadas en el mes.

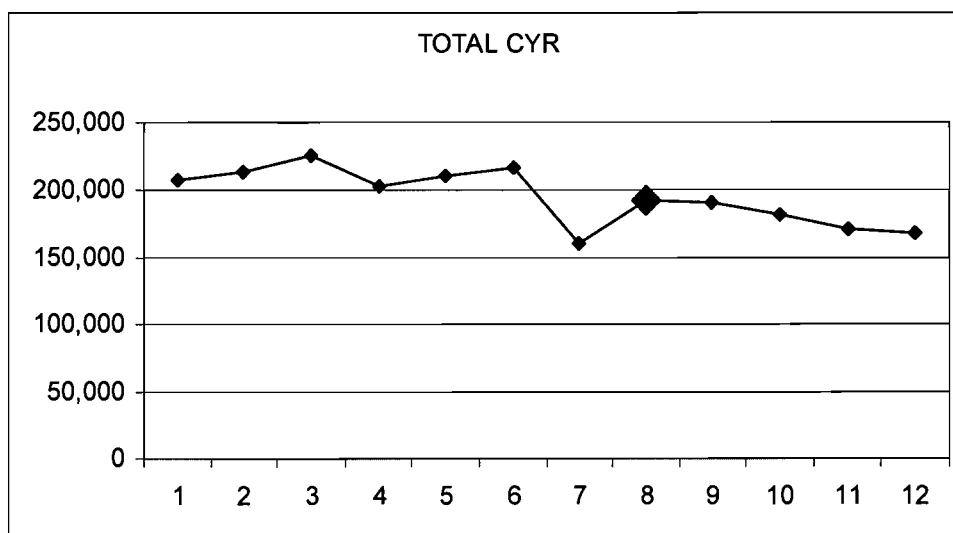
## 5. ELECCION DE LAS CIUDADES Y MES BASE

### 5.1 ZONA LIMA URBANO

La ciudad de Lima ha sido evaluada para la medición de los tiempos y/o rendimientos de los procesos de corte y reconexión considerando a la misma como un todo, y no de manera independiente por empresa concesionaria.

El mes base elegido para esta ciudad es Agosto de 2,006, el cual representó un mes con menor desviación típica respecto al promedio mensual reportado, es decir, donde no existió valores extremos de cantidades programadas en los procesos de corte y reconexión para la ciudad de Lima. (Ver Anexo A: Estadísticas de los programas de CYR EDN y LDS GART-. OSINERG: Febrero 2,007).

**Fig. 1 Elección mes base – Lima zona urbana**



Fuente: Anexo A

## 5.2 ZONA URBANA PROVINCIAS

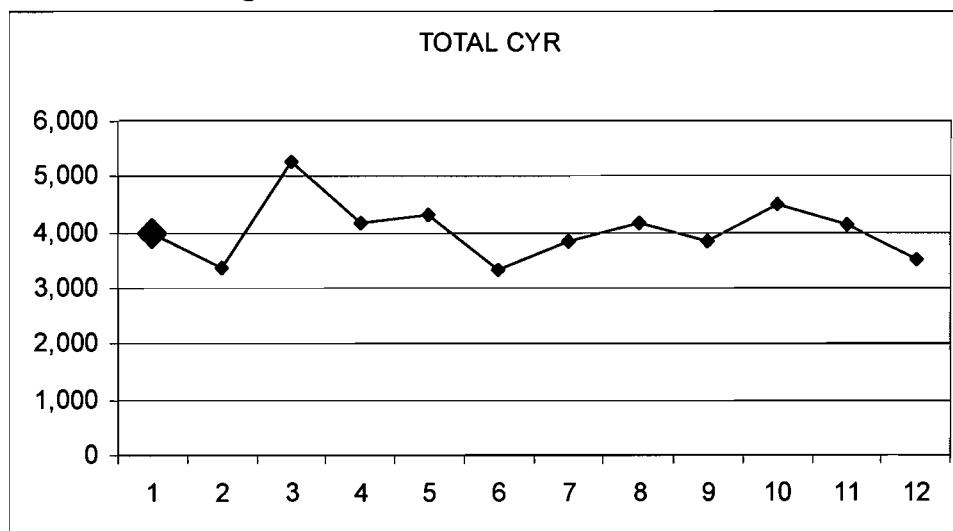
Se optó por considerar una ciudad urbana de provincias con el fin de comprobar la hipótesis de semejanzas (o diferencias) significativas en los tiempos de desplazamiento de suministro a suministro en zonas urbanas distintas a las de Lima. Factores que diferencian dichos tiempos podrían ser explicados por la intensidad del tráfico del parque automotor, el régimen de la señalización del tránsito de las vías, la geografía de las vías, la horizontalidad de las ciudades, etc.

Para ello se tomó como referencia las ciudades capitales de departamentos tipificados como zonas urbanas, organizando una información sobre la cantidad de clientes promedio mensual existentes al 2,006 (Ver Anexo B Marco de Referencia Selección Zona Urbana Provincias).

Evaluando dicha información se buscó seleccionar aquella ciudad cuya desviación típica respecto al promedio general sea mínima, y que además se contara con información estadística específica y oportuna de los programas de corte realizados durante el año 2,006. Chimbote y Piura, fueron las ciudades que contenían una cantidad de clientes cercana al promedio general<sup>1</sup>. Se procedió a realizar una elección al azar entre ellas saliendo elegida la ciudad de Piura.

El mes base con menor desviación típica respecto al promedio mensual del año 2,006 para esta ciudad fue Enero 2,006 (Ver Anexo C: Estadísticas de los programas de CYR ENOSA - GART-. OSINERG: Febrero 2,007).

**Fig. 2 Elección mes base – Piura zona urbana**



Fuente: Anexo C

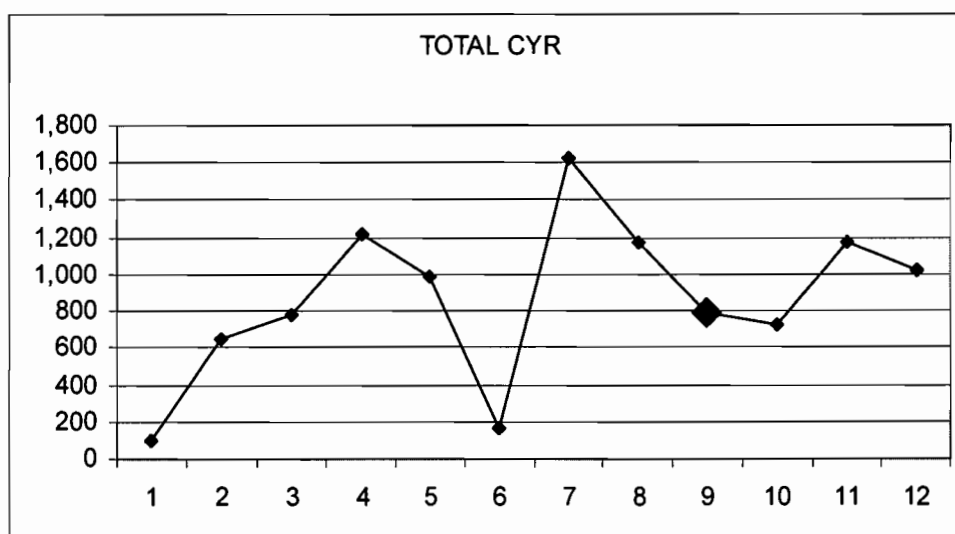
Ver Anexo B.

## ZONA RURAL

Dadas las características de las zonas rurales, con baja densidad global y concentraciones o asentamientos poblacionales distantes entre localidades, se tomó como zona de evaluación rural a la integrada por los sistemas eléctricos rurales de Chupaca, Jauja y Concepción, en el Valle del Mantaro, de la concesión de la empresa Electrocentro. En conjunto dicha zona rural representa el 9.6% de clientes y el 9.3% de consumo de energía, promedio mensual, respecto de los sectores típicos 4 y 5. (Ver Anexo D: Marco Muestral Selección Zona Rural).

Siguiendo el mismo procedimiento de los casos anteriores, para el conjunto de esta zona rural (valle del Mantaro rural), se obtuvo que el mes base fue Septiembre 2,006 (Ver Anexo E: Estadísticas de los programas de CYR ELC-GART-. OSINERG: Febrero 2,007).

**Fig. 3 Elección mes base – Valle del Mantaro Rural**



Fuente: Anexo E

## **6. DISEÑO MUESTRAL**

En esta sección se detalla el proceso metodológico seguido para la selección de muestras representativas de suministros sujetos a los procesos de corte y reconexión, las mismas que se replican para las distintas localidades elegidas.

### **6.1. MARCO MUESTRAL**

#### **6.1.1 Ciudad de Lima**

Se utilizó el marco muestral de los cuadrantes de 1 km<sup>2</sup> de la ciudad de Lima, que incluye en cada uno de ellos los cortes con sus fechas programadas correspondientes al mes de Agosto de 2,006. Dicho marco contiene 1,167 cuadrantes donde se había programado la ejecución de por lo menos un corte en Agosto de 2,006. El total de cortes de ese período para la ciudad de Lima fue de 101,163. (Ver Anexo F: Marco Muestral Cortes Ciudad de Lima, Agosto 2,006).

#### **6.1.2 Ciudad de Piura**

Se utilizó el marco muestral de los cuadrantes de 1 km<sup>2</sup> de la ciudad de Piura, donde se incluían en cada uno de ellos los cortes con sus fechas programadas correspondientes al mes de Enero del 2,006. Dicho marco contiene 82 cuadrantes donde se había programado la ejecución de por lo menos un corte en Enero de 2,006. (Ver Anexo G: Marco Muestral Cortes Ciudad de Piura, Enero 2,006).

#### **6.1.3 Zona rural Valle del Mantaro Localidades de Chupaca, Jauja y Concepción**

Se agruparon las localidades pertenecientes a los servicios eléctricos de Chupaca, Jauja y Concepción, para definir el marco muestral de la zona rural del Valle del Mantaro. Se configuró los cuadrantes de 1 km<sup>2</sup> de estas zonas, donde se incluían en cada uno de ellos los cortes con sus fechas programadas correspondientes al mes de Septiembre de 2,006. Dicho marco contiene 126 cuadrantes donde se había programado la ejecución de por lo menos un corte en Septiembre de 2,006. (Ver Anexo H: Marco Muestral Cortes Zona Rural Valle del Mantaro, Septiembre 2,006).

### **6.2. ASIGNACION DE LA MUESTRA**

El marco muestral se clasificó por estratos según las densidades de corte que contenía cada cuadrante. Para ello se siguió los siguientes pasos:

- a) Se ordenó el marco muestral de manera descendente en función del número de cortes contenidos en cada cuadrante.
- b) Se realizó un split sobre el primer tercio del número de cortes realizado en el mes base, para ello se calcularon las frecuencias acumuladas de los cuadrantes.
- c) A continuación se realizó el segundo split sobre los dos tercios del número de cortes del mes base.

d) La cantidad de cuadrantes involucrados en los tres estratos y los valores de separación (por número de cortes) de los cuadrantes, queda determinada por la secuencia de cortes y el ordenamiento descendente respectivo.

Los mapas con los resultados de la estratificación por densidad de corte de las zonas de estudio se muestran en el anexo J Mapas con la Estratificación por Densidad de Cortes.

### 6.2.1 Ciudad de Lima

De esta forma, para la ciudad de Lima, al mes de Agosto del 2,006, la estructura de los cuadrantes por estratos según sus densidades de corte es la siguiente:

**Cuadro 2.1 Distribución de los Cuadrantes según Estratos de densidad de corte – Ciudad de Lima Agosto 2,006**

| Estratos     | # de Cortes  | # de Cuadrantes | %            | Cantidad de # de cortes contenido | %            |
|--------------|--------------|-----------------|--------------|-----------------------------------|--------------|
| 1            | 277 a más    | 82              | 7.0          | 33870                             | 33.5         |
| 2            | 136 a 276    | 179             | 15.3         | 33571                             | 33.2         |
| 3            | Menos de 136 | 906             | 77.6         | 33722                             | 33.3         |
| <b>Total</b> |              | <b>1167</b>     | <b>100.0</b> | <b>101163</b>                     | <b>100.0</b> |

Fuente: Anexo F.

Para realizar los cálculos de la muestra seleccionada, se consideró la estructura proporcional de las cantidades de cortes establecidos en el cuadro 2.1 para la presentación de los resultados globales.

### 6.2.2 Ciudad de Piura

En la ciudad de Piura, elegida como zona urbana de provincias, se encontró que el total de cuadrantes correspondía a una tipificación del estrato 3 Baja Densidad, por cuanto el máximo número de cortes en un Km<sup>2</sup> registrado para el mes de Enero 2006 fue de 112 cortes y más del 90% de los cuadrantes no supera los 66 cortes<sup>2</sup>.

Sin embargo, dada las características urbanísticas diferenciadas que pueden existir en esta ciudad, se propuso para captar la dispersión de la información, realizar una nueva estratificación de los cuadrantes en esta ciudad siguiendo el mismo procedimiento de la estratificación realizada para Lima. De esta forma, para la ciudad de Piura, al mes de Enero de 2,006, la estructura de los cuadrantes de Baja Densidad por estratos según sus registros de corte es la siguiente:

<sup>2</sup> Ver anexo G.

**Cuadro 2. 2 Distribución de los Cuadrantes de Baja Densidad según registros de corte – Ciudad de Piura Enero 2,006**

| Estratos     | # de Cortes | # de Cuadrantes | %            | Cantidad de # de cortes contenido | %            |
|--------------|-------------|-----------------|--------------|-----------------------------------|--------------|
| 1            | 72 a más    | 7               | 8.5          | 652                               | 31.9         |
| 2            | 41 a 71     | 12              | 14.6         | 672                               | 32.9         |
| 3            | Menos de 41 | 63              | 76.8         | 718                               | 35.2         |
| <b>Total</b> |             | <b>82</b>       | <b>100.0</b> | <b>2,042</b>                      | <b>100.0</b> |

Fuente: Anexo G.

Como en el caso anterior, para realizar los cálculos de la muestra seleccionada, se consideró la estructura proporcional de las cantidades de cortes establecidos en el cuadro 2.2 para la presentación de los resultados globales.

### 6.2.3 Zona Rural Valle del Mantaro

En esta zona rural, se encontró que el total de cuadrantes correspondía a una tipificación del estrato 3 Baja Densidad, teniendo como el máximo número de cortes igual a 43 en un cuadrante de 1 Km<sup>2</sup> al mes de Septiembre 2,006 y más del 90% de los cuadrantes no llegó a los 8 cortes<sup>3</sup>.

Para esta zona rural, también se estratificaron los cuadrantes con fines de captar la dispersión de la información en los cuadrantes tipificados por el registro de sus cortes. De esta manera, para la zona rural del valle del Mantaro, al mes de Septiembre de 2,006, la estructura de los cuadrantes de Baja Densidad por estratos según sus registros de corte es la siguiente:

**Cuadro 2. 3 Distribución de los Cuadrantes de Baja Densidad según registros de corte – Zona Rural Valle Mantaro Sept. 2,006**

| Estratos     | # de Cortes | # de Cuadrantes | %            | Cantidad de # de cortes contenido | %            |
|--------------|-------------|-----------------|--------------|-----------------------------------|--------------|
| 1            | 15 a más    | 5               | 4.0          | 129                               | 28.3         |
| 2            | 4 a 14      | 25              | 19.8         | 172                               | 37.7         |
| 3            | Menos de 4  | 96              | 76.2         | 155                               | 34.0         |
| <b>Total</b> |             | <b>126</b>      | <b>100.0</b> | <b>456</b>                        | <b>100.0</b> |

Fuente: Anexo H.

Como en el caso anterior, para realizar los cálculos de la muestra seleccionada, se consideró la estructura proporcional de las cantidades de cortes establecidos en el cuadro 2.3 para la presentación de los resultados globales de la zona rural.



<sup>3</sup> Ver anexo H.

### 6.3. TAMAÑO DE MUESTRA

El objetivo es estimar los tiempos de desplazamiento entre suministros a través de muestras representativas de suministros programados para corte y reconexión, tanto para zonas urbanas como para zonas rurales.

La forma simplificada de determinar el tamaño de muestra para encontrar estimaciones de los tiempos promedio de traslado entre suministros es la siguiente:

$$n = \frac{Nz^2s^2}{(N-1) \times (e^2) + z^2s^2} \times ED \quad \text{-----} \quad (1)$$

donde:

n: es el tamaño de muestra de cortes a evaluar

N: es el tamaño del universo de suministros sujetos a cortes o reconexión de una ciudad en determinado mes base.

s<sup>2</sup>: es la variancia estimada de los tiempos de desplazamiento entre suministros de una ciudad en determinado mes base.

Z: es la abscisa de la curva normal que corta un área de  $\alpha$  en las colas de la distribución normal (igual a 1.96 para 95% de confianza)

e: es el nivel de error esperado para la estimación

ED: Efecto del diseño por conglomerados utilizado.

El efecto diseño es un coeficiente que expresa la pérdida de precisión de los estimadores al realizar una selección por conglomerados y no directa o individual por suministros<sup>4</sup>. Si aceptamos un valor a 1, se asume que la pérdida es nula al tomar la muestra por conglomerados y no de manera directa.

#### 6.3.1 Ciudad de Lima

Para la ciudad de Lima tenemos el cálculo del tamaño de muestra utilizando la relación (1):

N = 101,163

Z = 1.96 (95% de confianza)

s<sup>2</sup> = 21.853 (camioneta), 2.8288 (moto) y 4.7385 (a pie)<sup>5</sup>

e = 0.5 minutos

ED=1

Suponiendo que a toda la ciudad de Lima se realiza un muestreo utilizando las tres modalidades, los tamaños de muestra mínimo para ese margen de error (de 0.5 minutos) y nivel de confianza (95%), son 73 a pie, 44 en moto y 335 en camioneta. Dado que se desea aplicar en los distintos estratos, distintas

<sup>4</sup> La estimación se realiza calculando el cociente de la variancia al utilizar un diseño por conglomerados entre la variancia al usar un diseño aleatorio simple: VAR (M conglomerados) / VAR (MAS).

<sup>5</sup> Estos valores han sido tomados de la estadística de la muestra utilizada en los estudios realizados para la regulación del año 2004 GART - OSINERG. Pertenecen a las tres modalidades de traslado utilizadas para los procesos de corte.

modalidades según el cuadro 1, se tiene entonces que los tamaños de muestra calculados son:

**Cuadro 3.1 Tamaños de muestra según modalidad de traslado – Ciudad de Lima**

| Medio            | Alta densidad | Media densidad | Baja densidad | Total |
|------------------|---------------|----------------|---------------|-------|
| <b>A pie</b>     | <b>73</b>     |                |               | 73    |
| <b>Moto</b>      |               | <b>44</b>      | <b>44</b>     | 88    |
| <b>Furgoneta</b> |               |                | <b>335</b>    | 335   |
| Total            | 73            | 44             | 379           | 496   |

Con miras a reconocer el efecto por el diseño utilizado, captar diversidad en el registro de los tipos de corte, realizar recorridos con más de una modalidad en estratos de baja densidad y dar mayor precisión a las estimaciones de los parámetros, se propone un incremento del 10% a los tamaños calculados. Entonces el tamaño mínimo de la muestra final estimada incluyendo los recorridos con moto adicionales fue de 550 casos:

**Cuadro 3.1A Tamaños de muestra ajustados según modalidad de traslado – Ciudad de Lima**

| Medio            | Alta densidad | Media densidad | Baja densidad | Total |
|------------------|---------------|----------------|---------------|-------|
| <b>A pie</b>     | <b>80</b>     |                |               | 80    |
| <b>Moto</b>      |               | <b>60</b>      | <b>50</b>     | 110   |
| <b>Furgoneta</b> |               |                | <b>360</b>    | 360   |
| Total            | 80            | 60             | 410           | 550   |

### 6.3.2 Ciudad de Piura

Para la ciudad de Piura tenemos el cálculo del tamaño de muestra utilizando la relación (1):

$$N = 2,042$$

$$Z = 1.96 \text{ (95\% de confianza)}$$

$$s^2 = 21.853 \text{ (camioneta), } 2.8288 \text{ (moto)}^6$$

$$e = 0.5 \text{ minutos}$$

$$ED = 1$$

Como se indicó anteriormente, la tipificación de los cuadrantes de toda la ciudad de Piura es de baja densidad. En ese sentido se optó por usar la modalidad de traslado en moto. Para la ciudad de Piura usando la relación (1), se calcula como tamaño mínimo 43 casos para modalidad en moto. A continuación se presenta la distribución de la muestra para los tres tipos de estratos de baja densidad por registros de cortes de la ciudad de Piura:

**Cuadro 3.2 Tamaños de muestra según modalidad de traslado – Ciudad de Piura**

| Medio | Estrato 1 | Estrato 2 | Estrato 3 | Total |
|-------|-----------|-----------|-----------|-------|
| Moto  | 43        | 43        | 43        | 129   |

<sup>6</sup> Se utilizó los mismos valores de Lima.

### 6.3.3 Zona Rural Valle del Mantaro

Para esta zona rural el cálculo del tamaño de muestra utilizando la relación (1) fue:

$$N = 456$$

$$Z = 1.96 \text{ (95\% de confianza)}$$

$$s^2 = 3.0625 \text{ (camioneta)}^7, 2.8288 \text{ (moto)}^8$$

$$e = 0.5 \text{ minutos}$$

$$ED=1$$

En furgoneta como mínimo 43 casos, y en moto como mínimo 40 casos. Debe indicarse que la tipificación de los cuadrantes de toda la zona rural del Valle del Mantaro conformada es de baja densidad, y dada las características geográficas diferentes a la de una zona urbana, se decidió recorrer toda la muestra con las dos modalidades para estimar los rendimientos de cada uno de ellos. A continuación se presenta la distribución de la muestra para los tres tipos de estratos de baja densidad por registros de cortes de esta zona rural:

**Cuadro 3.3 Tamaños de muestra según modalidad de traslado – Zona Rural Valle del Mantaro**

| Medio       | Estrato 1 | Estrato 2 | Estrato 3 | Total     |
|-------------|-----------|-----------|-----------|-----------|
| <b>Moto</b> | <b>43</b> | <b>11</b> | <b>10</b> | <b>64</b> |
| Furgoneta   | 43        | 11        | 10        | 64        |

Para el estrato 3 que es de menor densidad, se optó por utilizar camioneta D-2 en vez de una furgoneta dadas las características geográficas de una zona rural.

## 6.4. SELECCIÓN DE LA MUESTRA

La selección de la muestra fue aleatoria, por conglomerados y bietápica dentro de cada estrato definido.

### Primera Etapa: Elección de los cuadrantes

Para la selección de las UPM (Cuadrantes), se le asignó un intervalo aleatorio de elección a cada uno de ellos en función de la cantidad de cortes que contienen, y considerando dicho valor se escogió de manera aleatoria los cuadrantes utilizando un generador de números aleatorios multiplicado por 100. (Ver anexo F, anexo G y anexo H columnas de número aleatorio).

### Segunda Etapa: Elección de las rutas

Una vez elegida una UPM, se procede de manera aleatoria a elegir (o generar la óptima) una ruta de cortes programados, correspondientes a una misma fecha. Esto es aplicable en el caso de Lima, por cuanto dentro de un cuadrante, existían varias fechas de corte. En los casos de Piura y la Zona Rural, se eligió la fecha

<sup>7</sup> Se utilizó la prueba inicial como piloto para obtener este valor y determinar el tamaño de muestra de esta zona. (Ver anexo I: Piloto de registro de Tiempos de Traslado zona rural).

<sup>8</sup> Se utilizó los valores de Lima.

de corte de máxima frecuencia o la única existente, puesto que en el mes base elegido, por lo general no se presentaban más de una fecha de corte.

Se concluye el registro de información cuando se concluye la ruta, la jornada de trabajo y/o se completa la cuota de muestra determinada.

#### 6.4.1 Selección de la muestra Ciudad de Lima

En base al tamaño de muestra calculado y la asignación de muestra determinada, se presenta la selección de la muestra para la ciudad de Lima:

**Cuadro 4. 1 Selección de la Muestra – Ciudad de Lima**  
**Eta**pa 1- Selección de Cuadrantes

| ZONA | Código | Cortes | ESTRATOS | CUM %<br>estrato | ALEATORIO  |
|------|--------|--------|----------|------------------|------------|
| 1    | 280666 | 581    | 1        | 23.3%            | 21.6259437 |
| 2    | 279669 | 331    | 1        | 74.2%            | 73.3236589 |
| 3    | 275663 | 273    | 2        | 0.8%             | 0.18015223 |
| 4    | 274674 | 252    | 2        | 10.1%            | 9.7479672  |
| 5    | 273675 | 198    | 2        | 46.0%            | 45.5552077 |
| 6    | 275679 | 131    | 3        | 4.3%             | 4.09132488 |
| 7    | 291648 | 129    | 3        | 7.0%             | 6.69289892 |
| 8    | 271669 | 122    | 3        | 14.4%            | 14.4097167 |
| 9    | 301672 | 118    | 3        | 18.0%            | 17.7358507 |
| 10   | 280661 | 118    | 3        | 18.3%            | 18.0995868 |
| 11   | 291670 | 102    | 3        | 33.2%            | 32.9429199 |
| 12   | 280670 | 83     | 3        | 49.0%            | 48.9136772 |
| 13   | 267670 | 77     | 3        | 51.6%            | 51.5853395 |
| 14   | 273679 | 76     | 3        | 53.2%            | 53.0109407 |
| 15   | 273665 | 48     | 3        | 73.5%            | 73.4005472 |

Dentro de cada cuadrante seleccionado se procedió a elegir aleatoriamente al menos una ruta o recorrido óptimo. El siguiente cuadro muestra las rutas seleccionadas en cada cuadrante:



**Cuadro 4. 1A Selección de la Muestra – Ciudad de Lima  
Etapa 2 – Selección de Rutas**

| ZONA | Código | Cortes | ESTRATOS | Ruta – Fecha | # CORTES de Ruta |
|------|--------|--------|----------|--------------|------------------|
| 1    | 280666 | 581    | 1        | 10/08/2006   | 93               |
| 2    | 279669 | 331    | 1        | 22/08/2006   | 60               |
| 3    | 275663 | 273    | 2        | 01/08/2006   | 85               |
| 4    | 274674 | 252    | 2        | 25/08/2006   | 125              |
| 5    | 273675 | 198    | 2        | 23/08/2006   | 99               |
| 6    | 275679 | 131    | 3        | 01/08/2006   | 36               |
| 7    | 291648 | 129    | 3        | 15/08/2006   | 36               |
| 8    | 271669 | 122    | 3        | 02/08/2006   | 58               |
| 9    | 301672 | 118    | 3        | 23/08/2006   | 52               |
| 10   | 280661 | 118    | 3        | 16/08/2006   | 43               |
| 11   | 291670 | 102    | 3        | 08/08/2006   | 77               |
| 12   | 280670 | 83     | 3        | 29/08/2006   | 31               |
| 13   | 267670 | 77     | 3        | 10/08/2006   | 37               |
| 14   | 273679 | 76     | 3        | 09/08/2006   | 35               |
| 15   | 273665 | 48     | 3        | 02/08/2006   | 34               |

Debe indicarse que para cubrir los tamaños de muestra por estrato, el registro de número de cortes consideró a todos los cuadrantes y fechas de corte (rutas) seleccionadas.

#### 6.4.2 Selección de la muestra Ciudad de Piura

Una vez determinados los tamaños de muestra y su respectiva asignación por estrato, la selección de la muestra es la siguiente:

**Cuadro 4. 2 Selección de la Muestra – Ciudad de Piura  
Etapa 1 - Selección de Cuadrantes**

| ZONA | Código | Cortes | ESTRATOS | CUM % estrato | ALEATORIO |
|------|--------|--------|----------|---------------|-----------|
| 1    | 873422 | 79     | 1        | 89.0%         | 87.36322  |
| 2    | 873424 | 52     | 2        | 73.5%         | 67.21962  |
| 3    | 868424 | 40     | 3        | 5.6%          | 3.2020    |
| 4    | 871422 | 38     | 3        | 16.4%         | 12.2017   |
| 5    | 868425 | 36     | 3        | 21.4%         | 21.3977   |
| 6    | 874424 | 34     | 3        | 31.1%         | 29.1444   |
| 7    | 869423 | 29     | 3        | 39.7%         | 39.3767   |
| 8    | 874425 | 25     | 3        | 46.8%         | 43.3908   |
| 9    | 878423 | 15     | 3        | 68.8%         | 67.9817   |
| 10   | 876422 | 13     | 3        | 80.8%         | 79.4644   |

De manera similar que en la ciudad de Lima, dentro de cada cuadrante seleccionado se procedió a elegir una fecha de corte o ruta. En este caso, se



seleccionó la fecha principal o de máxima frecuencia, dado que el número de fechas programadas para corte al mes es reducido<sup>9</sup>.

El siguiente cuadro muestra las rutas seleccionadas en cada cuadrante:

**Cuadro 4. 2A Selección de la Muestra – Ciudad de Piura  
Etapas 2 – Selección de Rutas**

| ZONA | Código | Cortes | ESTRATOS | Ruta – Fecha | # CORTES de Ruta |
|------|--------|--------|----------|--------------|------------------|
| 1    | 873422 | 79     | 1        | 20/01/2006   | 55               |
| 2    | 873424 | 52     | 2        | 18/01/2006   | 33               |
| 3    | 868424 | 40     | 3        | 20/01/2006   | 31               |
| 4    | 871422 | 38     | 3        | 20/01/2006   | 28               |
| 5    | 868425 | 36     | 3        | 20/01/2006   | 28               |
| 6    | 874424 | 34     | 3        | 18/01/2006   | 29               |
| 7    | 869423 | 29     | 3        | 20/01/2006   | 14               |
| 8    | 874425 | 25     | 3        | 18/01/2006   | 21               |
| 9    | 878423 | 15     | 3        | 24/01/2006   | 6                |
| 10   | 876422 | 13     | 3        | 24/03/2006   | 13               |

#### 6.4.3 Selección de muestra Zona Rural Valle del Mantaro

Como ya se mencionó anteriormente, todos los cuadrantes de esta zona son de baja densidad. Para recoger información de la diversidad de conglomerados de estas zonas, se eligió aleatoriamente un cuadrante del estrato 1, dos cuadrantes del estrato 2 y tres cuadrantes del estrato 3. Dado que en los cuadrantes del estrato 3 registraban entre 1, 2 y 3 cortes por Km<sup>2</sup>, se realizó un trazo tomando como partida el cuadrante elegido aleatoriamente, y en función de las fechas de corte encontradas y elegidas en los cuadrantes, se procedió a elegir 4 cuadrantes adicionales del estrato 3.

De esta manera la selección de la muestra de los cuadrantes y fechas o rutas de corte para esta zona rural fue:

<sup>9</sup> En esta ciudad se encontraban cuadrantes con una fecha de corte que concentraba en promedio entre el 70 a 80% de los cortes, presentando las otras fechas de corte frecuencias muy reducidas (Ver cuadro 4.2 A, columna Cortes vs # Cortes de la ruta).

**Cuadro 4. 3 Selección de la Muestra – Zona Rural**  
**Etapas 1 - Selección de Cuadrantes**

| ZONA | Código | Cortes | ESTRATOS | CUM %<br>estra | ALEATORIO  |
|------|--------|--------|----------|----------------|------------|
| 1    | 445698 | 43     | 1        | 30.1%          | 17.6193644 |
| 2    | 473661 | 6      | 2        | 60.1%          | 57.1940365 |
| 3    | 457691 | 5      | 2        | 70.3%          | 69.7117999 |
| 4    | 473665 | 3      | 3        | 37.4%          | 37.2217167 |
| 5    | 449694 | 1      | 3        | 78.7%          | 78.3448937 |
| 6    | 459670 | 1      | 3        | 99.4%          | 99.1871516 |

Para el estrato 3 debe señalarse que:

- A la zona 4 no se adicionó ningún cuadrante
- A la zona 5 se le adicionaron los cuadrantes 448694, 450694 y 450693
- A la zona 6 se le adicionó el cuadrante 459669.

La adición de dichos cuadrantes contiguos respeta la misma fecha de corte, por lo que una visita a dichos cuadrantes adicionales debería haber estado programada. Las fechas de corte que se registraron fueron entre el 21 y 22 de Setiembre del 2,006.

**Cuadro 4. 3 A Selección de la Muestra – Zona Rural**  
**Etapas 2 – Registro de Fechas y Cuadrantes Adicionales**

| ZONA | Código | Cortes | ESTRATOS | Ruta – Fecha | # CORTES<br>de Ruta |
|------|--------|--------|----------|--------------|---------------------|
| 1    | 445698 | 43     | 1        | 21/09/2006   | 43                  |
| 2    | 473661 | 6      | 2        | 21/09/2006   | 6                   |
| 3    | 457691 | 5      | 2        | 22/09/2006   | 5                   |
| 4    | 473665 | 3      | 3        | 21/09/2006   | 3                   |
| 5    | 449694 | 1      | 3        | 22/09/2006   | 1                   |
|      | 448694 | 2      | 3        | 22/09/2006   | 2                   |
|      | 450694 | 1      | 3        | 22/09/2006   | 1                   |
|      | 450693 | 3      | 3        | 22/09/2006   | 3                   |
| 6    | 459670 | 1      | 3        | 22/09/2006   | 1                   |
|      | 459669 | 1      | 3        | 22/09/2006   | 1                   |

## 7. CALCULO DE LAS ESTIMACIONES MUESTRALES

### 7.1. Tiempos de desplazamiento Suministro a suministro

En todos los casos se superaron los tamaños de muestra mínimos, los mismos que aparecen en los cuadros de los resultados de las estimaciones. Los recorridos con dos modalidades de traslado para comparar los rendimientos se realizó sobre las mismas rutas.

De esta forma, con la información registrada de las muestras estadísticas, se procedió a realizar el cálculo de los tiempos promedio de desplazamiento suministro a suministro, por estratos y modalidad de traslado utilizada. Los resultados se presentan a continuación:

#### 7.1.1 Ciudad de Lima

| Medio     | Descriptores                  | ESTRATOS      |                |               |
|-----------|-------------------------------|---------------|----------------|---------------|
|           |                               | Alta densidad | Media densidad | Baja densidad |
| A pie     | PROMEDIO (minutos/seg.)       | <b>01:35</b>  |                |               |
|           | Error estándar (minutos/seg.) | 00:08         |                |               |
|           | Nº de casos                   | 153           |                |               |
| Moto      | PROMEDIO (minutos/seg.)       |               | <b>02:17</b>   | <b>02:27</b>  |
|           | Error estándar (minutos/seg.) |               | 00:11          | 00:16         |
|           | Nº de casos                   |               | 205            | 440           |
| Furgoneta | PROMEDIO (minutos/seg.)       |               |                | <b>02:43</b>  |
|           | Error estándar (minutos/seg.) |               |                | 00:21         |
|           | Nº de casos                   |               |                | 440           |

### 7.1.2 Ciudad de Piura

| Medio       | Descriptores              | ESTRATOS DE BAJA DENSIDAD |             |             |
|-------------|---------------------------|---------------------------|-------------|-------------|
|             |                           | Estrato 1                 | Estrato 2   | Estrato 3   |
| <b>Moto</b> | <b>PROMEDIO (minutos)</b> | <b>1:46</b>               | <b>1:47</b> | <b>1:50</b> |
|             | Error estándar (minutos)  | 0:10                      | 0:14        | 0:10        |
|             | Nº de casos               | 55                        | 33          | 123         |

### 7.1.3 Zona Rural Valle del Mantaro

En la zona rural se hizo el recorrido de toda la muestra con las dos modalidades, moto y camioneta. Los resultados se muestra a continuación:

| Medio            | Descriptores                   | ESTRATOS DE BAJA DENSIDAD |              |              |
|------------------|--------------------------------|---------------------------|--------------|--------------|
|                  |                                | Estrato 1                 | Estrato 2    | Estrato 3    |
| <b>Moto</b>      | <b>PROMEDIO (minutos/seg.)</b> | <b>02:10</b>              | <b>03:45</b> | <b>07:00</b> |
|                  | Error estándar (minutos/seg.)  | 00:09                     | 00:36        | 01:02        |
|                  | Nº de casos                    | 43                        | 9            | 10           |
| <b>Camioneta</b> | <b>PROMEDIO (minutos/seg.)</b> | <b>02:41</b>              | <b>05:05</b> | <b>09:18</b> |
|                  | Error estándar (minutos/seg.)  | 00:11                     | 00:53        | 01:27        |
|                  | Nº de casos                    | 43                        | 9            | 10           |



## 7.2. Tiempos de desplazamiento Base a primer Suministro y Viceversa

En base a las zonas visitadas de cada una de las ciudades, se registró el tiempo de desplazamiento de la sucursal o contratista más cercana hacia el primer suministro programado para corte, y luego desde el último suministro programado o término de la jornada de trabajo hasta la oficina de salida.

Los resultados se muestran a continuación:

### Ciudad de Lima

| ESTRATO | ZONA            | MODO  | IDA         | VUELTA      | PUNTO REFERENCIA                   |
|---------|-----------------|-------|-------------|-------------|------------------------------------|
| 1       | 1               | A PIE | 0:27        | 0:25        | CENTRO DE OPERACIONES              |
| 1       | 2               | A PIE | 0:24        | 0:27        | EDELNOR COLONIAL                   |
| 2       | 3               | MOTO  | 0:23        | 0:27        | CENTRO DE OPERACIONES              |
| 2       | 4               | MOTO  | 0:22        | 0:25        | EDELNOR                            |
| 2       | 5               | MOTO  | 0:35        | 0:20        | EDELNOR LA COLONIAL                |
| 3       | 6               | MOTO  | 0:15        | 0:14        | EDELNOR COLONIAL                   |
| 3       | 7               | MOTO  | 0:40        | 0:23        | LUZ DEL SUR SAN JUAN DE MIRAFLORES |
| 3       | 8               | MOTO  | 0:21        | 0:15        | EDELNOR COLONIAL                   |
| 3       | 9               | MOTO  | 0:24        | 0:25        | LUZ DEL SUR DE ATE-VITARTE         |
| 3       | 10              | MOTO  | 0:12        | 0:08        | CENTRO DE OPERACIONES              |
| 3       | 11              | MOTO  | 0:08        | 0:07        | LUZ DEL SUR DE ATE-VITARTE         |
| 3       | 12              | MOTO  | 0:20        | 0:17        | EDELNOR LA COLONIAL                |
| 3       | 13              | MOTO  | 1:05        | 0:26        | EDELNOR LA COLONIAL                |
| 3       | 14              | MOTO  | 0:35        | 0:15        | EDELNOR LA COLONIAL                |
| 3       | 15              | MOTO  | 0:32        | 0:29        | CENTRO DE OPERACIONES              |
|         | <b>PROMEDIO</b> |       | <b>0:26</b> | <b>0:20</b> |                                    |

### Ciudad de Piura

| ESTRATO | ZONA                            | MODO | IDA          | VUELTA       | PUNTO REFERENCIA   |
|---------|---------------------------------|------|--------------|--------------|--------------------|
| 1       | 1                               | MOTO | 00:11        | 00:06        | ENOSA CALLE CALLAO |
| 2       | 2                               | MOTO | 00:19        | 00:23        | ENOSA CALLE CALLAO |
| 3       | 3-5-7                           | MOTO | 00:19        | 00:16        | ENOSA CALLE CALLAO |
| 3       | 6-8                             | MOTO | 00:08        | 00:06        | ENOSA CALLE CALLAO |
|         | <b>TOTAL PROMEDIO (minutos)</b> |      | <b>00:14</b> | <b>00:13</b> |                    |

**Valle del Mantaro**

| ZONA                  | MODO      | IDA         | VUELTA      | PUNTO REFERENCIA      |
|-----------------------|-----------|-------------|-------------|-----------------------|
| 1                     | CAMIONETA | 0:05        | 0:05        | ELECTROCENTRO JAUJA   |
| 2-4                   | CAMIONETA | 0:16        | 0:20        | ELECTROCENTRO CHUPACA |
| 3A-3B                 | CAMIONETA | 0:18        | 0:18        | ELECTROCENTRO JAUJA   |
| 5                     | CAMIONETA | 0:11        | 0:11        | ELECTROCENTRO JAUJA   |
| 6                     | CAMIONETA | 0:33        | 0:37        | ELECTROCENTRO CHUPACA |
| <b>TOTAL PROMEDIO</b> |           | <b>0:17</b> | <b>0:18</b> |                       |

| ZONA                  | MODO | IDA         | VUELTA      | PUNTO REFERENCIA      |
|-----------------------|------|-------------|-------------|-----------------------|
| 1                     | MOTO | 0:04        | 0:04        | ELECTROCENTRO JAUJA   |
| 2-4                   | MOTO | 0:14        | 0:28        | ELECTROCENTRO CHUPACA |
| 3A-3B                 | MOTO | 0:23        | 0:19        | ELECTROCENTRO JAUJA   |
| 5                     | MOTO | 0:39        | 0:13        | ELECTROCENTRO JAUJA   |
| 6                     | MOTO | 0:28        | 0:29        | ELECTROCENTRO CHUPACA |
| <b>TOTAL PROMEDIO</b> |      | <b>0:21</b> | <b>0:18</b> |                       |

**7.3. Tiempos de Ejecución de la Actividad y Otros Tiempos**

En este punto Ver Anexo 06.



**ANEXO A****NUMERO DE CYR POR MES ZONA URBANA LIMA**

| Suma de ncyr |                |                |                  |               |
|--------------|----------------|----------------|------------------|---------------|
| MES          | LUZ DEL SUR    | EDELNOR        | TOTAL CyR        | DESVIACION    |
| 01           | 117749         | 89087          | 206,836          | 11,990        |
| 02           | 123860         | 90303          | 214,163          | 19,317        |
| 03           | 120044         | 106133         | 226,177          | 31,331        |
| 04           | 117140         | 84991          | 202,131          | 7,285         |
| 05           | 120093         | 89862          | 209,955          | 15,109        |
| 06           | 121888         | 94763          | 216,651          | 21,805        |
| 07           | 89615          | 70464          | 160,079          | -34,767       |
| <b>08</b>    | <b>102483</b>  | <b>89499</b>   | <b>191,982</b>   | <b>-2,864</b> |
| 09           | 104760         | 86351          | 191,111          | -3,735        |
| 10           | 101011         | 79721          | 180,732          | -14,114       |
| 11           | 94680          | 75661          | 170,341          | -24,505       |
| 12           | 87265          | 80726          | 167,991          | -26,855       |
| <b>TOTAL</b> | <b>1300588</b> | <b>1037561</b> | <b>2,338,149</b> |               |
|              |                | PROMEDIO       | 194,846          |               |
|              |                | MAX            | 226,177          |               |
|              |                | MIN            | 160,079          |               |
|              |                | DESV EST       | 21,335           |               |

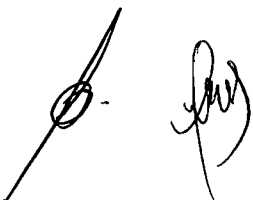
FUENTE: Estadísticas presentadas por las empresas distribuidoras EDLN y LDS a la GART-OSINERGMIN, FEBRERO 2,007



**ANEXO B MARCO DE REFERENCIA SELECCION ZONA URBANA PROVINCIAS**

| <b>compres</b> | <b>csistelec</b> | <b>asistelec</b> | <b>CLIENTES</b>  | <b>%</b>       | <b>MWH</b>     | <b>%</b>       | <b>DESV TIPICA</b> |
|----------------|------------------|------------------|------------------|----------------|----------------|----------------|--------------------|
|                | SE0062           | Huancayo         | 61,769           | 5.71%          | 8758.7         | 4.05%          | -15,528            |
| ELN            | SE0094           | Chiclayo         | 119,234          | 11.02%         | 21752.4        | 10.07%         | 41,937             |
| ELNM           | SE0118           | Cajamarca        | 37,690           | 3.48%          | 5751.2         | 2.66%          | -39,608            |
|                | SE0119           | Chimbote         | 76,062           | 7.03%          | 17374.1        | 8.04%          | -1,236             |
|                | SE0122           | Trujillo         | 165,450          | 15.29%         | 37094.6        | 17.17%         | 88,153             |
| ELNO           | SE0081           | Piura            | 80,878           | 7.47%          | 15438.6        | 7.15%          | 3,581              |
|                | SE0084           | Tumbes           | 32,190           | 2.97%          | 7859.9         | 3.64%          | -45,107            |
|                | SE0019           | Iquitos          | 50,939           | 4.71%          | 12218.0        | 5.66%          | -26,358            |
| ELPU           | SE0025           | Juliaca          | 42,598           | 3.94%          | 3917.0         | 1.81%          | -34,699            |
|                | SE0112           | Tacna            | 57,225           | 5.29%          | 9329.5         | 4.32%          | -20,073            |
| ELSE           | SE0032           | Cusco            | 69,994           | 6.47%          | 11655.5        | 5.40%          | -7,303             |
|                | SE0044           | Ica              | 54,586           | 5.04%          | 17982.6        | 8.32%          | -22,712            |
| ELUC           | SE0057           | Pucallpa         | 40,013           | 3.70%          | 10161.8        | 4.70%          | -37,284            |
| SEAL           | SE0134           | Arequipa         | 193,535          | 17.88%         | 36730.3        | 17.00%         | 116,238            |
|                | <b>TOTAL</b>     |                  | <b>1,082,163</b> | <b>100.00%</b> | <b>216,024</b> | <b>100.00%</b> |                    |
|                | <b>PROMEDIO</b>  |                  | <b>77,297</b>    |                |                |                |                    |

FUENTE: INFORMACION COMERCIAL GART- FEBRERO 2,007



**ANEXO C****NUMERO DE CYR POR MES ZONA URBANA PIURA**

| Suma de ncyr |               |               |               |            |
|--------------|---------------|---------------|---------------|------------|
| MES          | Cortes        | Reconexiones  | TOTAL CYR     | DESVIACION |
| 01           | 2,042         | 1,963         | 4,005         | -32        |
| 02           | 1,935         | 1,448         | 3,383         | -654       |
| 03           | 2,905         | 2,366         | 5,271         | 1,234      |
| 04           | 2,354         | 1,800         | 4,154         | 117        |
| 05           | 2,464         | 1,853         | 4,317         | 280        |
| 06           | 1,948         | 1,381         | 3,329         | -708       |
| 07           | 2,112         | 1,733         | 3,845         | -192       |
| 08           | 2,271         | 1,897         | 4,168         | 131        |
| 09           | 2,217         | 1,607         | 3,824         | -213       |
| 10           | 2,551         | 1,938         | 4,489         | 452        |
| 11           | 2,222         | 1,921         | 4,143         | 106        |
| 12           | 2,046         | 1,469         | 3,515         | -522       |
| <b>TOTAL</b> | <b>27,067</b> | <b>21,376</b> | <b>48,443</b> |            |
|              |               | PROMEDIO      | 4,037         |            |
|              |               | MAX           | 5,271         |            |
|              |               | MIN           | 3,329         |            |
|              |               | DESV EST      | 534           |            |

FUENTE: Estadísticas presentadas por la empresa distribuidoras ENOSA a la GART-OSINERGMIN, FEBRERO 2,007



## ANEXO D:

## MARCO MUESTRAL SISTEMAS ELECTRICOS ZONA RURAL

| CODSIST | NOMSIST           | ST  | COSISINT | COSISAIS | CODEMP | CLIENTES | %    | ACUM %      | MWH         | %    | ACUM % |
|---------|-------------------|-----|----------|----------|--------|----------|------|-------------|-------------|------|--------|
| SE0004  | Lunahuaná         | ST4 | SEIN     | SEIN     | EDCA   | 4,443    | 0.7% | 0.007274346 | 358.37775   | 0.9% | 0.9%   |
| SE0028  | Antauta           | ST4 | SEIN     | SEIN     | ELPU   | 2,057    | 0.3% | 0.010642442 | 215.1436667 | 0.6% | 1.5%   |
| SE0053  | Chavinda          | ST4 | SIA      | SIA      | ELSM   | 362      | 0.1% | 0.01123572  | 10.12558333 | 0.0% | 1.5%   |
| SE0056  | Tambo Quemad      | ST4 | SIA      | SIA      | ELSM   | 91       | 0.0% | 0.011384995 | 1.978583333 | 0.0% | 1.6%   |
| SE0059  | Campo Verde       | ST4 | SEIN     | SEIN     | ELUC   | 765      | 0.1% | 0.012636774 | 279.0379167 | 0.7% | 2.3%   |
| SE0071  | Valle Del Mantar  | ST4 | SEIN     | SEIN     | ELC    | 26,616   | 4.4% | 0.056217627 | 1536.484833 | 4.1% | 6.4%   |
| SE0072  | Valle Del Mantar  | ST4 | SEIN     | SEIN     | ELC    | 11,166   | 1.8% | 0.074500779 | 690.112     | 1.8% | 8.2%   |
| SE0074  | San Francisco     | ST4 | SIA      | SIA      | ELC    | 4,948    | 0.8% | 0.082602276 | 291.8349167 | 0.8% | 9.0%   |
| SE0080  | Pozuzo            | ST4 | SIA      | SIA      | ELC    | 512      | 0.1% | 0.083441162 | 43.64716667 | 0.1% | 9.1%   |
| SE0086  | Chulucanas        | ST4 | SEIN     | SEIN     | ELNO   | 32,416   | 5.3% | 0.136518288 | 2228.059833 | 5.9% | 15.1%  |
| SE0089  | Chalaco           | ST4 | SIA      | SIA      | ELNO   | 181      | 0.0% | 0.136814655 | 10.644      | 0.0% | 15.1%  |
| SE0097  | San Ignacio       | ST4 | SIA      | SIA      | ELN    | 3,233    | 0.5% | 0.142107494 | 221.515     | 0.8% | 15.7%  |
| SE0099  | Chota             | ST4 | SEIN     | SIA      | ELN    | 8,626    | 1.4% | 0.156232104 | 676.9545    | 1.8% | 17.5%  |
| SE0103  | Rodriguez de Me   | ST4 | SIA      | SIA      | ELN    | 2,505    | 0.4% | 0.160334021 | 112.0140833 | 0.3% | 17.8%  |
| SE0125  | Ticapampa         | ST4 | SEIN     | SEIN     | ELNM   | 3,903    | 0.6% | 0.166724589 | 429.3398333 | 1.1% | 19.0%  |
| SE0132  | Tayabamba         | ST4 | SIA      | SIA      | ELNM   | 1,810    | 0.3% | 0.169688525 | 244.5533333 | 0.7% | 19.6%  |
| SE0142  | Huancabamba       | ST4 | SIA      | SIA      | SEAL   | 259      | 0.0% | 0.170113289 | 9.1575      | 0.0% | 19.6%  |
| SE0155  | Ucubamba          | ST4 | SIA      | SIA      | ELNO   | 5,486    | 0.9% | 0.179095425 | 538.0189167 | 1.4% | 21.1%  |
| SE0165  | Tumbes Rural      | ST4 | SEIN     | SEIN     | ELNO   | 2,330    | 0.4% | 0.182911209 | 400.6798333 | 1.1% | 22.1%  |
| SE0168  | Trujillo Rural    | ST4 | SEIN     | SEIN     | ELNM   | 9,561    | 1.6% | 0.198566362 | 499.0585833 | 1.3% | 23.5%  |
| SE0220  | PSE San Gaban     | ST4 | SEIN     | SIA      | ELPU   | 394      | 0.1% | 0.199210809 | 55.13791667 | 0.1% | 23.6%  |
| SE0234  | Iquitos Rural     | ST4 | SIA      | SIA      | ELOR   | 2,550    | 0.4% | 0.203385453 | 485.3765833 | 1.3% | 24.9%  |
| SE0252  | Valle de Majes    | ST4 | SIA      | SIA      | SEAL   | 3,905    | 0.6% | 0.209779432 | 330.5943333 | 0.9% | 25.8%  |
| SE0254  | Guadalupe Rural   | ST4 | SEIN     | SEIN     | ELNM   | 5,604    | 0.9% | 0.218955462 | 618.08625   | 1.7% | 27.5%  |
| SE0257  | Catilluc          | ST4 | SIA      | SIA      | ELNM   | 350      | 0.1% | 0.219528273 | 11.80725    | 0.0% | 27.5%  |
| SE0258  | Huánuco Rural     | ST4 | SEIN     | SEIN     | ELC    | 3,588    | 0.6% | 0.225403475 | 262.2299167 | 0.7% | 28.2%  |
| SE0013  | Ravira-Pacarao    | ST5 | SIA      | SIA      | EDLN   | 700      | 0.1% | 0.22654937  | 23.026      | 0.1% | 28.2%  |
| SE0014  | Hoyos-Acos        | ST5 | SIA      | SIA      | EDLN   | 1,056    | 0.2% | 0.228278583 | 49.15108333 | 0.1% | 28.4%  |
| SE0016  | Yaso              | ST5 | SIA      | SIA      | EDLN   | 84       | 0.0% | 0.228415577 | 9.672666667 | 0.0% | 28.4%  |
| SE0029  | Avayiri           | ST5 | SEIN     | SEIN     | ELPU   | 6,975    | 1.1% | 0.239837004 | 386.7750833 | 1.0% | 29.4%  |
| SE0030  | Ilave-Pomata      | ST5 | SEIN     | SEIN     | ELPU   | 18,848   | 3.1% | 0.270698258 | 1091.039833 | 2.9% | 32.4%  |
| SE0031  | Anapia            | ST5 | SIA      | SIA      | ELPU   | 1        | 0.0% | 0.270700032 | 3.916916667 | 0.0% | 32.4%  |
| SE0038  | Yauri             | ST5 | SEIN     | SEIN     | ELSE   | 6,295    | 1.0% | 0.28100681  | 291.885     | 0.8% | 33.1%  |
| SE0040  | Valle Sagrado 1   | ST5 | SEIN     | SEIN     | ELSE   | 19,175   | 3.1% | 0.312403488 | 961.6295833 | 2.6% | 35.7%  |
| SE0041  | Valle Sagrado 2   | ST5 | SEIN     | SEIN     | ELSE   | 13,290   | 2.2% | 0.334163486 | 540.1866667 | 1.4% | 37.2%  |
| SE0042  | Andahuaylas       | ST5 | SEIN     | SEIN     | ELSE   | 36,606   | 6.0% | 0.394101929 | 1259.071667 | 3.4% | 40.5%  |
| SE0051  | Huaytará-Choco    | ST5 | SEIN     | SEIN     | ELSM   | 3,605    | 0.6% | 0.400004557 | 112.8988333 | 0.3% | 40.8%  |
| SE0054  | Incuco            | ST5 | SIA      | SIA      | ELSM   | 748      | 0.1% | 0.401228774 | 18.6345     | 0.0% | 40.9%  |
| SE0068  | Cangallo-Illusita | ST5 | SEIN     | SEIN     | ELC    | 6,141    | 1.0% | 0.411283532 | 978.2434167 | 2.6% | 43.5%  |
| SE0070  | Pampas            | ST5 | SEIN     | SEIN     | ELC    | 7,871    | 1.3% | 0.424170553 | 235.9711667 | 0.6% | 44.1%  |
| SE0075  | Huancavelica Ru   | ST5 | SEIN     | SEIN     | ELC    | 17,339   | 2.8% | 0.452560587 | 706.3705833 | 1.9% | 46.0%  |
| SE0076  | Valle Del Mantar  | ST5 | SEIN     | SEIN     | ELC    | 19,010   | 3.1% | 0.483687642 | 826.7679167 | 2.2% | 48.2%  |
| SE0077  | Valle Del Mantar  | ST5 | SEIN     | SEIN     | ELC    | 20,684   | 3.4% | 0.51755595  | 1260.01325  | 3.4% | 51.6%  |
| SE0078  | Tablachaca        | ST5 | SEIN     | SEIN     | ELC    | 5,889    | 1.0% | 0.527199179 | 192.9705833 | 0.5% | 52.1%  |
| SE0079  | Acobambilla       | ST5 | SIA      | SIA      | ELC    | 213      | 0.0% | 0.527547532 | 1.929416667 | 0.0% | 52.1%  |
| SE0098  | Chongoyape        | ST5 | SEIN     | SEIN     | ELN    | 5,734    | 0.9% | 0.536936285 | 254.1893333 | 0.7% | 52.8%  |
| SE0101  | Jumbilla          | ST5 | SIA      | SIA      | ELN    | 460      | 0.1% | 0.537688662 | 18.48508333 | 0.0% | 52.8%  |
| SE0106  | Querosoto         | ST5 | SIA      | SIA      | ELN    | 37       | 0.0% | 0.537748836 | 76.96675    | 0.2% | 53.0%  |
| SE0109  | Niepos            | ST5 | SIA      | SIA      | ELN    | 2,689    | 0.4% | 0.542151758 | 188.3605    | 0.5% | 53.5%  |
| SE0114  | Puquina-Omate     | ST5 | SEIN     | SEIN     | ELS    | 2,324    | 0.4% | 0.545956627 | 581.982     | 1.6% | 55.1%  |
| SE0115  | Tarata            | ST5 | SEIN     | SEIN     | ELS    | 4,716    | 0.8% | 0.553678251 | 202.0816667 | 0.5% | 55.6%  |
| SE0116  | Tomasiri          | ST5 | SEIN     | SEIN     | ELS    | 2,651    | 0.4% | 0.558018134 | 288.0289167 | 0.8% | 56.4%  |
| SE0117  | Ichuña            | ST5 | SEIN     | SEIN     | ELS    | 201      | 0.0% | 0.558346702 | 8.970833333 | 0.0% | 56.4%  |
| SE0124  | Huallanca         | ST5 | SEIN     | SEIN     | ELNM   | 10,456   | 1.7% | 0.575468903 | 2079.1415   | 5.6% | 62.0%  |
| SE0126  | Huari             | ST5 | SIA      | SIA      | ELNM   | 8,070    | 1.3% | 0.588680718 | 333.1690833 | 0.9% | 62.9%  |
| SE0127  | Pomabamba         | ST5 | SIA      | SIA      | ELNM   | 4,157    | 0.7% | 0.595487728 | 144.6866667 | 0.4% | 63.2%  |
| SE0131  | Namora            | ST5 | SEIN     | SEIN     | ELNM   | 1,328    | 0.2% | 0.597661353 | 62.31658333 | 0.2% | 63.4%  |
| SE0146  | Valle del Colca   | ST5 | SEIN     | SEIN     | SEAL   | 4,571    | 0.7% | 0.605145148 | 224.7815833 | 0.6% | 64.0%  |
| SE0148  | Pampacolca        | ST5 | SIA      | SIA      | SEAL   | 1,181    | 0.2% | 0.607078215 | 54.50691667 | 0.1% | 64.2%  |
| SE0161  | Avacucho Rural    | ST5 | SEIN     | SEIN     | ELC    | 6,184    | 1.0% | 0.617204199 | 229.9519167 | 0.6% | 64.8%  |
| SE0162  | Huánuco Rural 2   | ST5 | SEIN     | SEIN     | ELC    | 11,040   | 1.8% | 0.63528145  | 377.814167  | 1.0% | 65.8%  |
| SE0164  | Tarma Rural       | ST5 | SEIN     | SEIN     | ELC    | 12,013   | 2.0% | 0.65495092  | 343.89125   | 0.9% | 66.7%  |
| SE0169  | Casma Rural       | ST5 | SEIN     | SEIN     | ELNM   | 2,174    | 0.4% | 0.658510727 | 200.1475833 | 0.5% | 67.2%  |
| SE0170  | San Balvin        | ST5 | SIA      | SIA      | ELC    | 962      | 0.2% | 0.660086162 | 20.5285     | 0.1% | 67.3%  |
| SE0223  | Huanta Rural      | ST5 | SEIN     | SEIN     | ELC    | 11,250   | 1.8% | 0.6785074   | 192.3425    | 0.5% | 67.8%  |
| SE0224  | Pasco Rural       | ST5 | SEIN     | SEIN     | ELC    | 28,664   | 4.7% | 0.725441203 | 1557.268667 | 4.2% | 72.0%  |
| SE0225  | Bagua-Jaén Ru     | ST5 | SIA      | SIA      | ELN    | 10,471   | 1.7% | 0.74258692  | 548.6764167 | 1.5% | 73.4%  |
| SE0226  | Chachapoyas Ru    | ST5 | SIA      | SIA      | ELN    | 7,810    | 1.3% | 0.755375562 | 252.1105    | 0.7% | 74.1%  |
| SE0228  | Namballe          | ST5 | SIA      | SIA      | ELN    | 438      | 0.1% | 0.758093281 | 12.99341667 | 0.0% | 74.1%  |
| SE0229  | Tabaconas         | ST5 | SIA      | SIA      | ELN    | 243      | 0.0% | 0.758490892 | 4.078333333 | 0.0% | 74.1%  |
| SE0230  | Cajamarca Rural   | ST5 | SEIN     | SEIN     | ELNM   | 11,127   | 1.8% | 0.774709914 | 458.25275   | 1.2% | 75.4%  |
| SE0231  | Frontera          | ST5 | SEIN     | SIA      | ELNO   | 246      | 0.0% | 0.775113392 | 6.62475     | 0.0% | 75.4%  |
| SE0233  | Bellavista-Gera   | ST5 | SIA      | SIA      | ELOR   | 26,545   | 4.3% | 0.818576899 | 2063.663167 | 5.5% | 80.9%  |
| SE0237  | Azángaro Rural    | ST5 | SEIN     | SEIN     | ELPU   | 6,525    | 1.1% | 0.829260685 | 348.7775    | 0.9% | 81.8%  |
| SE0238  | Julica Rural      | ST5 | SEIN     | SEIN     | ELPU   | 15,321   | 2.5% | 0.854347026 | 1447.729    | 3.9% | 85.7%  |
| SE0240  | Moquegua Rural    | ST5 | SEIN     | SEIN     | ELS    | 811      | 0.1% | 0.855674807 | 57.03458333 | 0.2% | 85.8%  |
| SE0241  | Abancay Rural     | ST5 | SEIN     | SEIN     | ELSE   | 8,004    | 1.3% | 0.8687796   | 242.3494167 | 0.6% | 86.5%  |
| SE0242  | Combapata-Sicu    | ST5 | SEIN     | SEIN     | ELSE   | 27,635   | 4.5% | 0.914029355 | 747.1345    | 2.0% | 88.5%  |
| SE0243  | La Convención R   | ST5 | SEIN     | SEIN     | ELSE   | 11,720   | 1.9% | 0.933219754 | 423.4050833 | 1.1% | 89.6%  |
| SE0245  | Valle Sagrado 3   | ST5 | SEIN     | SEIN     | ELSE   | 16,750   | 2.7% | 0.960646324 | 509.70925   | 1.4% | 91.0%  |
| SE0246  | Palpa Rural       | ST5 | SEIN     | SEIN     | ELSM   | 4,164    | 0.7% | 0.967465068 | 198.8658333 | 0.5% | 91.5%  |
| SE0247  | Puquio Rural      | ST5 | SEIN     | SEIN     | ELSM   | 3,351    | 0.5% | 0.972951119 | 100.46175   | 0.3% | 91.8%  |
| SE0248  | Bella Unión-Cha   | ST5 | SEIN     | SEIN     | SEAL   | 3,288    | 0.5% | 0.978335243 | 859.27975   | 2.3% | 94.1%  |
| SE0250  | Majes-Siguas      | ST5 | SEIN     | SEIN     | SEAL   | 5,279    | 0.9% | 0.986979532 | 1350.520917 | 3.6% | 97.7%  |
| SE0251  | Repartición-La C  | ST5 | SEIN     | SEIN     | SEAL   | 4,112    | 0.7% | 0.993711768 | 672.1876667 | 1.8% | 99.5%  |
| SE0256  | Chimbote Rural    | ST5 | SEIN     | SEIN     | ELNM   | 2,754    | 0.5% | 0.998220438 | 130.0133333 | 0.3% | 99.8%  |
| SE0259  | Zarumilla Rural   | ST5 | SEIN     | SEIN     | ELNO   | 1,087    | 0.2% | 1           | 67.71833333 | 0.2% | 100.0% |
| SE0001  | Villacuri         | STE | SEIN     | SEIN     | COEL   | 0        | 0    | 0           | 0           | 0.0% |        |

610730.75

37446.5075

FUENTE: INFORMACION COMERCIAL GART- FEBRERO 2,007

**ANEXO E****NUMERO DE CYR POR MES ZONA VALLE DEL MANTARO  
CHUPACA -CONCEPCION- JAUJA**

| Suma de ncyr |              |              |           |            |
|--------------|--------------|--------------|-----------|------------|
| MES          | Cortes       | Reconexiones | TOTAL CYR | DESVIACION |
| 01           | 40           | 59           | 99        | -768       |
| 02           | 425          | 221          | 646       | -221       |
| 03           | 376          | 404          | 780       | -87        |
| 04           | 617          | 600          | 1,217     | 350        |
| 05           | 531          | 459          | 990       | 123        |
| 06           | 0            | 166          | 166       | -701       |
| 07           | 950          | 677          | 1,627     | 760        |
| 08           | 557          | 613          | 1,170     | 303        |
| 09           | 456          | 332          | 788       | -79        |
| 10           | 421          | 308          | 729       | -138       |
| 11           | 723          | 453          | 1,176     | 309        |
| 12           | 579          | 438          | 1,017     | 150        |
| TOTAL        | <b>5,675</b> | <b>4,730</b> | 10,405    |            |
|              |              | PROMEDIO     | 867       |            |
|              |              | MAX          | 1,627     |            |
|              |              | MIN          | 99        |            |
|              |              | DESV EST     | 436       |            |

FUENTE: Estadísticas presentadas por la empresa distribuidora ELECTROCENTRO  
a la GART-OSINERGMIN, FEBRERO 2,007



**ANEXO F: MARCO MUESTRAL CORTES LIMA AGOSTO 2006**

| NUM | Código | Cortes | % Cortes | CUM % cortes | CUM % cuadra | ESTRATOS | CUM % estr | ALEATORIO*100 |
|-----|--------|--------|----------|--------------|--------------|----------|------------|---------------|
| 1   | 267666 | 962    | 0.95%    | 0.95%        | 0.09%        | 1        | 2.8%       |               |
| 2   | 278667 | 860    | 0.85%    | 1.80%        | 0.17%        | 1        | 5.4%       |               |
| 3   | 281665 | 768    | 0.76%    | 2.56%        | 0.26%        | 1        | 7.6%       |               |
| 4   | 280665 | 762    | 0.75%    | 3.31%        | 0.34%        | 1        | 9.9%       |               |
| 5   | 278669 | 712    | 0.70%    | 4.02%        | 0.43%        | 1        | 12.0%      |               |
| 6   | 279667 | 686    | 0.68%    | 4.70%        | 0.51%        | 1        | 14.0%      |               |
| 7   | 280667 | 683    | 0.68%    | 5.37%        | 0.60%        | 1        | 16.0%      |               |
| 8   | 279666 | 665    | 0.66%    | 6.03%        | 0.69%        | 1        | 18.0%      |               |
| 9   | 279659 | 616    | 0.61%    | 6.64%        | 0.77%        | 1        | 19.8%      |               |
| 10  | 268665 | 584    | 0.58%    | 7.21%        | 0.86%        | 1        | 21.5%      |               |
| 11  | 280666 | 581    | 0.57%    | 7.79%        | 0.94%        | 1        | 23.3%      | 21.6259437    |
| 12  | 278666 | 576    | 0.57%    | 8.36%        | 1.03%        | 1        | 25.0%      |               |
| 13  | 279664 | 556    | 0.55%    | 8.91%        | 1.11%        | 1        | 26.6%      |               |
| 14  | 278663 | 549    | 0.54%    | 9.45%        | 1.20%        | 1        | 28.2%      |               |
| 15  | 279670 | 548    | 0.54%    | 9.99%        | 1.29%        | 1        | 29.8%      |               |
| 16  | 278668 | 539    | 0.53%    | 10.52%       | 1.37%        | 1        | 31.4%      |               |
| 17  | 286654 | 527    | 0.52%    | 11.05%       | 1.46%        | 1        | 33.0%      |               |
| 18  | 279663 | 525    | 0.52%    | 11.56%       | 1.54%        | 1        | 34.5%      |               |
| 19  | 283655 | 507    | 0.50%    | 12.07%       | 1.63%        | 1        | 36.0%      |               |
| 20  | 281666 | 499    | 0.49%    | 12.56%       | 1.71%        | 1        | 37.5%      |               |
| 21  | 267665 | 487    | 0.48%    | 13.04%       | 1.80%        | 1        | 38.9%      |               |
| 22  | 280660 | 460    | 0.45%    | 13.50%       | 1.89%        | 1        | 40.3%      |               |
| 23  | 279668 | 459    | 0.45%    | 13.95%       | 1.97%        | 1        | 41.7%      |               |
| 24  | 286655 | 453    | 0.45%    | 14.40%       | 2.06%        | 1        | 43.0%      |               |
| 25  | 288649 | 446    | 0.44%    | 14.84%       | 2.14%        | 1        | 44.3%      |               |
| 26  | 277666 | 445    | 0.44%    | 15.28%       | 2.23%        | 1        | 45.6%      |               |
| 27  | 286653 | 429    | 0.42%    | 15.70%       | 2.31%        | 1        | 46.9%      |               |
| 28  | 280656 | 429    | 0.42%    | 16.13%       | 2.40%        | 1        | 48.2%      |               |
| 29  | 288650 | 413    | 0.41%    | 16.53%       | 2.49%        | 1        | 49.4%      |               |
| 30  | 277669 | 379    | 0.37%    | 16.91%       | 2.57%        | 1        | 50.5%      |               |
| 31  | 277667 | 368    | 0.36%    | 17.27%       | 2.66%        | 1        | 51.6%      |               |
| 32  | 280664 | 367    | 0.36%    | 17.63%       | 2.74%        | 1        | 52.7%      |               |
| 33  | 276666 | 362    | 0.36%    | 17.99%       | 2.83%        | 1        | 53.7%      |               |
| 34  | 279665 | 361    | 0.36%    | 18.35%       | 2.91%        | 1        | 54.8%      |               |
| 35  | 272669 | 357    | 0.35%    | 18.70%       | 3.00%        | 1        | 55.9%      |               |
| 36  | 274663 | 354    | 0.35%    | 19.05%       | 3.08%        | 1        | 56.9%      |               |
| 37  | 285657 | 353    | 0.35%    | 19.40%       | 3.17%        | 1        | 57.9%      |               |
| 38  | 282677 | 352    | 0.35%    | 19.75%       | 3.26%        | 1        | 59.0%      |               |
| 39  | 289650 | 352    | 0.35%    | 20.10%       | 3.34%        | 1        | 60.0%      |               |
| 40  | 271671 | 351    | 0.35%    | 20.44%       | 3.43%        | 1        | 61.1%      |               |
| 41  | 267667 | 351    | 0.35%    | 20.79%       | 3.51%        | 1        | 62.1%      |               |
| 42  | 272670 | 349    | 0.34%    | 21.14%       | 3.60%        | 1        | 63.1%      |               |
| 43  | 289649 | 349    | 0.34%    | 21.48%       | 3.68%        | 1        | 64.2%      |               |
| 44  | 285655 | 347    | 0.34%    | 21.82%       | 3.77%        | 1        | 65.2%      |               |
| 45  | 275669 | 345    | 0.34%    | 22.17%       | 3.86%        | 1        | 66.2%      |               |
| 46  | 285656 | 345    | 0.34%    | 22.51%       | 3.94%        | 1        | 67.2%      |               |
| 47  | 274669 | 341    | 0.34%    | 22.84%       | 4.03%        | 1        | 68.2%      |               |
| 48  | 273669 | 339    | 0.34%    | 23.18%       | 4.11%        | 1        | 69.2%      |               |
| 49  | 282667 | 339    | 0.34%    | 23.51%       | 4.20%        | 1        | 70.2%      |               |
| 50  | 301671 | 336    | 0.33%    | 23.85%       | 4.28%        | 1        | 71.2%      |               |
| 51  | 281667 | 334    | 0.33%    | 24.18%       | 4.37%        | 1        | 72.2%      |               |
| 52  | 283656 | 332    | 0.33%    | 24.50%       | 4.46%        | 1        | 73.2%      |               |
| 53  | 279669 | 331    | 0.33%    | 24.83%       | 4.54%        | 1        | 74.2%      | 73.32365886   |
| 54  | 281656 | 331    | 0.33%    | 25.16%       | 4.63%        | 1        | 75.1%      |               |
| 55  | 277664 | 329    | 0.33%    | 25.48%       | 4.71%        | 1        | 76.1%      |               |
| 56  | 270666 | 326    | 0.32%    | 25.81%       | 4.80%        | 1        | 77.1%      |               |
| 57  | 287651 | 325    | 0.32%    | 26.13%       | 4.88%        | 1        | 78.0%      |               |
| 58  | 281664 | 325    | 0.32%    | 26.45%       | 4.97%        | 1        | 79.0%      |               |
| 59  | 277665 | 323    | 0.32%    | 26.77%       | 5.06%        | 1        | 79.9%      |               |
| 60  | 278664 | 318    | 0.31%    | 27.08%       | 5.14%        | 1        | 80.9%      |               |
| 61  | 286656 | 316    | 0.31%    | 27.39%       | 5.23%        | 1        | 81.8%      |               |
| 62  | 284664 | 314    | 0.31%    | 27.70%       | 5.31%        | 1        | 82.7%      |               |
| 63  | 268666 | 311    | 0.31%    | 28.01%       | 5.40%        | 1        | 83.7%      |               |
| 64  | 280657 | 304    | 0.30%    | 28.31%       | 5.48%        | 1        | 84.6%      |               |
| 65  | 276664 | 303    | 0.30%    | 28.61%       | 5.57%        | 1        | 85.5%      |               |
| 66  | 286669 | 302    | 0.30%    | 28.91%       | 5.66%        | 1        | 86.4%      |               |
| 67  | 280668 | 298    | 0.29%    | 29.21%       | 5.74%        | 1        | 87.2%      |               |
| 68  | 282664 | 297    | 0.29%    | 29.50%       | 5.83%        | 1        | 88.1%      |               |
| 69  | 282666 | 294    | 0.29%    | 29.79%       | 5.91%        | 1        | 89.0%      |               |
| 70  | 268667 | 293    | 0.29%    | 30.08%       | 6.00%        | 1        | 89.8%      |               |
| 71  | 276679 | 293    | 0.29%    | 30.37%       | 6.08%        | 1        | 90.7%      |               |
| 72  | 279660 | 293    | 0.29%    | 30.66%       | 6.17%        | 1        | 91.6%      |               |
| 73  | 273677 | 292    | 0.29%    | 30.95%       | 6.26%        | 1        | 92.4%      |               |
| 74  | 274662 | 290    | 0.29%    | 31.23%       | 6.34%        | 1        | 93.3%      |               |
| 75  | 283679 | 289    | 0.29%    | 31.52%       | 6.43%        | 1        | 94.1%      |               |

| NUM | Código | Cortes | % Cortes | CUM % cortes | CUM % cuadra | ESTRATOS | CUM % estra | ALEATORIO*100 |
|-----|--------|--------|----------|--------------|--------------|----------|-------------|---------------|
| 76  | 282665 | 289    | 0.29%    | 31.81%       | 6.51%        | 1        | 95.0%       |               |
| 77  | 291646 | 288    | 0.28%    | 32.09%       | 6.60%        | 1        | 95.8%       |               |
| 78  | 271670 | 286    | 0.28%    | 32.37%       | 6.68%        | 1        | 96.7%       |               |
| 79  | 280669 | 284    | 0.28%    | 32.65%       | 6.77%        | 1        | 97.5%       |               |
| 80  | 276669 | 283    | 0.28%    | 32.93%       | 6.86%        | 1        | 98.4%       |               |
| 81  | 273663 | 277    | 0.27%    | 33.21%       | 6.94%        | 1        | 99.2%       |               |
| 82  | 281660 | 277    | 0.27%    | 33.48%       | 7.03%        | 1        | 100.0%      |               |
| 83  | 275663 | 273    | 0.27%    | 33.75%       | 7.11%        | 2        | 0.8%        | 0.18015223    |
| 84  | 278659 | 273    | 0.27%    | 34.02%       | 7.20%        | 2        | 1.6%        |               |
| 85  | 285654 | 272    | 0.27%    | 34.29%       | 7.28%        | 2        | 2.4%        |               |
| 86  | 276680 | 269    | 0.27%    | 34.56%       | 7.37%        | 2        | 3.2%        |               |
| 87  | 286652 | 264    | 0.26%    | 34.82%       | 7.46%        | 2        | 4.0%        |               |
| 88  | 286657 | 262    | 0.26%    | 35.08%       | 7.54%        | 2        | 4.8%        |               |
| 89  | 282657 | 260    | 0.26%    | 35.33%       | 7.63%        | 2        | 5.6%        |               |
| 90  | 277663 | 259    | 0.26%    | 35.59%       | 7.71%        | 2        | 6.4%        |               |
| 91  | 276665 | 257    | 0.25%    | 35.84%       | 7.80%        | 2        | 7.1%        |               |
| 92  | 275664 | 257    | 0.25%    | 36.10%       | 7.88%        | 2        | 7.9%        |               |
| 93  | 286668 | 256    | 0.25%    | 36.35%       | 7.97%        | 2        | 8.6%        |               |
| 94  | 284667 | 253    | 0.25%    | 36.60%       | 8.05%        | 2        | 9.4%        |               |
| 95  | 274674 | 252    | 0.25%    | 36.85%       | 8.14%        | 2        | 10.1%       | 9.747967201   |
| 96  | 270664 | 251    | 0.25%    | 37.10%       | 8.23%        | 2        | 10.9%       |               |
| 97  | 266666 | 249    | 0.25%    | 37.34%       | 8.31%        | 2        | 11.6%       |               |
| 98  | 287669 | 249    | 0.25%    | 37.59%       | 8.40%        | 2        | 12.4%       |               |
| 99  | 288651 | 247    | 0.24%    | 37.83%       | 8.48%        | 2        | 13.1%       |               |
| 100 | 282670 | 246    | 0.24%    | 38.08%       | 8.57%        | 2        | 13.8%       |               |
| 101 | 278683 | 246    | 0.24%    | 38.32%       | 8.65%        | 2        | 14.6%       |               |
| 102 | 278684 | 244    | 0.24%    | 38.56%       | 8.74%        | 2        | 15.3%       |               |
| 103 | 283664 | 244    | 0.24%    | 38.80%       | 8.83%        | 2        | 16.0%       |               |
| 104 | 281676 | 242    | 0.24%    | 39.04%       | 8.91%        | 2        | 16.8%       |               |
| 105 | 281670 | 242    | 0.24%    | 39.28%       | 9.00%        | 2        | 17.5%       |               |
| 106 | 284655 | 241    | 0.24%    | 39.52%       | 9.08%        | 2        | 18.2%       |               |
| 107 | 272668 | 240    | 0.24%    | 39.76%       | 9.17%        | 2        | 18.9%       |               |
| 108 | 284658 | 240    | 0.24%    | 39.99%       | 9.25%        | 2        | 19.6%       |               |
| 109 | 301670 | 239    | 0.24%    | 40.23%       | 9.34%        | 2        | 20.3%       |               |
| 110 | 271667 | 236    | 0.23%    | 40.46%       | 9.43%        | 2        | 21.0%       |               |
| 111 | 269685 | 235    | 0.23%    | 40.69%       | 9.51%        | 2        | 21.7%       |               |
| 112 | 279658 | 235    | 0.23%    | 40.93%       | 9.60%        | 2        | 22.4%       |               |
| 113 | 273678 | 233    | 0.23%    | 41.16%       | 9.68%        | 2        | 23.1%       |               |
| 114 | 269665 | 231    | 0.23%    | 41.39%       | 9.77%        | 2        | 23.8%       |               |
| 115 | 283677 | 227    | 0.22%    | 41.61%       | 9.85%        | 2        | 24.5%       |               |
| 116 | 282676 | 226    | 0.22%    | 41.83%       | 9.94%        | 2        | 25.2%       |               |
| 117 | 283657 | 226    | 0.22%    | 42.06%       | 10.03%       | 2        | 25.8%       |               |
| 118 | 277677 | 225    | 0.22%    | 42.28%       | 10.11%       | 2        | 26.5%       |               |
| 119 | 273670 | 222    | 0.22%    | 42.50%       | 10.20%       | 2        | 27.2%       |               |
| 120 | 283676 | 222    | 0.22%    | 42.72%       | 10.28%       | 2        | 27.8%       |               |
| 121 | 278682 | 221    | 0.22%    | 42.94%       | 10.37%       | 2        | 28.5%       |               |
| 122 | 273668 | 220    | 0.22%    | 43.15%       | 10.45%       | 2        | 29.2%       |               |
| 123 | 283669 | 218    | 0.22%    | 43.37%       | 10.54%       | 2        | 29.8%       |               |
| 124 | 271666 | 218    | 0.22%    | 43.59%       | 10.63%       | 2        | 30.4%       |               |
| 125 | 315680 | 218    | 0.22%    | 43.80%       | 10.71%       | 2        | 31.1%       |               |
| 126 | 278665 | 217    | 0.21%    | 44.02%       | 10.80%       | 2        | 31.7%       |               |
| 127 | 291647 | 217    | 0.21%    | 44.23%       | 10.88%       | 2        | 32.4%       |               |
| 128 | 287654 | 217    | 0.21%    | 44.44%       | 10.97%       | 2        | 33.0%       |               |
| 129 | 283654 | 215    | 0.21%    | 44.66%       | 11.05%       | 2        | 33.7%       |               |
| 130 | 285668 | 215    | 0.21%    | 44.87%       | 11.14%       | 2        | 34.3%       |               |
| 131 | 275667 | 213    | 0.21%    | 45.08%       | 11.23%       | 2        | 35.0%       |               |
| 132 | 281657 | 213    | 0.21%    | 45.29%       | 11.31%       | 2        | 35.6%       |               |
| 133 | 284657 | 212    | 0.21%    | 45.50%       | 11.40%       | 2        | 36.2%       |               |
| 134 | 284679 | 211    | 0.21%    | 45.71%       | 11.48%       | 2        | 36.8%       |               |
| 135 | 289648 | 210    | 0.21%    | 45.92%       | 11.57%       | 2        | 37.5%       |               |
| 136 | 277679 | 209    | 0.21%    | 46.12%       | 11.65%       | 2        | 38.1%       |               |
| 137 | 288655 | 209    | 0.21%    | 46.33%       | 11.74%       | 2        | 38.7%       |               |
| 138 | 276670 | 207    | 0.20%    | 46.53%       | 11.83%       | 2        | 39.3%       |               |
| 139 | 279671 | 207    | 0.20%    | 46.74%       | 11.91%       | 2        | 40.0%       |               |
| 140 | 272671 | 207    | 0.20%    | 46.94%       | 12.00%       | 2        | 40.6%       |               |
| 141 | 277684 | 204    | 0.20%    | 47.14%       | 12.08%       | 2        | 41.2%       |               |
| 142 | 276668 | 203    | 0.20%    | 47.35%       | 12.17%       | 2        | 41.8%       |               |
| 143 | 286658 | 203    | 0.20%    | 47.55%       | 12.25%       | 2        | 42.4%       |               |
| 144 | 288654 | 202    | 0.20%    | 47.75%       | 12.34%       | 2        | 43.0%       |               |
| 145 | 282668 | 201    | 0.20%    | 47.94%       | 12.43%       | 2        | 43.6%       |               |
| 146 | 288666 | 201    | 0.20%    | 48.14%       | 12.51%       | 2        | 44.2%       |               |
| 147 | 296642 | 200    | 0.20%    | 48.34%       | 12.60%       | 2        | 44.8%       |               |
| 148 | 274666 | 199    | 0.20%    | 48.54%       | 12.68%       | 2        | 45.4%       |               |
| 149 | 273675 | 198    | 0.20%    | 48.73%       | 12.77%       | 2        | 46.0%       | 45.55520769   |
| 150 | 282679 | 197    | 0.19%    | 48.93%       | 12.85%       | 2        | 46.5%       |               |
| 151 | 290648 | 196    | 0.19%    | 49.12%       | 12.94%       | 2        | 47.1%       |               |
| 152 | 290646 | 195    | 0.19%    | 49.31%       | 13.02%       | 2        | 47.7%       |               |

| NUM | Código | Cortes | % Cortes | CUM % cortes | CUM % cuadra | ESTRATOS | CUM % estra | ALEATORIO*100 |
|-----|--------|--------|----------|--------------|--------------|----------|-------------|---------------|
| 153 | 271668 | 194    | 0.19%    | 49.51%       | 13.11%       | 2        | 48.3%       |               |
| 154 | 282656 | 194    | 0.19%    | 49.70%       | 13.20%       | 2        | 48.9%       |               |
| 155 | 282663 | 193    | 0.19%    | 49.89%       | 13.28%       | 2        | 49.4%       |               |
| 156 | 274672 | 192    | 0.19%    | 50.08%       | 13.37%       | 2        | 50.0%       |               |
| 157 | 284656 | 192    | 0.19%    | 50.27%       | 13.45%       | 2        | 50.6%       |               |
| 158 | 302671 | 192    | 0.19%    | 50.46%       | 13.54%       | 2        | 51.2%       |               |
| 159 | 288653 | 192    | 0.19%    | 50.65%       | 13.62%       | 2        | 51.7%       |               |
| 160 | 287653 | 190    | 0.19%    | 50.84%       | 13.71%       | 2        | 52.3%       |               |
| 161 | 277660 | 190    | 0.19%    | 51.02%       | 13.80%       | 2        | 52.9%       |               |
| 162 | 281669 | 189    | 0.19%    | 51.21%       | 13.88%       | 2        | 53.4%       |               |
| 163 | 287668 | 189    | 0.19%    | 51.40%       | 13.97%       | 2        | 54.0%       |               |
| 164 | 273676 | 188    | 0.19%    | 51.58%       | 14.05%       | 2        | 54.6%       |               |
| 165 | 284654 | 188    | 0.19%    | 51.77%       | 14.14%       | 2        | 55.1%       |               |
| 166 | 282659 | 188    | 0.19%    | 51.95%       | 14.22%       | 2        | 55.7%       |               |
| 167 | 277678 | 187    | 0.18%    | 52.14%       | 14.31%       | 2        | 56.2%       |               |
| 168 | 277668 | 187    | 0.18%    | 52.32%       | 14.40%       | 2        | 56.8%       |               |
| 169 | 274677 | 187    | 0.18%    | 52.51%       | 14.48%       | 2        | 57.3%       |               |
| 170 | 287655 | 185    | 0.18%    | 52.69%       | 14.57%       | 2        | 57.9%       |               |
| 171 | 276672 | 184    | 0.18%    | 52.87%       | 14.65%       | 2        | 58.4%       |               |
| 172 | 283678 | 184    | 0.18%    | 53.06%       | 14.74%       | 2        | 59.0%       |               |
| 173 | 276671 | 183    | 0.18%    | 53.24%       | 14.82%       | 2        | 59.5%       |               |
| 174 | 276663 | 182    | 0.18%    | 53.42%       | 14.91%       | 2        | 60.1%       |               |
| 175 | 282669 | 176    | 0.17%    | 53.59%       | 15.00%       | 2        | 60.6%       |               |
| 176 | 277680 | 176    | 0.17%    | 53.76%       | 15.08%       | 2        | 61.1%       |               |
| 177 | 276678 | 175    | 0.17%    | 53.94%       | 15.17%       | 2        | 61.6%       |               |
| 178 | 279682 | 175    | 0.17%    | 54.11%       | 15.25%       | 2        | 62.2%       |               |
| 179 | 272664 | 174    | 0.17%    | 54.28%       | 15.34%       | 2        | 62.7%       |               |
| 180 | 271665 | 174    | 0.17%    | 54.45%       | 15.42%       | 2        | 63.2%       |               |
| 181 | 269666 | 174    | 0.17%    | 54.63%       | 15.51%       | 2        | 63.7%       |               |
| 182 | 281677 | 174    | 0.17%    | 54.80%       | 15.60%       | 2        | 64.2%       |               |
| 183 | 272665 | 172    | 0.17%    | 54.97%       | 15.68%       | 2        | 64.8%       |               |
| 184 | 271664 | 172    | 0.17%    | 55.14%       | 15.77%       | 2        | 65.3%       |               |
| 185 | 274670 | 171    | 0.17%    | 55.31%       | 15.85%       | 2        | 65.8%       |               |
| 186 | 288652 | 171    | 0.17%    | 55.48%       | 15.94%       | 2        | 66.3%       |               |
| 187 | 280655 | 170    | 0.17%    | 55.64%       | 16.02%       | 2        | 66.8%       |               |
| 188 | 285661 | 170    | 0.17%    | 55.81%       | 16.11%       | 2        | 67.3%       |               |
| 189 | 272673 | 169    | 0.17%    | 55.98%       | 16.20%       | 2        | 67.8%       |               |
| 190 | 287652 | 168    | 0.17%    | 56.15%       | 16.28%       | 2        | 68.3%       |               |
| 191 | 278670 | 167    | 0.17%    | 56.31%       | 16.37%       | 2        | 68.8%       |               |
| 192 | 268691 | 167    | 0.17%    | 56.48%       | 16.45%       | 2        | 69.3%       |               |
| 193 | 287667 | 167    | 0.17%    | 56.64%       | 16.54%       | 2        | 69.8%       |               |
| 194 | 273671 | 166    | 0.16%    | 56.81%       | 16.62%       | 2        | 70.3%       |               |
| 195 | 278685 | 165    | 0.16%    | 56.97%       | 16.71%       | 2        | 70.8%       |               |
| 196 | 272672 | 165    | 0.16%    | 57.13%       | 16.80%       | 2        | 71.3%       |               |
| 197 | 268665 | 165    | 0.16%    | 57.29%       | 16.88%       | 2        | 71.8%       |               |
| 198 | 269667 | 164    | 0.16%    | 57.46%       | 16.97%       | 2        | 72.2%       |               |
| 199 | 274675 | 164    | 0.16%    | 57.62%       | 17.05%       | 2        | 72.7%       |               |
| 200 | 274671 | 162    | 0.16%    | 57.78%       | 17.14%       | 2        | 73.2%       |               |
| 201 | 284668 | 162    | 0.16%    | 57.94%       | 17.22%       | 2        | 73.7%       |               |
| 202 | 276675 | 161    | 0.16%    | 58.10%       | 17.31%       | 2        | 74.2%       |               |
| 203 | 275674 | 160    | 0.16%    | 58.26%       | 17.40%       | 2        | 74.7%       |               |
| 204 | 277675 | 159    | 0.16%    | 58.41%       | 17.48%       | 2        | 75.1%       |               |
| 205 | 281650 | 159    | 0.16%    | 58.57%       | 17.57%       | 2        | 75.6%       |               |
| 206 | 283668 | 158    | 0.16%    | 58.73%       | 17.65%       | 2        | 76.1%       |               |
| 207 | 274665 | 155    | 0.15%    | 58.88%       | 17.74%       | 2        | 76.5%       |               |
| 208 | 286667 | 155    | 0.15%    | 59.03%       | 17.82%       | 2        | 77.0%       |               |
| 209 | 287665 | 155    | 0.15%    | 59.19%       | 17.91%       | 2        | 77.5%       |               |
| 210 | 285667 | 155    | 0.15%    | 59.34%       | 17.99%       | 2        | 77.9%       |               |
| 211 | 292647 | 154    | 0.15%    | 59.49%       | 18.08%       | 2        | 78.4%       |               |
| 212 | 275668 | 153    | 0.15%    | 59.64%       | 18.17%       | 2        | 78.8%       |               |
| 213 | 288665 | 153    | 0.15%    | 59.79%       | 18.25%       | 2        | 79.3%       |               |
| 214 | 279661 | 153    | 0.15%    | 59.95%       | 18.34%       | 2        | 79.8%       |               |
| 215 | 276673 | 152    | 0.15%    | 60.10%       | 18.42%       | 2        | 80.2%       |               |
| 216 | 273672 | 152    | 0.15%    | 60.25%       | 18.51%       | 2        | 80.7%       |               |
| 217 | 276677 | 152    | 0.15%    | 60.40%       | 18.59%       | 2        | 81.1%       |               |
| 218 | 281673 | 152    | 0.15%    | 60.55%       | 18.68%       | 2        | 81.6%       |               |
| 219 | 288648 | 152    | 0.15%    | 60.70%       | 18.77%       | 2        | 82.0%       |               |
| 220 | 270665 | 151    | 0.15%    | 60.85%       | 18.85%       | 2        | 82.5%       |               |
| 221 | 276667 | 150    | 0.15%    | 60.99%       | 18.94%       | 2        | 82.9%       |               |
| 222 | 270667 | 150    | 0.15%    | 61.14%       | 19.02%       | 2        | 83.4%       |               |
| 223 | 269689 | 150    | 0.15%    | 61.29%       | 19.11%       | 2        | 83.8%       |               |
| 224 | 282660 | 150    | 0.15%    | 61.44%       | 19.19%       | 2        | 84.3%       |               |
| 225 | 278681 | 149    | 0.15%    | 61.59%       | 19.28%       | 2        | 84.7%       |               |
| 226 | 282658 | 149    | 0.15%    | 61.73%       | 19.37%       | 2        | 85.1%       |               |
| 227 | 289669 | 149    | 0.15%    | 61.88%       | 19.45%       | 2        | 85.6%       |               |
| 228 | 284651 | 149    | 0.15%    | 62.03%       | 19.54%       | 2        | 86.0%       |               |
| 229 | 283652 | 149    | 0.15%    | 62.18%       | 19.62%       | 2        | 86.5%       |               |

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| NUM | Código | Cortes | % Cortes | CUM % cortes | CUM % cuadra | ESTRATOS | CUM % estra | ALEATORIO*100 |
|-----|--------|--------|----------|--------------|--------------|----------|-------------|---------------|
| 230 | 290669 | 148    | 0.15%    | 62.32%       | 19.71%       | 2        | 86.9%       |               |
| 231 | 278677 | 147    | 0.15%    | 62.47%       | 19.79%       | 2        | 87.3%       |               |
| 232 | 281652 | 147    | 0.15%    | 62.61%       | 19.88%       | 2        | 87.8%       |               |
| 233 | 275670 | 146    | 0.14%    | 62.76%       | 19.97%       | 2        | 88.2%       |               |
| 234 | 281672 | 146    | 0.14%    | 62.90%       | 20.05%       | 2        | 88.7%       |               |
| 235 | 269668 | 146    | 0.14%    | 63.05%       | 20.14%       | 2        | 89.1%       |               |
| 236 | 280651 | 146    | 0.14%    | 63.19%       | 20.22%       | 2        | 89.5%       |               |
| 237 | 290668 | 146    | 0.14%    | 63.33%       | 20.31%       | 2        | 90.0%       |               |
| 238 | 280686 | 145    | 0.14%    | 63.48%       | 20.39%       | 2        | 90.4%       |               |
| 239 | 283675 | 145    | 0.14%    | 63.62%       | 20.48%       | 2        | 90.8%       |               |
| 240 | 284678 | 144    | 0.14%    | 63.76%       | 20.57%       | 2        | 91.3%       |               |
| 241 | 281663 | 144    | 0.14%    | 63.91%       | 20.65%       | 2        | 91.7%       |               |
| 242 | 281653 | 144    | 0.14%    | 64.05%       | 20.74%       | 2        | 92.1%       |               |
| 243 | 278671 | 143    | 0.14%    | 64.19%       | 20.82%       | 2        | 92.5%       |               |
| 244 | 272675 | 143    | 0.14%    | 64.33%       | 20.91%       | 2        | 93.0%       |               |
| 245 | 272663 | 142    | 0.14%    | 64.47%       | 20.99%       | 2        | 93.4%       |               |
| 246 | 281671 | 142    | 0.14%    | 64.61%       | 21.08%       | 2        | 93.8%       |               |
| 247 | 276674 | 141    | 0.14%    | 64.75%       | 21.17%       | 2        | 94.2%       |               |
| 248 | 287666 | 141    | 0.14%    | 64.89%       | 21.25%       | 2        | 94.7%       |               |
| 249 | 275666 | 140    | 0.14%    | 65.03%       | 21.34%       | 2        | 95.1%       |               |
| 250 | 275662 | 140    | 0.14%    | 65.17%       | 21.42%       | 2        | 95.5%       |               |
| 251 | 280653 | 140    | 0.14%    | 65.31%       | 21.51%       | 2        | 95.9%       |               |
| 252 | 273674 | 139    | 0.14%    | 65.44%       | 21.59%       | 2        | 96.3%       |               |
| 253 | 279684 | 139    | 0.14%    | 65.58%       | 21.68%       | 2        | 96.7%       |               |
| 254 | 279685 | 138    | 0.14%    | 65.72%       | 21.77%       | 2        | 97.1%       |               |
| 255 | 280663 | 138    | 0.14%    | 65.85%       | 21.85%       | 2        | 97.6%       |               |
| 256 | 282661 | 138    | 0.14%    | 65.99%       | 21.94%       | 2        | 98.0%       |               |
| 257 | 268684 | 137    | 0.14%    | 66.12%       | 22.02%       | 2        | 98.4%       |               |
| 258 | 274678 | 137    | 0.14%    | 66.26%       | 22.11%       | 2        | 98.8%       |               |
| 259 | 268692 | 137    | 0.14%    | 66.40%       | 22.19%       | 2        | 99.2%       |               |
| 260 | 289653 | 137    | 0.14%    | 66.53%       | 22.28%       | 2        | 99.6%       |               |
| 261 | 274667 | 136    | 0.13%    | 66.67%       | 22.37%       | 2        | 100.0%      |               |
| 262 | 273687 | 135    | 0.13%    | 66.80%       | 22.45%       | 3        | 0.4%        |               |
| 263 | 285665 | 135    | 0.13%    | 66.93%       | 22.54%       | 3        | 0.8%        |               |
| 264 | 272676 | 134    | 0.13%    | 67.07%       | 22.62%       | 3        | 1.2%        |               |
| 265 | 285660 | 134    | 0.13%    | 67.20%       | 22.71%       | 3        | 1.6%        |               |
| 266 | 280654 | 133    | 0.13%    | 67.33%       | 22.79%       | 3        | 2.0%        |               |
| 267 | 288661 | 133    | 0.13%    | 67.46%       | 22.88%       | 3        | 2.4%        |               |
| 268 | 274664 | 132    | 0.13%    | 67.59%       | 22.96%       | 3        | 2.8%        |               |
| 269 | 292646 | 132    | 0.13%    | 67.72%       | 23.05%       | 3        | 3.2%        |               |
| 270 | 282651 | 132    | 0.13%    | 67.85%       | 23.14%       | 3        | 3.6%        |               |
| 271 | 287656 | 132    | 0.13%    | 67.98%       | 23.22%       | 3        | 3.9%        |               |
| 272 | 275679 | 131    | 0.13%    | 68.11%       | 23.31%       | 3        | 4.3%        | 4.09132488    |
| 273 | 290651 | 131    | 0.13%    | 68.24%       | 23.39%       | 3        | 4.7%        |               |
| 274 | 280674 | 130    | 0.13%    | 68.37%       | 23.48%       | 3        | 5.1%        |               |
| 275 | 287657 | 130    | 0.13%    | 68.50%       | 23.56%       | 3        | 5.5%        |               |
| 276 | 282673 | 129    | 0.13%    | 68.63%       | 23.65%       | 3        | 5.9%        |               |
| 277 | 274686 | 129    | 0.13%    | 68.75%       | 23.74%       | 3        | 6.3%        |               |
| 278 | 283680 | 129    | 0.13%    | 68.88%       | 23.82%       | 3        | 6.6%        |               |
| 279 | 291648 | 129    | 0.13%    | 69.01%       | 23.91%       | 3        | 7.0%        | 6.692898924   |
| 280 | 282671 | 128    | 0.13%    | 69.13%       | 23.99%       | 3        | 7.4%        |               |
| 281 | 277673 | 128    | 0.13%    | 69.26%       | 24.08%       | 3        | 7.8%        |               |
| 282 | 278679 | 128    | 0.13%    | 69.39%       | 24.16%       | 3        | 8.2%        |               |
| 283 | 280659 | 128    | 0.13%    | 69.51%       | 24.25%       | 3        | 8.5%        |               |
| 284 | 267686 | 127    | 0.13%    | 69.64%       | 24.34%       | 3        | 8.9%        |               |
| 285 | 278660 | 127    | 0.13%    | 69.77%       | 24.42%       | 3        | 9.3%        |               |
| 286 | 290650 | 127    | 0.13%    | 69.89%       | 24.51%       | 3        | 9.7%        |               |
| 287 | 274668 | 125    | 0.12%    | 70.01%       | 24.59%       | 3        | 10.0%       |               |
| 288 | 272666 | 125    | 0.12%    | 70.14%       | 24.68%       | 3        | 10.4%       |               |
| 289 | 285651 | 125    | 0.12%    | 70.26%       | 24.76%       | 3        | 10.8%       |               |
| 290 | 289647 | 125    | 0.12%    | 70.39%       | 24.85%       | 3        | 11.2%       |               |
| 291 | 273664 | 124    | 0.12%    | 70.51%       | 24.94%       | 3        | 11.5%       |               |
| 292 | 281668 | 124    | 0.12%    | 70.63%       | 25.02%       | 3        | 11.9%       |               |
| 293 | 268685 | 124    | 0.12%    | 70.75%       | 25.11%       | 3        | 12.3%       |               |
| 294 | 288669 | 124    | 0.12%    | 70.88%       | 25.19%       | 3        | 12.6%       |               |
| 295 | 289655 | 124    | 0.12%    | 71.00%       | 25.28%       | 3        | 13.0%       |               |
| 296 | 287650 | 123    | 0.12%    | 71.12%       | 25.36%       | 3        | 13.4%       |               |
| 297 | 268689 | 122    | 0.12%    | 71.24%       | 25.45%       | 3        | 13.7%       |               |
| 298 | 282674 | 122    | 0.12%    | 71.36%       | 25.54%       | 3        | 14.1%       |               |
| 299 | 271669 | 122    | 0.12%    | 71.48%       | 25.62%       | 3        | 14.45%      | 14.40971674   |
| 300 | 275665 | 121    | 0.12%    | 71.60%       | 25.71%       | 3        | 14.8%       |               |
| 301 | 281674 | 120    | 0.12%    | 71.72%       | 25.79%       | 3        | 15.2%       |               |
| 302 | 271675 | 120    | 0.12%    | 71.84%       | 25.88%       | 3        | 15.5%       |               |
| 303 | 289651 | 120    | 0.12%    | 71.96%       | 25.96%       | 3        | 15.9%       |               |
| 304 | 271673 | 119    | 0.12%    | 72.07%       | 26.05%       | 3        | 16.2%       |               |
| 305 | 280675 | 119    | 0.12%    | 72.19%       | 26.14%       | 3        | 16.6%       |               |
| 306 | 277682 | 118    | 0.12%    | 72.31%       | 26.22%       | 3        | 16.9%       |               |



| NUM | Código | Cortes | % Cortes | CUM % cortes | CUM % cuadra | ESTRATOS | CUM % estra | ALEATORIO*100 |
|-----|--------|--------|----------|--------------|--------------|----------|-------------|---------------|
| 307 | 263697 | 118    | 0.12%    | 72.43%       | 26.31%       | 3        | 17.3%       |               |
| 308 | 281678 | 118    | 0.12%    | 72.54%       | 26.39%       | 3        | 17.6%       |               |
| 309 | 301672 | 118    | 0.12%    | 72.66%       | 26.48%       | 3        | 18.0%       | 17.73585074   |
| 310 | 280661 | 118    | 0.12%    | 72.78%       | 26.56%       | 3        | 18.3%       | 18.0995868    |
| 311 | 267691 | 117    | 0.12%    | 72.89%       | 26.65%       | 3        | 18.7%       |               |
| 312 | 301669 | 117    | 0.12%    | 73.01%       | 26.74%       | 3        | 19.0%       |               |
| 313 | 292649 | 117    | 0.12%    | 73.12%       | 26.82%       | 3        | 19.4%       |               |
| 314 | 274676 | 116    | 0.11%    | 73.24%       | 26.91%       | 3        | 19.7%       |               |
| 315 | 269691 | 115    | 0.11%    | 73.35%       | 26.99%       | 3        | 20.1%       |               |
| 316 | 285679 | 115    | 0.11%    | 73.46%       | 27.08%       | 3        | 20.4%       |               |
| 317 | 289652 | 115    | 0.11%    | 73.58%       | 27.16%       | 3        | 20.7%       |               |
| 318 | 279662 | 115    | 0.11%    | 73.69%       | 27.25%       | 3        | 21.1%       |               |
| 319 | 282678 | 114    | 0.11%    | 73.80%       | 27.34%       | 3        | 21.4%       |               |
| 320 | 275686 | 114    | 0.11%    | 73.92%       | 27.42%       | 3        | 21.8%       |               |
| 321 | 268688 | 113    | 0.11%    | 74.03%       | 27.51%       | 3        | 22.1%       |               |
| 322 | 262697 | 113    | 0.11%    | 74.14%       | 27.59%       | 3        | 22.4%       |               |
| 323 | 270668 | 113    | 0.11%    | 74.25%       | 27.68%       | 3        | 22.8%       |               |
| 324 | 284665 | 113    | 0.11%    | 74.36%       | 27.76%       | 3        | 23.1%       |               |
| 325 | 284677 | 112    | 0.11%    | 74.47%       | 27.85%       | 3        | 23.4%       |               |
| 326 | 290647 | 112    | 0.11%    | 74.59%       | 27.93%       | 3        | 23.8%       |               |
| 327 | 288657 | 112    | 0.11%    | 74.70%       | 28.02%       | 3        | 24.1%       |               |
| 328 | 267692 | 111    | 0.11%    | 74.81%       | 28.11%       | 3        | 24.4%       |               |
| 329 | 302670 | 111    | 0.11%    | 74.92%       | 28.19%       | 3        | 24.7%       |               |
| 330 | 279654 | 111    | 0.11%    | 75.03%       | 28.28%       | 3        | 25.1%       |               |
| 331 | 274673 | 110    | 0.11%    | 75.13%       | 28.36%       | 3        | 25.4%       |               |
| 332 | 277672 | 110    | 0.11%    | 75.24%       | 28.45%       | 3        | 25.7%       |               |
| 333 | 285664 | 110    | 0.11%    | 75.35%       | 28.53%       | 3        | 26.1%       |               |
| 334 | 273673 | 109    | 0.11%    | 75.46%       | 28.62%       | 3        | 26.4%       |               |
| 335 | 280650 | 109    | 0.11%    | 75.57%       | 28.71%       | 3        | 26.7%       |               |
| 336 | 292648 | 109    | 0.11%    | 75.67%       | 28.79%       | 3        | 27.0%       |               |
| 337 | 283670 | 108    | 0.11%    | 75.78%       | 28.88%       | 3        | 27.3%       |               |
| 338 | 274679 | 107    | 0.11%    | 75.89%       | 28.96%       | 3        | 27.7%       |               |
| 339 | 289668 | 107    | 0.11%    | 75.99%       | 29.05%       | 3        | 28.0%       |               |
| 340 | 267679 | 106    | 0.10%    | 76.10%       | 29.13%       | 3        | 28.3%       |               |
| 341 | 277681 | 105    | 0.10%    | 76.20%       | 29.22%       | 3        | 28.6%       |               |
| 342 | 269687 | 105    | 0.10%    | 76.31%       | 29.31%       | 3        | 28.9%       |               |
| 343 | 283658 | 105    | 0.10%    | 76.41%       | 29.39%       | 3        | 29.2%       |               |
| 344 | 285658 | 105    | 0.10%    | 76.51%       | 29.48%       | 3        | 29.5%       |               |
| 345 | 275672 | 104    | 0.10%    | 76.62%       | 29.56%       | 3        | 29.8%       |               |
| 346 | 272674 | 104    | 0.10%    | 76.72%       | 29.65%       | 3        | 30.2%       |               |
| 347 | 277683 | 104    | 0.10%    | 76.82%       | 29.73%       | 3        | 30.5%       |               |
| 348 | 288667 | 104    | 0.10%    | 76.92%       | 29.82%       | 3        | 30.8%       |               |
| 349 | 289666 | 104    | 0.10%    | 77.03%       | 29.91%       | 3        | 31.1%       |               |
| 350 | 295663 | 104    | 0.10%    | 77.13%       | 29.99%       | 3        | 31.4%       |               |
| 351 | 274685 | 103    | 0.10%    | 77.23%       | 30.08%       | 3        | 31.7%       |               |
| 352 | 269664 | 103    | 0.10%    | 77.33%       | 30.16%       | 3        | 32.0%       |               |
| 353 | 268690 | 103    | 0.10%    | 77.44%       | 30.25%       | 3        | 32.3%       |               |
| 354 | 291645 | 103    | 0.10%    | 77.54%       | 30.33%       | 3        | 32.6%       |               |
| 355 | 283666 | 102    | 0.10%    | 77.64%       | 30.42%       | 3        | 32.9%       |               |
| 356 | 291670 | 102    | 0.10%    | 77.74%       | 30.51%       | 3        | 33.2%       | 32.94291991   |
| 357 | 280673 | 101    | 0.10%    | 77.84%       | 30.59%       | 3        | 33.5%       |               |
| 358 | 282672 | 101    | 0.10%    | 77.94%       | 30.68%       | 3        | 33.8%       |               |
| 359 | 280658 | 100    | 0.10%    | 78.04%       | 30.76%       | 3        | 34.1%       |               |
| 360 | 282662 | 100    | 0.10%    | 78.14%       | 30.85%       | 3        | 34.4%       |               |
| 361 | 282652 | 100    | 0.10%    | 78.24%       | 30.93%       | 3        | 34.7%       |               |
| 362 | 264697 | 99     | 0.10%    | 78.33%       | 31.02%       | 3        | 35.0%       |               |
| 363 | 270673 | 99     | 0.10%    | 78.43%       | 31.11%       | 3        | 35.3%       |               |
| 364 | 284670 | 99     | 0.10%    | 78.53%       | 31.19%       | 3        | 35.6%       |               |
| 365 | 278672 | 99     | 0.10%    | 78.63%       | 31.28%       | 3        | 35.9%       |               |
| 366 | 290653 | 99     | 0.10%    | 78.72%       | 31.36%       | 3        | 36.2%       |               |
| 367 | 290652 | 99     | 0.10%    | 78.82%       | 31.45%       | 3        | 36.5%       |               |
| 368 | 283651 | 99     | 0.10%    | 78.92%       | 31.53%       | 3        | 36.8%       |               |
| 369 | 268686 | 98     | 0.10%    | 79.02%       | 31.62%       | 3        | 37.1%       |               |
| 370 | 290649 | 98     | 0.10%    | 79.11%       | 31.71%       | 3        | 37.3%       |               |
| 371 | 287649 | 98     | 0.10%    | 79.21%       | 31.79%       | 3        | 37.6%       |               |
| 372 | 316680 | 97     | 0.10%    | 79.31%       | 31.88%       | 3        | 37.9%       |               |
| 373 | 288662 | 96     | 0.09%    | 79.40%       | 31.96%       | 3        | 38.2%       |               |
| 374 | 280652 | 96     | 0.09%    | 79.50%       | 32.05%       | 3        | 38.5%       |               |
| 375 | 281661 | 96     | 0.09%    | 79.59%       | 32.13%       | 3        | 38.8%       |               |
| 376 | 291654 | 96     | 0.09%    | 79.69%       | 32.22%       | 3        | 39.1%       |               |
| 377 | 288656 | 96     | 0.09%    | 79.78%       | 32.31%       | 3        | 39.3%       |               |
| 378 | 272667 | 95     | 0.09%    | 79.88%       | 32.39%       | 3        | 39.6%       |               |
| 379 | 282675 | 95     | 0.09%    | 79.97%       | 32.48%       | 3        | 39.9%       |               |
| 380 | 281658 | 95     | 0.09%    | 80.06%       | 32.56%       | 3        | 40.2%       |               |
| 381 | 289660 | 95     | 0.09%    | 80.16%       | 32.65%       | 3        | 40.5%       |               |
| 382 | 285653 | 94     | 0.09%    | 80.25%       | 32.73%       | 3        | 40.8%       |               |
| 383 | 284652 | 94     | 0.09%    | 80.34%       | 32.82%       | 3        | 41.0%       |               |

| NUM | Código | Cortes | % Cortes | CUM % cortes | CUM % cuadra | ESTRATOS | CUM % estra | ALEATORIO*100 |
|-----|--------|--------|----------|--------------|--------------|----------|-------------|---------------|
| 384 | 286666 | 93     | 0.09%    | 80.43%       | 32.90%       | 3        | 41.3%       |               |
| 385 | 278661 | 93     | 0.09%    | 80.53%       | 32.99%       | 3        | 41.6%       |               |
| 386 | 279683 | 92     | 0.09%    | 80.62%       | 33.08%       | 3        | 41.9%       |               |
| 387 | 280682 | 92     | 0.09%    | 80.71%       | 33.16%       | 3        | 42.1%       |               |
| 388 | 283663 | 91     | 0.09%    | 80.80%       | 33.25%       | 3        | 42.4%       |               |
| 389 | 284663 | 90     | 0.09%    | 80.89%       | 33.33%       | 3        | 42.7%       |               |
| 390 | 270672 | 89     | 0.09%    | 80.98%       | 33.42%       | 3        | 42.9%       |               |
| 391 | 270691 | 88     | 0.09%    | 81.06%       | 33.50%       | 3        | 43.2%       |               |
| 392 | 269673 | 88     | 0.09%    | 81.15%       | 33.59%       | 3        | 43.4%       |               |
| 393 | 271692 | 88     | 0.09%    | 81.24%       | 33.68%       | 3        | 43.7%       |               |
| 394 | 286651 | 88     | 0.09%    | 81.32%       | 33.76%       | 3        | 44.0%       |               |
| 395 | 271674 | 87     | 0.09%    | 81.41%       | 33.85%       | 3        | 44.2%       |               |
| 396 | 279681 | 87     | 0.09%    | 81.50%       | 33.93%       | 3        | 44.5%       |               |
| 397 | 289665 | 87     | 0.09%    | 81.58%       | 34.02%       | 3        | 44.7%       |               |
| 398 | 284659 | 87     | 0.09%    | 81.67%       | 34.10%       | 3        | 45.0%       |               |
| 399 | 271672 | 86     | 0.09%    | 81.75%       | 34.19%       | 3        | 45.3%       |               |
| 400 | 270684 | 86     | 0.09%    | 81.84%       | 34.28%       | 3        | 45.5%       |               |
| 401 | 297642 | 86     | 0.09%    | 81.92%       | 34.36%       | 3        | 45.8%       |               |
| 402 | 278662 | 86     | 0.09%    | 82.01%       | 34.45%       | 3        | 46.0%       |               |
| 403 | 281651 | 86     | 0.09%    | 82.09%       | 34.53%       | 3        | 46.3%       |               |
| 404 | 286665 | 85     | 0.08%    | 82.18%       | 34.62%       | 3        | 46.5%       |               |
| 405 | 293645 | 85     | 0.08%    | 82.26%       | 34.70%       | 3        | 46.8%       |               |
| 406 | 287661 | 85     | 0.08%    | 82.34%       | 34.79%       | 3        | 47.0%       |               |
| 407 | 288647 | 85     | 0.08%    | 82.43%       | 34.88%       | 3        | 47.3%       |               |
| 408 | 273680 | 84     | 0.08%    | 82.51%       | 34.96%       | 3        | 47.5%       |               |
| 409 | 283659 | 84     | 0.08%    | 82.59%       | 35.05%       | 3        | 47.8%       |               |
| 410 | 275676 | 83     | 0.08%    | 82.68%       | 35.13%       | 3        | 48.0%       |               |
| 411 | 275678 | 83     | 0.08%    | 82.76%       | 35.22%       | 3        | 48.3%       |               |
| 412 | 276662 | 83     | 0.08%    | 82.84%       | 35.30%       | 3        | 48.5%       |               |
| 413 | 281682 | 83     | 0.08%    | 82.92%       | 35.39%       | 3        | 48.8%       |               |
| 414 | 280670 | 83     | 0.08%    | 83.00%       | 35.48%       | 3        | 49.0%       | 48.91367719   |
| 415 | 289646 | 83     | 0.08%    | 83.09%       | 35.56%       | 3        | 49.3%       |               |
| 416 | 294663 | 82     | 0.08%    | 83.17%       | 35.65%       | 3        | 49.5%       |               |
| 417 | 291668 | 82     | 0.08%    | 83.25%       | 35.73%       | 3        | 49.7%       |               |
| 418 | 292669 | 82     | 0.08%    | 83.33%       | 35.82%       | 3        | 50.0%       |               |
| 419 | 273667 | 81     | 0.08%    | 83.41%       | 35.90%       | 3        | 50.2%       |               |
| 420 | 301636 | 81     | 0.08%    | 83.49%       | 35.99%       | 3        | 50.5%       |               |
| 421 | 290654 | 80     | 0.08%    | 83.57%       | 36.08%       | 3        | 50.7%       |               |
| 422 | 275680 | 79     | 0.08%    | 83.65%       | 36.16%       | 3        | 50.9%       |               |
| 423 | 283661 | 78     | 0.08%    | 83.72%       | 36.25%       | 3        | 51.2%       |               |
| 424 | 272678 | 77     | 0.08%    | 83.80%       | 36.33%       | 3        | 51.4%       |               |
| 425 | 267670 | 77     | 0.08%    | 83.88%       | 36.42%       | 3        | 51.6%       | 51.58533949   |
| 426 | 279686 | 77     | 0.08%    | 83.95%       | 36.50%       | 3        | 51.9%       |               |
| 427 | 283665 | 77     | 0.08%    | 84.03%       | 36.59%       | 3        | 52.1%       |               |
| 428 | 287658 | 77     | 0.08%    | 84.10%       | 36.68%       | 3        | 52.3%       |               |
| 429 | 314679 | 77     | 0.08%    | 84.18%       | 36.76%       | 3        | 52.5%       |               |
| 430 | 275677 | 76     | 0.08%    | 84.26%       | 36.85%       | 3        | 52.8%       |               |
| 431 | 276681 | 76     | 0.08%    | 84.33%       | 36.93%       | 3        | 53.0%       |               |
| 432 | 273679 | 76     | 0.08%    | 84.41%       | 37.02%       | 3        | 53.2%       | 53.01094068   |
| 433 | 272677 | 76     | 0.08%    | 84.48%       | 37.10%       | 3        | 53.4%       |               |
| 434 | 271676 | 76     | 0.08%    | 84.56%       | 37.19%       | 3        | 53.7%       |               |
| 435 | 311616 | 76     | 0.08%    | 84.63%       | 37.28%       | 3        | 53.9%       |               |
| 436 | 283672 | 75     | 0.07%    | 84.71%       | 37.36%       | 3        | 54.1%       |               |
| 437 | 281675 | 75     | 0.07%    | 84.78%       | 37.45%       | 3        | 54.3%       |               |
| 438 | 284671 | 75     | 0.07%    | 84.85%       | 37.53%       | 3        | 54.6%       |               |
| 439 | 282654 | 75     | 0.07%    | 84.93%       | 37.62%       | 3        | 54.8%       |               |
| 440 | 283662 | 75     | 0.07%    | 85.00%       | 37.70%       | 3        | 55.0%       |               |
| 441 | 278676 | 74     | 0.07%    | 85.08%       | 37.79%       | 3        | 55.2%       |               |
| 442 | 276676 | 74     | 0.07%    | 85.15%       | 37.87%       | 3        | 55.4%       |               |
| 443 | 274680 | 74     | 0.07%    | 85.22%       | 37.96%       | 3        | 55.7%       |               |
| 444 | 269688 | 74     | 0.07%    | 85.30%       | 38.05%       | 3        | 55.9%       |               |
| 445 | 300672 | 74     | 0.07%    | 85.37%       | 38.13%       | 3        | 56.1%       |               |
| 446 | 263698 | 73     | 0.07%    | 85.44%       | 38.22%       | 3        | 56.3%       |               |
| 447 | 284680 | 73     | 0.07%    | 85.51%       | 38.30%       | 3        | 56.5%       |               |
| 448 | 319681 | 73     | 0.07%    | 85.58%       | 38.39%       | 3        | 56.8%       |               |
| 449 | 285652 | 73     | 0.07%    | 85.66%       | 38.47%       | 3        | 57.0%       |               |
| 450 | 316681 | 73     | 0.07%    | 85.73%       | 38.56%       | 3        | 57.2%       |               |
| 451 | 322600 | 73     | 0.07%    | 85.80%       | 38.65%       | 3        | 57.4%       |               |
| 452 | 286670 | 72     | 0.07%    | 85.87%       | 38.73%       | 3        | 57.6%       |               |
| 453 | 275673 | 72     | 0.07%    | 85.94%       | 38.82%       | 3        | 57.8%       |               |
| 454 | 280672 | 71     | 0.07%    | 86.01%       | 38.90%       | 3        | 58.0%       |               |
| 455 | 269690 | 71     | 0.07%    | 86.08%       | 38.99%       | 3        | 58.3%       |               |
| 456 | 273681 | 71     | 0.07%    | 86.15%       | 39.07%       | 3        | 58.5%       |               |
| 457 | 290670 | 71     | 0.07%    | 86.22%       | 39.16%       | 3        | 58.7%       |               |
| 458 | 289661 | 71     | 0.07%    | 86.29%       | 39.25%       | 3        | 58.9%       |               |
| 459 | 303670 | 70     | 0.07%    | 86.36%       | 39.33%       | 3        | 59.1%       |               |
| 460 | 293649 | 70     | 0.07%    | 86.43%       | 39.42%       | 3        | 59.3%       |               |

| NUM | Código | Cortes | % Cortes | CUM % cortes | CUM % cuadra | ESTRATOS | CUM % estra | ALEATORIO*100 |
|-----|--------|--------|----------|--------------|--------------|----------|-------------|---------------|
| 461 | 275675 | 69     | 0.07%    | 86.50%       | 39.50%       | 3        | 59.5%       |               |
| 462 | 289667 | 69     | 0.07%    | 86.57%       | 39.59%       | 3        | 59.7%       |               |
| 463 | 292670 | 69     | 0.07%    | 86.64%       | 39.67%       | 3        | 59.9%       |               |
| 464 | 281662 | 69     | 0.07%    | 86.71%       | 39.76%       | 3        | 60.1%       |               |
| 465 | 315679 | 69     | 0.07%    | 86.77%       | 39.85%       | 3        | 60.3%       |               |
| 466 | 277674 | 68     | 0.07%    | 86.84%       | 39.93%       | 3        | 60.5%       |               |
| 467 | 279651 | 68     | 0.07%    | 86.91%       | 40.02%       | 3        | 60.7%       |               |
| 468 | 280671 | 67     | 0.07%    | 86.97%       | 40.10%       | 3        | 60.9%       |               |
| 469 | 267685 | 67     | 0.07%    | 87.04%       | 40.19%       | 3        | 61.1%       |               |
| 470 | 275685 | 67     | 0.07%    | 87.11%       | 40.27%       | 3        | 61.3%       |               |
| 471 | 269686 | 66     | 0.07%    | 87.17%       | 40.36%       | 3        | 61.5%       |               |
| 472 | 274687 | 66     | 0.07%    | 87.24%       | 40.45%       | 3        | 61.7%       |               |
| 473 | 291649 | 66     | 0.07%    | 87.30%       | 40.53%       | 3        | 61.9%       |               |
| 474 | 298640 | 66     | 0.07%    | 87.37%       | 40.62%       | 3        | 62.1%       |               |
| 475 | 284653 | 66     | 0.07%    | 87.43%       | 40.70%       | 3        | 62.3%       |               |
| 476 | 276682 | 65     | 0.06%    | 87.50%       | 40.79%       | 3        | 62.5%       |               |
| 477 | 274681 | 65     | 0.06%    | 87.56%       | 40.87%       | 3        | 62.7%       |               |
| 478 | 273666 | 65     | 0.06%    | 87.63%       | 40.96%       | 3        | 62.9%       |               |
| 479 | 300670 | 65     | 0.06%    | 87.69%       | 41.05%       | 3        | 63.1%       |               |
| 480 | 323600 | 65     | 0.06%    | 87.75%       | 41.13%       | 3        | 63.3%       |               |
| 481 | 277676 | 64     | 0.06%    | 87.82%       | 41.22%       | 3        | 63.5%       |               |
| 482 | 278680 | 64     | 0.06%    | 87.88%       | 41.30%       | 3        | 63.6%       |               |
| 483 | 273662 | 64     | 0.06%    | 87.94%       | 41.39%       | 3        | 63.8%       |               |
| 484 | 300671 | 64     | 0.06%    | 88.01%       | 41.47%       | 3        | 64.0%       |               |
| 485 | 289654 | 64     | 0.06%    | 88.07%       | 41.56%       | 3        | 64.2%       |               |
| 486 | 290645 | 63     | 0.06%    | 88.13%       | 41.65%       | 3        | 64.4%       |               |
| 487 | 281686 | 62     | 0.06%    | 88.19%       | 41.73%       | 3        | 64.6%       |               |
| 488 | 270690 | 62     | 0.06%    | 88.26%       | 41.82%       | 3        | 64.8%       |               |
| 489 | 284676 | 62     | 0.06%    | 88.32%       | 41.90%       | 3        | 65.0%       |               |
| 490 | 318682 | 62     | 0.06%    | 88.38%       | 41.99%       | 3        | 65.1%       |               |
| 491 | 304674 | 62     | 0.06%    | 88.44%       | 42.07%       | 3        | 65.3%       |               |
| 492 | 276661 | 61     | 0.06%    | 88.50%       | 42.16%       | 3        | 65.5%       |               |
| 493 | 285680 | 61     | 0.06%    | 88.56%       | 42.25%       | 3        | 65.7%       |               |
| 494 | 285670 | 61     | 0.06%    | 88.62%       | 42.33%       | 3        | 65.9%       |               |
| 495 | 268670 | 61     | 0.06%    | 88.68%       | 42.42%       | 3        | 66.0%       |               |
| 496 | 277662 | 60     | 0.06%    | 88.74%       | 42.50%       | 3        | 66.2%       |               |
| 497 | 281659 | 60     | 0.06%    | 88.80%       | 42.59%       | 3        | 66.4%       |               |
| 498 | 291651 | 60     | 0.06%    | 88.86%       | 42.67%       | 3        | 66.6%       |               |
| 499 | 284675 | 59     | 0.06%    | 88.92%       | 42.76%       | 3        | 66.8%       |               |
| 500 | 271689 | 59     | 0.06%    | 88.98%       | 42.84%       | 3        | 66.9%       |               |
| 501 | 268687 | 59     | 0.06%    | 89.03%       | 42.93%       | 3        | 67.1%       |               |
| 502 | 288670 | 59     | 0.06%    | 89.09%       | 43.02%       | 3        | 67.3%       |               |
| 503 | 283660 | 59     | 0.06%    | 89.15%       | 43.10%       | 3        | 67.5%       |               |
| 504 | 284650 | 59     | 0.06%    | 89.21%       | 43.19%       | 3        | 67.6%       |               |
| 505 | 275661 | 58     | 0.06%    | 89.27%       | 43.27%       | 3        | 67.8%       |               |
| 506 | 269692 | 58     | 0.06%    | 89.32%       | 43.36%       | 3        | 68.0%       |               |
| 507 | 295670 | 58     | 0.06%    | 89.38%       | 43.44%       | 3        | 68.1%       |               |
| 508 | 268679 | 57     | 0.06%    | 89.44%       | 43.53%       | 3        | 68.3%       |               |
| 509 | 271680 | 57     | 0.06%    | 89.49%       | 43.62%       | 3        | 68.5%       |               |
| 510 | 284660 | 57     | 0.06%    | 89.55%       | 43.70%       | 3        | 68.6%       |               |
| 511 | 292675 | 57     | 0.06%    | 89.61%       | 43.79%       | 3        | 68.8%       |               |
| 512 | 280684 | 56     | 0.06%    | 89.66%       | 43.87%       | 3        | 69.0%       |               |
| 513 | 271663 | 56     | 0.06%    | 89.72%       | 43.96%       | 3        | 69.2%       |               |
| 514 | 289670 | 55     | 0.05%    | 89.77%       | 44.04%       | 3        | 69.3%       |               |
| 515 | 272681 | 54     | 0.05%    | 89.82%       | 44.13%       | 3        | 69.5%       |               |
| 516 | 283667 | 54     | 0.05%    | 89.88%       | 44.22%       | 3        | 69.6%       |               |
| 517 | 274688 | 54     | 0.05%    | 89.93%       | 44.30%       | 3        | 69.8%       |               |
| 518 | 299672 | 54     | 0.05%    | 89.98%       | 44.39%       | 3        | 70.0%       |               |
| 519 | 296643 | 54     | 0.05%    | 90.04%       | 44.47%       | 3        | 70.1%       |               |
| 520 | 305632 | 54     | 0.05%    | 90.09%       | 44.56%       | 3        | 70.3%       |               |
| 521 | 291675 | 54     | 0.05%    | 90.14%       | 44.64%       | 3        | 70.4%       |               |
| 522 | 295671 | 54     | 0.05%    | 90.20%       | 44.73%       | 3        | 70.6%       |               |
| 523 | 275684 | 53     | 0.05%    | 90.25%       | 44.82%       | 3        | 70.8%       |               |
| 524 | 299671 | 53     | 0.05%    | 90.30%       | 44.90%       | 3        | 70.9%       |               |
| 525 | 281655 | 53     | 0.05%    | 90.36%       | 44.99%       | 3        | 71.1%       |               |
| 526 | 282653 | 53     | 0.05%    | 90.41%       | 45.07%       | 3        | 71.2%       |               |
| 527 | 283653 | 53     | 0.05%    | 90.46%       | 45.16%       | 3        | 71.4%       |               |
| 528 | 272686 | 52     | 0.05%    | 90.51%       | 45.24%       | 3        | 71.5%       |               |
| 529 | 303634 | 52     | 0.05%    | 90.56%       | 45.33%       | 3        | 71.7%       |               |
| 530 | 285650 | 52     | 0.05%    | 90.61%       | 45.42%       | 3        | 71.8%       |               |
| 531 | 275671 | 51     | 0.05%    | 90.66%       | 45.50%       | 3        | 72.0%       |               |
| 532 | 273688 | 51     | 0.05%    | 90.71%       | 45.59%       | 3        | 72.1%       |               |
| 533 | 299639 | 51     | 0.05%    | 90.77%       | 45.67%       | 3        | 72.3%       |               |
| 534 | 291669 | 51     | 0.05%    | 90.82%       | 45.76%       | 3        | 72.4%       |               |
| 535 | 288675 | 51     | 0.05%    | 90.87%       | 45.84%       | 3        | 72.6%       |               |
| 536 | 272680 | 50     | 0.05%    | 90.92%       | 45.93%       | 3        | 72.7%       |               |
| 537 | 288658 | 50     | 0.05%    | 90.97%       | 46.02%       | 3        | 72.9%       |               |

| NUM | Código | Cortes | % Cortes | CUM % cortes | CUM % cuadra | ESTRATOS | CUM % estra | ALEATORIO*100 |
|-----|--------|--------|----------|--------------|--------------|----------|-------------|---------------|
| 538 | 272679 | 49     | 0.05%    | 91.01%       | 46.10%       | 3        | 73.0%       |               |
| 539 | 293671 | 49     | 0.05%    | 91.06%       | 46.19%       | 3        | 73.2%       |               |
| 540 | 286671 | 48     | 0.05%    | 91.11%       | 46.27%       | 3        | 73.3%       |               |
| 541 | 273665 | 48     | 0.05%    | 91.16%       | 46.36%       | 3        | 73.5%       | 73.40054725   |
| 542 | 286679 | 48     | 0.05%    | 91.20%       | 46.44%       | 3        | 73.6%       |               |
| 543 | 302669 | 48     | 0.05%    | 91.25%       | 46.53%       | 3        | 73.8%       |               |
| 544 | 296660 | 48     | 0.05%    | 91.30%       | 46.62%       | 3        | 73.9%       |               |
| 545 | 279653 | 48     | 0.05%    | 91.35%       | 46.70%       | 3        | 74.0%       |               |
| 546 | 306630 | 48     | 0.05%    | 91.39%       | 46.79%       | 3        | 74.2%       |               |
| 547 | 293670 | 48     | 0.05%    | 91.44%       | 46.87%       | 3        | 74.3%       |               |
| 548 | 268668 | 47     | 0.05%    | 91.49%       | 46.96%       | 3        | 74.5%       |               |
| 549 | 264696 | 47     | 0.05%    | 91.53%       | 47.04%       | 3        | 74.6%       |               |
| 550 | 270692 | 47     | 0.05%    | 91.58%       | 47.13%       | 3        | 74.7%       |               |
| 551 | 270686 | 47     | 0.05%    | 91.63%       | 47.22%       | 3        | 74.9%       |               |
| 552 | 300673 | 47     | 0.05%    | 91.67%       | 47.30%       | 3        | 75.0%       |               |
| 553 | 286661 | 47     | 0.05%    | 91.72%       | 47.39%       | 3        | 75.2%       |               |
| 554 | 285659 | 47     | 0.05%    | 91.77%       | 47.47%       | 3        | 75.3%       |               |
| 555 | 286664 | 47     | 0.05%    | 91.81%       | 47.56%       | 3        | 75.4%       |               |
| 556 | 294670 | 47     | 0.05%    | 91.86%       | 47.64%       | 3        | 75.6%       |               |
| 557 | 280687 | 46     | 0.05%    | 91.91%       | 47.73%       | 3        | 75.7%       |               |
| 558 | 280676 | 46     | 0.05%    | 91.95%       | 47.81%       | 3        | 75.9%       |               |
| 559 | 301673 | 46     | 0.05%    | 92.00%       | 47.90%       | 3        | 76.0%       |               |
| 560 | 287662 | 46     | 0.05%    | 92.04%       | 47.99%       | 3        | 76.1%       |               |
| 561 | 274684 | 45     | 0.04%    | 92.09%       | 48.07%       | 3        | 76.3%       |               |
| 562 | 270687 | 45     | 0.04%    | 92.13%       | 48.16%       | 3        | 76.4%       |               |
| 563 | 282686 | 45     | 0.04%    | 92.18%       | 48.24%       | 3        | 76.5%       |               |
| 564 | 284666 | 45     | 0.04%    | 92.22%       | 48.33%       | 3        | 76.7%       |               |
| 565 | 287670 | 44     | 0.04%    | 92.26%       | 48.41%       | 3        | 76.8%       |               |
| 566 | 278686 | 44     | 0.04%    | 92.31%       | 48.50%       | 3        | 76.9%       |               |
| 567 | 272688 | 44     | 0.04%    | 92.35%       | 48.59%       | 3        | 77.1%       |               |
| 568 | 318681 | 44     | 0.04%    | 92.39%       | 48.67%       | 3        | 77.2%       |               |
| 569 | 302674 | 44     | 0.04%    | 92.44%       | 48.76%       | 3        | 77.3%       |               |
| 570 | 314680 | 44     | 0.04%    | 92.48%       | 48.84%       | 3        | 77.4%       |               |
| 571 | 323601 | 44     | 0.04%    | 92.52%       | 48.93%       | 3        | 77.6%       |               |
| 572 | 283671 | 43     | 0.04%    | 92.57%       | 49.01%       | 3        | 77.7%       |               |
| 573 | 307630 | 43     | 0.04%    | 92.61%       | 49.10%       | 3        | 77.8%       |               |
| 574 | 293674 | 43     | 0.04%    | 92.65%       | 49.19%       | 3        | 78.0%       |               |
| 575 | 306675 | 43     | 0.04%    | 92.69%       | 49.27%       | 3        | 78.1%       |               |
| 576 | 307675 | 43     | 0.04%    | 92.74%       | 49.36%       | 3        | 78.2%       |               |
| 577 | 287664 | 43     | 0.04%    | 92.78%       | 49.44%       | 3        | 78.3%       |               |
| 578 | 280685 | 42     | 0.04%    | 92.82%       | 49.53%       | 3        | 78.5%       |               |
| 579 | 271685 | 42     | 0.04%    | 92.86%       | 49.61%       | 3        | 78.6%       |               |
| 580 | 286662 | 42     | 0.04%    | 92.90%       | 49.70%       | 3        | 78.7%       |               |
| 581 | 288674 | 42     | 0.04%    | 92.95%       | 49.79%       | 3        | 78.8%       |               |
| 582 | 288660 | 42     | 0.04%    | 92.99%       | 49.87%       | 3        | 79.0%       |               |
| 583 | 270685 | 41     | 0.04%    | 93.03%       | 49.96%       | 3        | 79.1%       |               |
| 584 | 272687 | 41     | 0.04%    | 93.07%       | 50.04%       | 3        | 79.2%       |               |
| 585 | 279679 | 41     | 0.04%    | 93.11%       | 50.13%       | 3        | 79.3%       |               |
| 586 | 285676 | 41     | 0.04%    | 93.15%       | 50.21%       | 3        | 79.4%       |               |
| 587 | 305675 | 41     | 0.04%    | 93.19%       | 50.30%       | 3        | 79.6%       |               |
| 588 | 296670 | 41     | 0.04%    | 93.23%       | 50.39%       | 3        | 79.7%       |               |
| 589 | 281679 | 40     | 0.04%    | 93.27%       | 50.47%       | 3        | 79.8%       |               |
| 590 | 270675 | 40     | 0.04%    | 93.31%       | 50.56%       | 3        | 79.9%       |               |
| 591 | 270674 | 40     | 0.04%    | 93.35%       | 50.64%       | 3        | 80.0%       |               |
| 592 | 276692 | 40     | 0.04%    | 93.39%       | 50.73%       | 3        | 80.2%       |               |
| 593 | 290667 | 40     | 0.04%    | 93.43%       | 50.81%       | 3        | 80.3%       |               |
| 594 | 311619 | 40     | 0.04%    | 93.47%       | 50.90%       | 3        | 80.4%       |               |
| 595 | 274683 | 39     | 0.04%    | 93.51%       | 50.99%       | 3        | 80.5%       |               |
| 596 | 265665 | 39     | 0.04%    | 93.54%       | 51.07%       | 3        | 80.6%       |               |
| 597 | 270689 | 39     | 0.04%    | 93.58%       | 51.16%       | 3        | 80.7%       |               |
| 598 | 280649 | 39     | 0.04%    | 93.62%       | 51.24%       | 3        | 80.9%       |               |
| 599 | 313680 | 39     | 0.04%    | 93.66%       | 51.33%       | 3        | 81.0%       |               |
| 600 | 273686 | 38     | 0.04%    | 93.70%       | 51.41%       | 3        | 81.1%       |               |
| 601 | 267690 | 38     | 0.04%    | 93.73%       | 51.50%       | 3        | 81.2%       |               |
| 602 | 293663 | 38     | 0.04%    | 93.77%       | 51.59%       | 3        | 81.3%       |               |
| 603 | 284662 | 38     | 0.04%    | 93.81%       | 51.67%       | 3        | 81.4%       |               |
| 604 | 279650 | 38     | 0.04%    | 93.85%       | 51.76%       | 3        | 81.5%       |               |
| 605 | 303674 | 38     | 0.04%    | 93.89%       | 51.84%       | 3        | 81.7%       |               |
| 606 | 278678 | 37     | 0.04%    | 93.92%       | 51.93%       | 3        | 81.8%       |               |
| 607 | 277671 | 37     | 0.04%    | 93.96%       | 52.01%       | 3        | 81.9%       |               |
| 608 | 277692 | 37     | 0.04%    | 93.99%       | 52.10%       | 3        | 82.0%       |               |
| 609 | 295662 | 37     | 0.04%    | 94.03%       | 52.19%       | 3        | 82.1%       |               |
| 610 | 304619 | 37     | 0.04%    | 94.07%       | 52.27%       | 3        | 82.2%       |               |
| 611 | 278675 | 36     | 0.04%    | 94.10%       | 52.36%       | 3        | 82.3%       |               |
| 612 | 291652 | 36     | 0.04%    | 94.14%       | 52.44%       | 3        | 82.4%       |               |
| 613 | 277661 | 36     | 0.04%    | 94.17%       | 52.53%       | 3        | 82.5%       |               |
| 614 | 304675 | 36     | 0.04%    | 94.21%       | 52.61%       | 3        | 82.6%       |               |

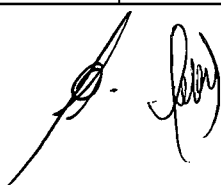
| NUM | Código | Cortes | % Cortes | CUM % cortes | CUM % cuadra | ESTRATOS | CUM % estro | ALEATORIO*100 |
|-----|--------|--------|----------|--------------|--------------|----------|-------------|---------------|
| 615 | 308676 | 36     | 0.04%    | 94.25%       | 52.70%       | 3        | 82.7%       |               |
| 616 | 267693 | 35     | 0.03%    | 94.28%       | 52.78%       | 3        | 82.8%       |               |
| 617 | 261697 | 35     | 0.03%    | 94.32%       | 52.87%       | 3        | 82.9%       |               |
| 618 | 295644 | 35     | 0.03%    | 94.35%       | 52.96%       | 3        | 83.0%       |               |
| 619 | 303671 | 35     | 0.03%    | 94.38%       | 53.04%       | 3        | 83.2%       |               |
| 620 | 280662 | 35     | 0.03%    | 94.42%       | 53.13%       | 3        | 83.3%       |               |
| 621 | 297660 | 35     | 0.03%    | 94.45%       | 53.21%       | 3        | 83.4%       |               |
| 622 | 293669 | 35     | 0.03%    | 94.49%       | 53.30%       | 3        | 83.5%       |               |
| 623 | 293668 | 35     | 0.03%    | 94.52%       | 53.38%       | 3        | 83.6%       |               |
| 624 | 285678 | 34     | 0.03%    | 94.56%       | 53.47%       | 3        | 83.7%       |               |
| 625 | 272682 | 34     | 0.03%    | 94.59%       | 53.56%       | 3        | 83.8%       |               |
| 626 | 295672 | 34     | 0.03%    | 94.62%       | 53.64%       | 3        | 83.9%       |               |
| 627 | 283650 | 34     | 0.03%    | 94.66%       | 53.73%       | 3        | 84.0%       |               |
| 628 | 274691 | 33     | 0.03%    | 94.69%       | 53.81%       | 3        | 84.1%       |               |
| 629 | 349690 | 33     | 0.03%    | 94.72%       | 53.90%       | 3        | 84.2%       |               |
| 630 | 317682 | 33     | 0.03%    | 94.75%       | 53.98%       | 3        | 84.3%       |               |
| 631 | 301635 | 33     | 0.03%    | 94.79%       | 54.07%       | 3        | 84.4%       |               |
| 632 | 300675 | 33     | 0.03%    | 94.82%       | 54.16%       | 3        | 84.5%       |               |
| 633 | 313679 | 33     | 0.03%    | 94.85%       | 54.24%       | 3        | 84.6%       |               |
| 634 | 309621 | 33     | 0.03%    | 94.89%       | 54.33%       | 3        | 84.7%       |               |
| 635 | 265696 | 32     | 0.03%    | 94.92%       | 54.41%       | 3        | 84.8%       |               |
| 636 | 295643 | 32     | 0.03%    | 94.95%       | 54.50%       | 3        | 84.8%       |               |
| 637 | 278658 | 32     | 0.03%    | 94.98%       | 54.58%       | 3        | 84.9%       |               |
| 638 | 307629 | 32     | 0.03%    | 95.01%       | 54.67%       | 3        | 85.0%       |               |
| 639 | 311615 | 32     | 0.03%    | 95.04%       | 54.76%       | 3        | 85.1%       |               |
| 640 | 281688 | 31     | 0.03%    | 95.07%       | 54.84%       | 3        | 85.2%       |               |
| 641 | 283681 | 31     | 0.03%    | 95.10%       | 54.93%       | 3        | 85.3%       |               |
| 642 | 300642 | 31     | 0.03%    | 95.14%       | 55.01%       | 3        | 85.4%       |               |
| 643 | 292650 | 31     | 0.03%    | 95.17%       | 55.10%       | 3        | 85.5%       |               |
| 644 | 300638 | 31     | 0.03%    | 95.20%       | 55.18%       | 3        | 85.6%       |               |
| 645 | 285677 | 30     | 0.03%    | 95.23%       | 55.27%       | 3        | 85.7%       |               |
| 646 | 294645 | 30     | 0.03%    | 95.26%       | 55.36%       | 3        | 85.8%       |               |
| 647 | 296661 | 30     | 0.03%    | 95.29%       | 55.44%       | 3        | 85.9%       |               |
| 648 | 305631 | 30     | 0.03%    | 95.32%       | 55.53%       | 3        | 85.9%       |               |
| 649 | 289657 | 30     | 0.03%    | 95.35%       | 55.61%       | 3        | 86.0%       |               |
| 650 | 274682 | 29     | 0.03%    | 95.37%       | 55.70%       | 3        | 86.1%       |               |
| 651 | 293648 | 29     | 0.03%    | 95.40%       | 55.78%       | 3        | 86.2%       |               |
| 652 | 294668 | 29     | 0.03%    | 95.43%       | 55.87%       | 3        | 86.3%       |               |
| 653 | 302660 | 29     | 0.03%    | 95.46%       | 55.96%       | 3        | 86.4%       |               |
| 654 | 286659 | 29     | 0.03%    | 95.49%       | 56.04%       | 3        | 86.5%       |               |
| 655 | 280683 | 28     | 0.03%    | 95.52%       | 56.13%       | 3        | 86.5%       |               |
| 656 | 279687 | 28     | 0.03%    | 95.54%       | 56.21%       | 3        | 86.6%       |               |
| 657 | 289674 | 28     | 0.03%    | 95.57%       | 56.30%       | 3        | 86.7%       |               |
| 658 | 291671 | 28     | 0.03%    | 95.60%       | 56.38%       | 3        | 86.8%       |               |
| 659 | 317681 | 28     | 0.03%    | 95.63%       | 56.47%       | 3        | 86.9%       |               |
| 660 | 294667 | 28     | 0.03%    | 95.65%       | 56.56%       | 3        | 87.0%       |               |
| 661 | 275681 | 27     | 0.03%    | 95.68%       | 56.64%       | 3        | 87.0%       |               |
| 662 | 272690 | 27     | 0.03%    | 95.71%       | 56.73%       | 3        | 87.1%       |               |
| 663 | 269675 | 27     | 0.03%    | 95.73%       | 56.81%       | 3        | 87.2%       |               |
| 664 | 286680 | 26     | 0.03%    | 95.76%       | 56.90%       | 3        | 87.3%       |               |
| 665 | 284661 | 26     | 0.03%    | 95.79%       | 56.98%       | 3        | 87.4%       |               |
| 666 | 288664 | 26     | 0.03%    | 95.81%       | 57.07%       | 3        | 87.4%       |               |
| 667 | 294669 | 26     | 0.03%    | 95.84%       | 57.16%       | 3        | 87.5%       |               |
| 668 | 287663 | 26     | 0.03%    | 95.86%       | 57.24%       | 3        | 87.6%       |               |
| 669 | 272689 | 25     | 0.02%    | 95.89%       | 57.33%       | 3        | 87.7%       |               |
| 670 | 269679 | 25     | 0.02%    | 95.91%       | 57.41%       | 3        | 87.7%       |               |
| 671 | 278674 | 25     | 0.02%    | 95.94%       | 57.50%       | 3        | 87.8%       |               |
| 672 | 269684 | 25     | 0.02%    | 95.96%       | 57.58%       | 3        | 87.9%       |               |
| 673 | 273682 | 25     | 0.02%    | 95.99%       | 57.67%       | 3        | 88.0%       |               |
| 674 | 277685 | 25     | 0.02%    | 96.01%       | 57.75%       | 3        | 88.0%       |               |
| 675 | 282650 | 25     | 0.02%    | 96.04%       | 57.84%       | 3        | 88.1%       |               |
| 676 | 306676 | 25     | 0.02%    | 96.06%       | 57.93%       | 3        | 88.2%       |               |
| 677 | 312616 | 25     | 0.02%    | 96.09%       | 58.01%       | 3        | 88.3%       |               |
| 678 | 277670 | 24     | 0.02%    | 96.11%       | 58.10%       | 3        | 88.3%       |               |
| 679 | 280681 | 24     | 0.02%    | 96.13%       | 58.18%       | 3        | 88.4%       |               |
| 680 | 299648 | 24     | 0.02%    | 96.16%       | 58.27%       | 3        | 88.5%       |               |
| 681 | 291653 | 24     | 0.02%    | 96.18%       | 58.35%       | 3        | 88.5%       |               |
| 682 | 289675 | 24     | 0.02%    | 96.20%       | 58.44%       | 3        | 88.6%       |               |
| 683 | 281649 | 24     | 0.02%    | 96.23%       | 58.53%       | 3        | 88.7%       |               |
| 684 | 292663 | 24     | 0.02%    | 96.25%       | 58.61%       | 3        | 88.8%       |               |
| 685 | 285662 | 24     | 0.02%    | 96.28%       | 58.70%       | 3        | 88.8%       |               |
| 686 | 281687 | 23     | 0.02%    | 96.30%       | 58.78%       | 3        | 88.9%       |               |
| 687 | 285674 | 23     | 0.02%    | 96.32%       | 58.87%       | 3        | 89.0%       |               |
| 688 | 298641 | 23     | 0.02%    | 96.34%       | 58.95%       | 3        | 89.0%       |               |
| 689 | 296646 | 23     | 0.02%    | 96.37%       | 59.04%       | 3        | 89.1%       |               |
| 690 | 296659 | 23     | 0.02%    | 96.39%       | 59.13%       | 3        | 89.2%       |               |
| 691 | 314681 | 23     | 0.02%    | 96.41%       | 59.21%       | 3        | 89.2%       |               |

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| NUM | Código | Cortes | % Cortes | CUM % cortes | CUM % cuadra | ESTRATOS | CUM % estra | ALEATORIO*100 |
|-----|--------|--------|----------|--------------|--------------|----------|-------------|---------------|
| 692 | 307628 | 23     | 0.02%    | 96.43%       | 59.30%       | 3        | 89.3%       |               |
| 693 | 285666 | 23     | 0.02%    | 96.46%       | 59.38%       | 3        | 89.4%       |               |
| 694 | 275690 | 22     | 0.02%    | 96.48%       | 59.47%       | 3        | 89.4%       |               |
| 695 | 302672 | 22     | 0.02%    | 96.50%       | 59.55%       | 3        | 89.5%       |               |
| 696 | 301661 | 22     | 0.02%    | 96.52%       | 59.64%       | 3        | 89.6%       |               |
| 697 | 291650 | 22     | 0.02%    | 96.54%       | 59.73%       | 3        | 89.6%       |               |
| 698 | 297647 | 22     | 0.02%    | 96.57%       | 59.81%       | 3        | 89.7%       |               |
| 699 | 322601 | 22     | 0.02%    | 96.59%       | 59.90%       | 3        | 89.8%       |               |
| 700 | 276683 | 21     | 0.02%    | 96.61%       | 59.98%       | 3        | 89.8%       |               |
| 701 | 271690 | 21     | 0.02%    | 96.63%       | 60.07%       | 3        | 89.9%       |               |
| 702 | 264664 | 21     | 0.02%    | 96.65%       | 60.15%       | 3        | 90.0%       |               |
| 703 | 271691 | 21     | 0.02%    | 96.67%       | 60.24%       | 3        | 90.0%       |               |
| 704 | 277691 | 21     | 0.02%    | 96.69%       | 60.33%       | 3        | 90.1%       |               |
| 705 | 279657 | 21     | 0.02%    | 96.71%       | 60.41%       | 3        | 90.1%       |               |
| 706 | 277659 | 21     | 0.02%    | 96.73%       | 60.50%       | 3        | 90.2%       |               |
| 707 | 301660 | 21     | 0.02%    | 96.75%       | 60.58%       | 3        | 90.3%       |               |
| 708 | 302673 | 21     | 0.02%    | 96.77%       | 60.67%       | 3        | 90.3%       |               |
| 709 | 299675 | 21     | 0.02%    | 96.80%       | 60.75%       | 3        | 90.4%       |               |
| 710 | 292655 | 21     | 0.02%    | 96.82%       | 60.84%       | 3        | 90.4%       |               |
| 711 | 306629 | 21     | 0.02%    | 96.84%       | 60.93%       | 3        | 90.5%       |               |
| 712 | 305619 | 21     | 0.02%    | 96.86%       | 61.01%       | 3        | 90.6%       |               |
| 713 | 289658 | 21     | 0.02%    | 96.88%       | 61.10%       | 3        | 90.6%       |               |
| 714 | 275687 | 20     | 0.02%    | 96.90%       | 61.18%       | 3        | 90.7%       |               |
| 715 | 265691 | 20     | 0.02%    | 96.92%       | 61.27%       | 3        | 90.8%       |               |
| 716 | 277693 | 20     | 0.02%    | 96.94%       | 61.35%       | 3        | 90.8%       |               |
| 717 | 324599 | 20     | 0.02%    | 96.96%       | 61.44%       | 3        | 90.9%       |               |
| 718 | 302635 | 20     | 0.02%    | 96.98%       | 61.53%       | 3        | 90.9%       |               |
| 719 | 313613 | 20     | 0.02%    | 97.00%       | 61.61%       | 3        | 91.0%       |               |
| 720 | 268673 | 19     | 0.02%    | 97.02%       | 61.70%       | 3        | 91.05%      |               |
| 721 | 263694 | 19     | 0.02%    | 97.03%       | 61.78%       | 3        | 91.1%       |               |
| 722 | 271679 | 19     | 0.02%    | 97.05%       | 61.87%       | 3        | 91.2%       |               |
| 723 | 271686 | 19     | 0.02%    | 97.07%       | 61.95%       | 3        | 91.2%       |               |
| 724 | 290663 | 19     | 0.02%    | 97.09%       | 62.04%       | 3        | 91.3%       |               |
| 725 | 297648 | 19     | 0.02%    | 97.11%       | 62.13%       | 3        | 91.3%       |               |
| 726 | 289671 | 19     | 0.02%    | 97.13%       | 62.21%       | 3        | 91.4%       |               |
| 727 | 293675 | 19     | 0.02%    | 97.15%       | 62.30%       | 3        | 91.4%       |               |
| 728 | 305620 | 19     | 0.02%    | 97.17%       | 62.38%       | 3        | 91.5%       |               |
| 729 | 288646 | 19     | 0.02%    | 97.18%       | 62.47%       | 3        | 91.6%       |               |
| 730 | 289656 | 19     | 0.02%    | 97.20%       | 62.55%       | 3        | 91.6%       |               |
| 731 | 290662 | 19     | 0.02%    | 97.22%       | 62.64%       | 3        | 91.7%       |               |
| 732 | 294671 | 19     | 0.02%    | 97.24%       | 62.72%       | 3        | 91.7%       |               |
| 733 | 289662 | 19     | 0.02%    | 97.26%       | 62.81%       | 3        | 91.8%       |               |
| 734 | 276684 | 18     | 0.02%    | 97.28%       | 62.90%       | 3        | 91.8%       |               |
| 735 | 268664 | 18     | 0.02%    | 97.30%       | 62.98%       | 3        | 91.9%       |               |
| 736 | 270676 | 18     | 0.02%    | 97.31%       | 63.07%       | 3        | 91.9%       |               |
| 737 | 266694 | 18     | 0.02%    | 97.33%       | 63.15%       | 3        | 92.0%       |               |
| 738 | 295661 | 18     | 0.02%    | 97.35%       | 63.24%       | 3        | 92.0%       |               |
| 739 | 299640 | 18     | 0.02%    | 97.37%       | 63.32%       | 3        | 92.1%       |               |
| 740 | 285649 | 18     | 0.02%    | 97.38%       | 63.41%       | 3        | 92.2%       |               |
| 741 | 291664 | 18     | 0.02%    | 97.40%       | 63.50%       | 3        | 92.2%       |               |
| 742 | 323599 | 18     | 0.02%    | 97.42%       | 63.58%       | 3        | 92.3%       |               |
| 743 | 296663 | 18     | 0.02%    | 97.44%       | 63.67%       | 3        | 92.3%       |               |
| 744 | 273689 | 17     | 0.02%    | 97.45%       | 63.75%       | 3        | 92.4%       |               |
| 745 | 264665 | 17     | 0.02%    | 97.47%       | 63.84%       | 3        | 92.4%       |               |
| 746 | 282680 | 17     | 0.02%    | 97.49%       | 63.92%       | 3        | 92.5%       |               |
| 747 | 269672 | 17     | 0.02%    | 97.51%       | 64.01%       | 3        | 92.5%       |               |
| 748 | 276686 | 17     | 0.02%    | 97.52%       | 64.10%       | 3        | 92.6%       |               |
| 749 | 271677 | 17     | 0.02%    | 97.54%       | 64.18%       | 3        | 92.6%       |               |
| 750 | 295645 | 17     | 0.02%    | 97.56%       | 64.27%       | 3        | 92.7%       |               |
| 751 | 320597 | 17     | 0.02%    | 97.57%       | 64.35%       | 3        | 92.7%       |               |
| 752 | 304661 | 17     | 0.02%    | 97.59%       | 64.44%       | 3        | 92.8%       |               |
| 753 | 304633 | 17     | 0.02%    | 97.61%       | 64.52%       | 3        | 92.8%       |               |
| 754 | 292671 | 17     | 0.02%    | 97.62%       | 64.61%       | 3        | 92.9%       |               |
| 755 | 287674 | 17     | 0.02%    | 97.64%       | 64.70%       | 3        | 92.9%       |               |
| 756 | 307676 | 17     | 0.02%    | 97.66%       | 64.78%       | 3        | 93.0%       |               |
| 757 | 294662 | 17     | 0.02%    | 97.67%       | 64.87%       | 3        | 93.0%       |               |
| 758 | 268677 | 16     | 0.02%    | 97.69%       | 64.95%       | 3        | 93.1%       |               |
| 759 | 263695 | 16     | 0.02%    | 97.70%       | 65.04%       | 3        | 93.1%       |               |
| 760 | 281683 | 16     | 0.02%    | 97.72%       | 65.12%       | 3        | 93.2%       |               |
| 761 | 264698 | 16     | 0.02%    | 97.74%       | 65.21%       | 3        | 93.2%       |               |
| 762 | 301674 | 16     | 0.02%    | 97.75%       | 65.30%       | 3        | 93.3%       |               |
| 763 | 300674 | 16     | 0.02%    | 97.77%       | 65.38%       | 3        | 93.3%       |               |
| 764 | 304632 | 16     | 0.02%    | 97.78%       | 65.47%       | 3        | 93.4%       |               |
| 765 | 290672 | 16     | 0.02%    | 97.80%       | 65.55%       | 3        | 93.4%       |               |
| 766 | 291673 | 16     | 0.02%    | 97.82%       | 65.64%       | 3        | 93.4%       |               |
| 767 | 290673 | 16     | 0.02%    | 97.83%       | 65.72%       | 3        | 93.5%       |               |
| 768 | 293676 | 16     | 0.02%    | 97.85%       | 65.81%       | 3        | 93.5%       |               |



| NUM | Código | Cortes | % Cortes | CUM % cortes | CUM % cuadra | ESTRATOS | CUM % estra | ALEATORIO*100 |
|-----|--------|--------|----------|--------------|--------------|----------|-------------|---------------|
| 769 | 292668 | 16     | 0.02%    | 97.86%       | 65.90%       | 3        | 93.6%       |               |
| 770 | 309676 | 16     | 0.02%    | 97.88%       | 65.98%       | 3        | 93.6%       |               |
| 771 | 293650 | 16     | 0.02%    | 97.89%       | 66.07%       | 3        | 93.7%       |               |
| 772 | 282682 | 15     | 0.01%    | 97.91%       | 66.15%       | 3        | 93.7%       |               |
| 773 | 301675 | 15     | 0.01%    | 97.92%       | 66.24%       | 3        | 93.8%       |               |
| 774 | 288671 | 15     | 0.01%    | 97.94%       | 66.32%       | 3        | 93.8%       |               |
| 775 | 281654 | 15     | 0.01%    | 97.95%       | 66.41%       | 3        | 93.9%       |               |
| 776 | 296662 | 15     | 0.01%    | 97.97%       | 66.50%       | 3        | 93.9%       |               |
| 777 | 285663 | 15     | 0.01%    | 97.98%       | 66.58%       | 3        | 94.0%       |               |
| 778 | 284674 | 14     | 0.01%    | 98.00%       | 66.67%       | 3        | 94.0%       |               |
| 779 | 287672 | 14     | 0.01%    | 98.01%       | 66.75%       | 3        | 94.0%       |               |
| 780 | 272691 | 14     | 0.01%    | 98.02%       | 66.84%       | 3        | 94.1%       |               |
| 781 | 358700 | 14     | 0.01%    | 98.04%       | 66.92%       | 3        | 94.1%       |               |
| 782 | 298639 | 14     | 0.01%    | 98.05%       | 67.01%       | 3        | 94.2%       |               |
| 783 | 296649 | 14     | 0.01%    | 98.07%       | 67.10%       | 3        | 94.2%       |               |
| 784 | 292673 | 14     | 0.01%    | 98.08%       | 67.18%       | 3        | 94.2%       |               |
| 785 | 300661 | 14     | 0.01%    | 98.09%       | 67.27%       | 3        | 94.3%       |               |
| 786 | 310677 | 14     | 0.01%    | 98.11%       | 67.35%       | 3        | 94.3%       |               |
| 787 | 332710 | 14     | 0.01%    | 98.12%       | 67.44%       | 3        | 94.4%       |               |
| 788 | 283674 | 13     | 0.01%    | 98.13%       | 67.52%       | 3        | 94.4%       |               |
| 789 | 275688 | 13     | 0.01%    | 98.15%       | 67.61%       | 3        | 94.4%       |               |
| 790 | 267671 | 13     | 0.01%    | 98.16%       | 67.69%       | 3        | 94.5%       |               |
| 791 | 279692 | 13     | 0.01%    | 98.17%       | 67.78%       | 3        | 94.5%       |               |
| 792 | 296651 | 13     | 0.01%    | 98.19%       | 67.87%       | 3        | 94.6%       |               |
| 793 | 329585 | 13     | 0.01%    | 98.20%       | 67.95%       | 3        | 94.6%       |               |
| 794 | 297646 | 13     | 0.01%    | 98.21%       | 68.04%       | 3        | 94.6%       |               |
| 795 | 298673 | 13     | 0.01%    | 98.22%       | 68.12%       | 3        | 94.7%       |               |
| 796 | 288663 | 13     | 0.01%    | 98.24%       | 68.21%       | 3        | 94.7%       |               |
| 797 | 296644 | 13     | 0.01%    | 98.25%       | 68.29%       | 3        | 94.8%       |               |
| 798 | 305676 | 13     | 0.01%    | 98.26%       | 68.38%       | 3        | 94.8%       |               |
| 799 | 292672 | 13     | 0.01%    | 98.28%       | 68.47%       | 3        | 94.8%       |               |
| 800 | 290657 | 13     | 0.01%    | 98.29%       | 68.55%       | 3        | 94.9%       |               |
| 801 | 290656 | 13     | 0.01%    | 98.30%       | 68.64%       | 3        | 94.9%       |               |
| 802 | 287648 | 13     | 0.01%    | 98.31%       | 68.72%       | 3        | 94.9%       |               |
| 803 | 266686 | 12     | 0.01%    | 98.33%       | 68.81%       | 3        | 95.0%       |               |
| 804 | 275683 | 12     | 0.01%    | 98.34%       | 68.89%       | 3        | 95.0%       |               |
| 805 | 269674 | 12     | 0.01%    | 98.35%       | 68.98%       | 3        | 95.1%       |               |
| 806 | 293664 | 12     | 0.01%    | 98.36%       | 69.07%       | 3        | 95.1%       |               |
| 807 | 282649 | 12     | 0.01%    | 98.37%       | 69.15%       | 3        | 95.1%       |               |
| 808 | 298647 | 12     | 0.01%    | 98.39%       | 69.24%       | 3        | 95.2%       |               |
| 809 | 299656 | 12     | 0.01%    | 98.40%       | 69.32%       | 3        | 95.2%       |               |
| 810 | 291672 | 12     | 0.01%    | 98.41%       | 69.41%       | 3        | 95.2%       |               |
| 811 | 320602 | 12     | 0.01%    | 98.42%       | 69.49%       | 3        | 95.3%       |               |
| 812 | 310621 | 12     | 0.01%    | 98.43%       | 69.58%       | 3        | 95.3%       |               |
| 813 | 308675 | 12     | 0.01%    | 98.45%       | 69.67%       | 3        | 95.3%       |               |
| 814 | 321599 | 12     | 0.01%    | 98.46%       | 69.75%       | 3        | 95.4%       |               |
| 815 | 310676 | 12     | 0.01%    | 98.47%       | 69.84%       | 3        | 95.4%       |               |
| 816 | 296671 | 12     | 0.01%    | 98.48%       | 69.92%       | 3        | 95.4%       |               |
| 817 | 312678 | 12     | 0.01%    | 98.49%       | 70.01%       | 3        | 95.5%       |               |
| 818 | 321602 | 12     | 0.01%    | 98.50%       | 70.09%       | 3        | 95.5%       |               |
| 819 | 289663 | 12     | 0.01%    | 98.52%       | 70.18%       | 3        | 95.5%       |               |
| 820 | 275689 | 11     | 0.01%    | 98.53%       | 70.27%       | 3        | 95.6%       |               |
| 821 | 276691 | 11     | 0.01%    | 98.54%       | 70.35%       | 3        | 95.6%       |               |
| 822 | 298672 | 11     | 0.01%    | 98.55%       | 70.44%       | 3        | 95.6%       |               |
| 823 | 298642 | 11     | 0.01%    | 98.56%       | 70.52%       | 3        | 95.7%       |               |
| 824 | 358699 | 11     | 0.01%    | 98.57%       | 70.61%       | 3        | 95.7%       |               |
| 825 | 326589 | 11     | 0.01%    | 98.58%       | 70.69%       | 3        | 95.7%       |               |
| 826 | 298649 | 11     | 0.01%    | 98.59%       | 70.78%       | 3        | 95.8%       |               |
| 827 | 321604 | 11     | 0.01%    | 98.60%       | 70.87%       | 3        | 95.8%       |               |
| 828 | 291663 | 11     | 0.01%    | 98.61%       | 70.95%       | 3        | 95.8%       |               |
| 829 | 294647 | 11     | 0.01%    | 98.62%       | 71.04%       | 3        | 95.9%       |               |
| 830 | 275682 | 10     | 0.01%    | 98.63%       | 71.12%       | 3        | 95.9%       |               |
| 831 | 267668 | 10     | 0.01%    | 98.64%       | 71.21%       | 3        | 95.9%       |               |
| 832 | 274692 | 10     | 0.01%    | 98.65%       | 71.29%       | 3        | 96.0%       |               |
| 833 | 268669 | 10     | 0.01%    | 98.66%       | 71.38%       | 3        | 96.0%       |               |
| 834 | 266693 | 10     | 0.01%    | 98.67%       | 71.47%       | 3        | 96.0%       |               |
| 835 | 269676 | 10     | 0.01%    | 98.68%       | 71.55%       | 3        | 96.1%       |               |
| 836 | 266691 | 10     | 0.01%    | 98.69%       | 71.64%       | 3        | 96.1%       |               |
| 837 | 297654 | 10     | 0.01%    | 98.70%       | 71.72%       | 3        | 96.1%       |               |
| 838 | 289676 | 10     | 0.01%    | 98.71%       | 71.81%       | 3        | 96.1%       |               |
| 839 | 343686 | 10     | 0.01%    | 98.72%       | 71.89%       | 3        | 96.2%       |               |
| 840 | 309675 | 10     | 0.01%    | 98.73%       | 71.98%       | 3        | 96.2%       |               |
| 841 | 286663 | 10     | 0.01%    | 98.74%       | 72.07%       | 3        | 96.2%       |               |
| 842 | 293647 | 10     | 0.01%    | 98.75%       | 72.15%       | 3        | 96.3%       |               |
| 843 | 323594 | 10     | 0.01%    | 98.76%       | 72.24%       | 3        | 96.3%       |               |
| 844 | 297661 | 10     | 0.01%    | 98.77%       | 72.32%       | 3        | 96.3%       |               |
| 845 | 296650 | 10     | 0.01%    | 98.78%       | 72.41%       | 3        | 96.3%       |               |



| NUM | Código | Cortes | % Cortes | CUM % cortes | CUM % cuadra | ESTRATOS | CUM % estra | ALEATORIO*100 |
|-----|--------|--------|----------|--------------|--------------|----------|-------------|---------------|
| 846 | 286660 | 10     | 0.01%    | 98.79%       | 72.49%       | 3        | 96.4%       |               |
| 847 | 268672 | 9      | 0.01%    | 98.80%       | 72.58%       | 3        | 96.4%       |               |
| 848 | 297641 | 9      | 0.01%    | 98.81%       | 72.66%       | 3        | 96.4%       |               |
| 849 | 288668 | 9      | 0.01%    | 98.82%       | 72.75%       | 3        | 96.5%       |               |
| 850 | 307662 | 9      | 0.01%    | 98.83%       | 72.84%       | 3        | 96.5%       |               |
| 851 | 325591 | 9      | 0.01%    | 98.84%       | 72.92%       | 3        | 96.5%       |               |
| 852 | 287659 | 9      | 0.01%    | 98.85%       | 73.01%       | 3        | 96.5%       |               |
| 853 | 290666 | 9      | 0.01%    | 98.86%       | 73.09%       | 3        | 96.6%       |               |
| 854 | 288676 | 9      | 0.01%    | 98.86%       | 73.18%       | 3        | 96.6%       |               |
| 855 | 290674 | 9      | 0.01%    | 98.87%       | 73.26%       | 3        | 96.6%       |               |
| 856 | 286650 | 9      | 0.01%    | 98.88%       | 73.35%       | 3        | 96.6%       |               |
| 857 | 285647 | 9      | 0.01%    | 98.89%       | 73.44%       | 3        | 96.7%       |               |
| 858 | 302661 | 9      | 0.01%    | 98.90%       | 73.52%       | 3        | 96.7%       |               |
| 859 | 312615 | 9      | 0.01%    | 98.91%       | 73.61%       | 3        | 96.7%       |               |
| 860 | 294664 | 9      | 0.01%    | 98.92%       | 73.69%       | 3        | 96.8%       |               |
| 861 | 322599 | 9      | 0.01%    | 98.93%       | 73.78%       | 3        | 96.8%       |               |
| 862 | 295660 | 9      | 0.01%    | 98.94%       | 73.86%       | 3        | 96.8%       |               |
| 863 | 303661 | 9      | 0.01%    | 98.94%       | 73.95%       | 3        | 96.8%       |               |
| 864 | 297649 | 9      | 0.01%    | 98.95%       | 74.04%       | 3        | 96.9%       |               |
| 865 | 268693 | 8      | 0.01%    | 98.96%       | 74.12%       | 3        | 96.9%       |               |
| 866 | 286672 | 8      | 0.01%    | 98.97%       | 74.21%       | 3        | 96.9%       |               |
| 867 | 276688 | 8      | 0.01%    | 98.98%       | 74.29%       | 3        | 96.9%       |               |
| 868 | 269678 | 8      | 0.01%    | 98.98%       | 74.38%       | 3        | 97.0%       |               |
| 869 | 332683 | 8      | 0.01%    | 98.99%       | 74.46%       | 3        | 97.0%       |               |
| 870 | 307663 | 8      | 0.01%    | 99.00%       | 74.55%       | 3        | 97.0%       |               |
| 871 | 331587 | 8      | 0.01%    | 99.01%       | 74.64%       | 3        | 97.0%       |               |
| 872 | 330584 | 8      | 0.01%    | 99.02%       | 74.72%       | 3        | 97.0%       |               |
| 873 | 289664 | 8      | 0.01%    | 99.02%       | 74.81%       | 3        | 97.1%       |               |
| 874 | 300639 | 8      | 0.01%    | 99.03%       | 74.89%       | 3        | 97.1%       |               |
| 875 | 299638 | 8      | 0.01%    | 99.04%       | 74.98%       | 3        | 97.1%       |               |
| 876 | 297672 | 8      | 0.01%    | 99.05%       | 75.06%       | 3        | 97.1%       |               |
| 877 | 302636 | 8      | 0.01%    | 99.06%       | 75.15%       | 3        | 97.2%       |               |
| 878 | 296673 | 8      | 0.01%    | 99.06%       | 75.24%       | 3        | 97.2%       |               |
| 879 | 291655 | 8      | 0.01%    | 99.07%       | 75.32%       | 3        | 97.2%       |               |
| 880 | 294672 | 8      | 0.01%    | 99.08%       | 75.41%       | 3        | 97.2%       |               |
| 881 | 291674 | 8      | 0.01%    | 99.09%       | 75.49%       | 3        | 97.3%       |               |
| 882 | 332615 | 8      | 0.01%    | 99.10%       | 75.58%       | 3        | 97.3%       |               |
| 883 | 305618 | 8      | 0.01%    | 99.10%       | 75.66%       | 3        | 97.3%       |               |
| 884 | 280677 | 7      | 0.01%    | 99.11%       | 75.75%       | 3        | 97.3%       |               |
| 885 | 274689 | 7      | 0.01%    | 99.12%       | 75.84%       | 3        | 97.4%       |               |
| 886 | 286676 | 7      | 0.01%    | 99.12%       | 75.92%       | 3        | 97.4%       |               |
| 887 | 270688 | 7      | 0.01%    | 99.13%       | 76.01%       | 3        | 97.4%       |               |
| 888 | 281689 | 7      | 0.01%    | 99.14%       | 76.09%       | 3        | 97.4%       |               |
| 889 | 322594 | 7      | 0.01%    | 99.14%       | 76.18%       | 3        | 97.4%       |               |
| 890 | 282655 | 7      | 0.01%    | 99.15%       | 76.26%       | 3        | 97.5%       |               |
| 891 | 299676 | 7      | 0.01%    | 99.16%       | 76.35%       | 3        | 97.5%       |               |
| 892 | 296672 | 7      | 0.01%    | 99.17%       | 76.44%       | 3        | 97.5%       |               |
| 893 | 291667 | 7      | 0.01%    | 99.17%       | 76.52%       | 3        | 97.5%       |               |
| 894 | 290675 | 7      | 0.01%    | 99.18%       | 76.61%       | 3        | 97.5%       |               |
| 895 | 294675 | 7      | 0.01%    | 99.19%       | 76.69%       | 3        | 97.6%       |               |
| 896 | 322604 | 7      | 0.01%    | 99.19%       | 76.78%       | 3        | 97.6%       |               |
| 897 | 309620 | 7      | 0.01%    | 99.20%       | 76.86%       | 3        | 97.6%       |               |
| 898 | 287646 | 7      | 0.01%    | 99.21%       | 76.95%       | 3        | 97.6%       |               |
| 899 | 350691 | 7      | 0.01%    | 99.21%       | 77.04%       | 3        | 97.6%       |               |
| 900 | 290664 | 7      | 0.01%    | 99.22%       | 77.12%       | 3        | 97.7%       |               |
| 901 | 283648 | 7      | 0.01%    | 99.23%       | 77.21%       | 3        | 97.7%       |               |
| 902 | 289645 | 7      | 0.01%    | 99.23%       | 77.29%       | 3        | 97.7%       |               |
| 903 | 312613 | 7      | 0.01%    | 99.24%       | 77.38%       | 3        | 97.7%       |               |
| 904 | 320603 | 7      | 0.01%    | 99.25%       | 77.46%       | 3        | 97.7%       |               |
| 905 | 324600 | 7      | 0.01%    | 99.26%       | 77.55%       | 3        | 97.8%       |               |
| 906 | 308665 | 7      | 0.01%    | 99.26%       | 77.63%       | 3        | 97.8%       |               |
| 907 | 300660 | 7      | 0.01%    | 99.27%       | 77.72%       | 3        | 97.8%       |               |
| 908 | 285669 | 7      | 0.01%    | 99.28%       | 77.81%       | 3        | 97.8%       |               |
| 909 | 295649 | 7      | 0.01%    | 99.28%       | 77.89%       | 3        | 97.9%       |               |
| 910 | 287671 | 6      | 0.01%    | 99.29%       | 77.98%       | 3        | 97.9%       |               |
| 911 | 275691 | 6      | 0.01%    | 99.30%       | 78.06%       | 3        | 97.9%       |               |
| 912 | 278689 | 6      | 0.01%    | 99.30%       | 78.15%       | 3        | 97.9%       |               |
| 913 | 267694 | 6      | 0.01%    | 99.31%       | 78.23%       | 3        | 97.9%       |               |
| 914 | 268683 | 6      | 0.01%    | 99.31%       | 78.32%       | 3        | 97.9%       |               |
| 915 | 279689 | 6      | 0.01%    | 99.32%       | 78.41%       | 3        | 98.0%       |               |
| 916 | 276685 | 6      | 0.01%    | 99.32%       | 78.49%       | 3        | 98.0%       |               |
| 917 | 281680 | 6      | 0.01%    | 99.33%       | 78.58%       | 3        | 98.0%       |               |
| 918 | 299670 | 6      | 0.01%    | 99.34%       | 78.66%       | 3        | 98.0%       |               |
| 919 | 304671 | 6      | 0.01%    | 99.34%       | 78.75%       | 3        | 98.0%       |               |
| 920 | 333683 | 6      | 0.01%    | 99.35%       | 78.83%       | 3        | 98.0%       |               |
| 921 | 279655 | 6      | 0.01%    | 99.35%       | 78.92%       | 3        | 98.1%       |               |
| 922 | 291644 | 6      | 0.01%    | 99.36%       | 79.01%       | 3        | 98.1%       |               |

| NUM | Código | Cortes | % Cortes | CUM % cortes | CUM % cuadra | ESTRATOS | CUM % estrat | ALEATORIO*100 |
|-----|--------|--------|----------|--------------|--------------|----------|--------------|---------------|
| 923 | 298648 | 6      | 0.01%    | 99.37%       | 79.09%       | 3        | 98.1%        |               |
| 924 | 297650 | 6      | 0.01%    | 99.37%       | 79.18%       | 3        | 98.1%        |               |
| 925 | 303675 | 6      | 0.01%    | 99.38%       | 79.26%       | 3        | 98.1%        |               |
| 926 | 289672 | 6      | 0.01%    | 99.38%       | 79.35%       | 3        | 98.2%        |               |
| 927 | 306631 | 6      | 0.01%    | 99.39%       | 79.43%       | 3        | 98.2%        |               |
| 928 | 304620 | 6      | 0.01%    | 99.40%       | 79.52%       | 3        | 98.2%        |               |
| 929 | 309622 | 6      | 0.01%    | 99.40%       | 79.61%       | 3        | 98.2%        |               |
| 930 | 285648 | 6      | 0.01%    | 99.41%       | 79.69%       | 3        | 98.2%        |               |
| 931 | 289659 | 6      | 0.01%    | 99.41%       | 79.78%       | 3        | 98.2%        |               |
| 932 | 308664 | 6      | 0.01%    | 99.42%       | 79.86%       | 3        | 98.3%        |               |
| 933 | 306662 | 6      | 0.01%    | 99.43%       | 79.95%       | 3        | 98.3%        |               |
| 934 | 296647 | 6      | 0.01%    | 99.43%       | 80.03%       | 3        | 98.3%        |               |
| 935 | 285671 | 5      | 0.00%    | 99.44%       | 80.12%       | 3        | 98.3%        |               |
| 936 | 273683 | 5      | 0.00%    | 99.44%       | 80.21%       | 3        | 98.3%        |               |
| 937 | 284672 | 5      | 0.00%    | 99.45%       | 80.29%       | 3        | 98.3%        |               |
| 938 | 278688 | 5      | 0.00%    | 99.45%       | 80.38%       | 3        | 98.4%        |               |
| 939 | 272685 | 5      | 0.00%    | 99.46%       | 80.46%       | 3        | 98.4%        |               |
| 940 | 282689 | 5      | 0.00%    | 99.46%       | 80.55%       | 3        | 98.4%        |               |
| 941 | 294644 | 5      | 0.00%    | 99.47%       | 80.63%       | 3        | 98.4%        |               |
| 942 | 303660 | 5      | 0.00%    | 99.47%       | 80.72%       | 3        | 98.4%        |               |
| 943 | 296645 | 5      | 0.00%    | 99.48%       | 80.81%       | 3        | 98.4%        |               |
| 944 | 297673 | 5      | 0.00%    | 99.48%       | 80.89%       | 3        | 98.4%        |               |
| 945 | 304634 | 5      | 0.00%    | 99.49%       | 80.98%       | 3        | 98.5%        |               |
| 946 | 312611 | 5      | 0.00%    | 99.49%       | 81.06%       | 3        | 98.5%        |               |
| 947 | 323692 | 5      | 0.00%    | 99.50%       | 81.15%       | 3        | 98.5%        |               |
| 948 | 312679 | 5      | 0.00%    | 99.50%       | 81.23%       | 3        | 98.5%        |               |
| 949 | 311679 | 5      | 0.00%    | 99.51%       | 81.32%       | 3        | 98.5%        |               |
| 950 | 298671 | 5      | 0.00%    | 99.51%       | 81.41%       | 3        | 98.5%        |               |
| 951 | 315681 | 5      | 0.00%    | 99.52%       | 81.49%       | 3        | 98.5%        |               |
| 952 | 310620 | 5      | 0.00%    | 99.52%       | 81.58%       | 3        | 98.6%        |               |
| 953 | 282648 | 5      | 0.00%    | 99.53%       | 81.66%       | 3        | 98.6%        |               |
| 954 | 291662 | 5      | 0.00%    | 99.53%       | 81.75%       | 3        | 98.6%        |               |
| 955 | 295665 | 5      | 0.00%    | 99.54%       | 81.83%       | 3        | 98.6%        |               |
| 956 | 318683 | 5      | 0.00%    | 99.54%       | 81.92%       | 3        | 98.6%        |               |
| 957 | 324594 | 5      | 0.00%    | 99.55%       | 82.01%       | 3        | 98.6%        |               |
| 958 | 294646 | 5      | 0.00%    | 99.55%       | 82.09%       | 3        | 98.7%        |               |
| 959 | 295659 | 5      | 0.00%    | 99.56%       | 82.18%       | 3        | 98.7%        |               |
| 960 | 334683 | 5      | 0.00%    | 99.56%       | 82.26%       | 3        | 98.7%        |               |
| 961 | 298663 | 5      | 0.00%    | 99.57%       | 82.35%       | 3        | 98.7%        |               |
| 962 | 302659 | 5      | 0.00%    | 99.57%       | 82.43%       | 3        | 98.7%        |               |
| 963 | 302658 | 5      | 0.00%    | 99.57%       | 82.52%       | 3        | 98.7%        |               |
| 964 | 298655 | 5      | 0.00%    | 99.58%       | 82.60%       | 3        | 98.7%        |               |
| 965 | 264695 | 4      | 0.00%    | 99.58%       | 82.69%       | 3        | 98.8%        |               |
| 966 | 279678 | 4      | 0.00%    | 99.59%       | 82.78%       | 3        | 98.8%        |               |
| 967 | 267687 | 4      | 0.00%    | 99.59%       | 82.86%       | 3        | 98.8%        |               |
| 968 | 268674 | 4      | 0.00%    | 99.60%       | 82.95%       | 3        | 98.8%        |               |
| 969 | 279672 | 4      | 0.00%    | 99.60%       | 83.03%       | 3        | 98.8%        |               |
| 970 | 286677 | 4      | 0.00%    | 99.60%       | 83.12%       | 3        | 98.8%        |               |
| 971 | 287679 | 4      | 0.00%    | 99.61%       | 83.20%       | 3        | 98.8%        |               |
| 972 | 267689 | 4      | 0.00%    | 99.61%       | 83.29%       | 3        | 98.8%        |               |
| 973 | 265692 | 4      | 0.00%    | 99.62%       | 83.38%       | 3        | 98.8%        |               |
| 974 | 299673 | 4      | 0.00%    | 99.62%       | 83.46%       | 3        | 98.9%        |               |
| 975 | 292664 | 4      | 0.00%    | 99.62%       | 83.55%       | 3        | 98.9%        |               |
| 976 | 303662 | 4      | 0.00%    | 99.63%       | 83.63%       | 3        | 98.9%        |               |
| 977 | 297652 | 4      | 0.00%    | 99.63%       | 83.72%       | 3        | 98.9%        |               |
| 978 | 276660 | 4      | 0.00%    | 99.64%       | 83.80%       | 3        | 98.9%        |               |
| 979 | 303633 | 4      | 0.00%    | 99.64%       | 83.89%       | 3        | 98.9%        |               |
| 980 | 304673 | 4      | 0.00%    | 99.64%       | 83.98%       | 3        | 98.9%        |               |
| 981 | 305630 | 4      | 0.00%    | 99.65%       | 84.06%       | 3        | 98.9%        |               |
| 982 | 321598 | 4      | 0.00%    | 99.65%       | 84.15%       | 3        | 99.0%        |               |
| 983 | 301658 | 4      | 0.00%    | 99.66%       | 84.23%       | 3        | 99.0%        |               |
| 984 | 309677 | 4      | 0.00%    | 99.66%       | 84.32%       | 3        | 99.0%        |               |
| 985 | 310675 | 4      | 0.00%    | 99.66%       | 84.40%       | 3        | 99.0%        |               |
| 986 | 304676 | 4      | 0.00%    | 99.67%       | 84.49%       | 3        | 99.0%        |               |
| 987 | 312677 | 4      | 0.00%    | 99.67%       | 84.58%       | 3        | 99.0%        |               |
| 988 | 315610 | 4      | 0.00%    | 99.67%       | 84.66%       | 3        | 99.0%        |               |
| 989 | 323593 | 4      | 0.00%    | 99.68%       | 84.75%       | 3        | 99.0%        |               |
| 990 | 345688 | 4      | 0.00%    | 99.68%       | 84.83%       | 3        | 99.0%        |               |
| 991 | 322681 | 4      | 0.00%    | 99.69%       | 84.92%       | 3        | 99.1%        |               |
| 992 | 294674 | 4      | 0.00%    | 99.69%       | 85.00%       | 3        | 99.1%        |               |
| 993 | 298650 | 4      | 0.00%    | 99.69%       | 85.09%       | 3        | 99.1%        |               |
| 994 | 324682 | 4      | 0.00%    | 99.70%       | 85.18%       | 3        | 99.1%        |               |
| 995 | 270671 | 3      | 0.00%    | 99.70%       | 85.26%       | 3        | 99.1%        |               |
| 996 | 285672 | 3      | 0.00%    | 99.70%       | 85.35%       | 3        | 99.1%        |               |
| 997 | 279675 | 3      | 0.00%    | 99.71%       | 85.43%       | 3        | 99.1%        |               |
| 998 | 262695 | 3      | 0.00%    | 99.71%       | 85.52%       | 3        | 99.1%        |               |
| 999 | 278673 | 3      | 0.00%    | 99.71%       | 85.60%       | 3        | 99.1%        |               |

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| NUM  | Código | Cortes | % Cortes | CUM % cortes | CUM % cuadra | ESTRATOS | CUM % estra | ALEATORIO*100 |
|------|--------|--------|----------|--------------|--------------|----------|-------------|---------------|
| 1000 | 268675 | 3      | 0.00%    | 99.72%       | 85.69%       | 3        | 99.1%       |               |
| 1001 | 283673 | 3      | 0.00%    | 99.72%       | 85.78%       | 3        | 99.2%       |               |
| 1002 | 267684 | 3      | 0.00%    | 99.72%       | 85.86%       | 3        | 99.2%       |               |
| 1003 | 272692 | 3      | 0.00%    | 99.73%       | 85.95%       | 3        | 99.2%       |               |
| 1004 | 279690 | 3      | 0.00%    | 99.73%       | 86.03%       | 3        | 99.2%       |               |
| 1005 | 282690 | 3      | 0.00%    | 99.73%       | 86.12%       | 3        | 99.2%       |               |
| 1006 | 277686 | 3      | 0.00%    | 99.73%       | 86.20%       | 3        | 99.2%       |               |
| 1007 | 266700 | 3      | 0.00%    | 99.74%       | 86.29%       | 3        | 99.2%       |               |
| 1008 | 347689 | 3      | 0.00%    | 99.74%       | 86.38%       | 3        | 99.2%       |               |
| 1009 | 332688 | 3      | 0.00%    | 99.74%       | 86.46%       | 3        | 99.2%       |               |
| 1010 | 330585 | 3      | 0.00%    | 99.75%       | 86.55%       | 3        | 99.2%       |               |
| 1011 | 307664 | 3      | 0.00%    | 99.75%       | 86.63%       | 3        | 99.2%       |               |
| 1012 | 298646 | 3      | 0.00%    | 99.75%       | 86.72%       | 3        | 99.3%       |               |
| 1013 | 298645 | 3      | 0.00%    | 99.75%       | 86.80%       | 3        | 99.3%       |               |
| 1014 | 292643 | 3      | 0.00%    | 99.76%       | 86.89%       | 3        | 99.3%       |               |
| 1015 | 300648 | 3      | 0.00%    | 99.76%       | 86.98%       | 3        | 99.3%       |               |
| 1016 | 297655 | 3      | 0.00%    | 99.76%       | 87.06%       | 3        | 99.3%       |               |
| 1017 | 298652 | 3      | 0.00%    | 99.77%       | 87.15%       | 3        | 99.3%       |               |
| 1018 | 301637 | 3      | 0.00%    | 99.77%       | 87.23%       | 3        | 99.3%       |               |
| 1019 | 290671 | 3      | 0.00%    | 99.77%       | 87.32%       | 3        | 99.3%       |               |
| 1020 | 305633 | 3      | 0.00%    | 99.78%       | 87.40%       | 3        | 99.3%       |               |
| 1021 | 306624 | 3      | 0.00%    | 99.78%       | 87.49%       | 3        | 99.3%       |               |
| 1022 | 319684 | 3      | 0.00%    | 99.78%       | 87.57%       | 3        | 99.3%       |               |
| 1023 | 295667 | 3      | 0.00%    | 99.78%       | 87.66%       | 3        | 99.4%       |               |
| 1024 | 295673 | 3      | 0.00%    | 99.79%       | 87.75%       | 3        | 99.4%       |               |
| 1025 | 283649 | 3      | 0.00%    | 99.79%       | 87.83%       | 3        | 99.4%       |               |
| 1026 | 311620 | 3      | 0.00%    | 99.79%       | 87.92%       | 3        | 99.4%       |               |
| 1027 | 310622 | 3      | 0.00%    | 99.80%       | 88.00%       | 3        | 99.4%       |               |
| 1028 | 286648 | 3      | 0.00%    | 99.80%       | 88.09%       | 3        | 99.4%       |               |
| 1029 | 284649 | 3      | 0.00%    | 99.80%       | 88.17%       | 3        | 99.4%       |               |
| 1030 | 328614 | 3      | 0.00%    | 99.81%       | 88.26%       | 3        | 99.4%       |               |
| 1031 | 315609 | 3      | 0.00%    | 99.81%       | 88.35%       | 3        | 99.4%       |               |
| 1032 | 318684 | 3      | 0.00%    | 99.81%       | 88.43%       | 3        | 99.4%       |               |
| 1033 | 320687 | 3      | 0.00%    | 99.81%       | 88.52%       | 3        | 99.4%       |               |
| 1034 | 321688 | 3      | 0.00%    | 99.82%       | 88.60%       | 3        | 99.5%       |               |
| 1035 | 330682 | 3      | 0.00%    | 99.82%       | 88.69%       | 3        | 99.5%       |               |
| 1036 | 313614 | 3      | 0.00%    | 99.82%       | 88.77%       | 3        | 99.5%       |               |
| 1037 | 293646 | 3      | 0.00%    | 99.83%       | 88.86%       | 3        | 99.5%       |               |
| 1038 | 307624 | 3      | 0.00%    | 99.83%       | 88.95%       | 3        | 99.5%       |               |
| 1039 | 331585 | 3      | 0.00%    | 99.83%       | 89.03%       | 3        | 99.5%       |               |
| 1040 | 324608 | 3      | 0.00%    | 99.83%       | 89.12%       | 3        | 99.5%       |               |
| 1041 | 271688 | 2      | 0.00%    | 99.84%       | 89.20%       | 3        | 99.5%       |               |
| 1042 | 266695 | 2      | 0.00%    | 99.84%       | 89.29%       | 3        | 99.5%       |               |
| 1043 | 268676 | 2      | 0.00%    | 99.84%       | 89.37%       | 3        | 99.5%       |               |
| 1044 | 266687 | 2      | 0.00%    | 99.84%       | 89.46%       | 3        | 99.5%       |               |
| 1045 | 277688 | 2      | 0.00%    | 99.84%       | 89.55%       | 3        | 99.5%       |               |
| 1046 | 280691 | 2      | 0.00%    | 99.85%       | 89.63%       | 3        | 99.5%       |               |
| 1047 | 264691 | 2      | 0.00%    | 99.85%       | 89.72%       | 3        | 99.5%       |               |
| 1048 | 278687 | 2      | 0.00%    | 99.85%       | 89.80%       | 3        | 99.6%       |               |
| 1049 | 298643 | 2      | 0.00%    | 99.85%       | 89.89%       | 3        | 99.6%       |               |
| 1050 | 297643 | 2      | 0.00%    | 99.85%       | 89.97%       | 3        | 99.6%       |               |
| 1051 | 292644 | 2      | 0.00%    | 99.86%       | 90.06%       | 3        | 99.6%       |               |
| 1052 | 296655 | 2      | 0.00%    | 99.86%       | 90.15%       | 3        | 99.6%       |               |
| 1053 | 300637 | 2      | 0.00%    | 99.86%       | 90.23%       | 3        | 99.6%       |               |
| 1054 | 288672 | 2      | 0.00%    | 99.86%       | 90.32%       | 3        | 99.6%       |               |
| 1055 | 306627 | 2      | 0.00%    | 99.86%       | 90.40%       | 3        | 99.6%       |               |
| 1056 | 311678 | 2      | 0.00%    | 99.87%       | 90.49%       | 3        | 99.6%       |               |
| 1057 | 295669 | 2      | 0.00%    | 99.87%       | 90.57%       | 3        | 99.6%       |               |
| 1058 | 286646 | 2      | 0.00%    | 99.87%       | 90.66%       | 3        | 99.6%       |               |
| 1059 | 311621 | 2      | 0.00%    | 99.87%       | 90.75%       | 3        | 99.6%       |               |
| 1060 | 312612 | 2      | 0.00%    | 99.87%       | 90.83%       | 3        | 99.6%       |               |
| 1061 | 321601 | 2      | 0.00%    | 99.88%       | 90.92%       | 3        | 99.6%       |               |
| 1062 | 324607 | 2      | 0.00%    | 99.88%       | 91.00%       | 3        | 99.6%       |               |
| 1063 | 324698 | 2      | 0.00%    | 99.88%       | 91.09%       | 3        | 99.6%       |               |
| 1064 | 324692 | 2      | 0.00%    | 99.88%       | 91.17%       | 3        | 99.6%       |               |
| 1065 | 327683 | 2      | 0.00%    | 99.88%       | 91.26%       | 3        | 99.7%       |               |
| 1066 | 328683 | 2      | 0.00%    | 99.89%       | 91.35%       | 3        | 99.7%       |               |
| 1067 | 296657 | 2      | 0.00%    | 99.89%       | 91.43%       | 3        | 99.7%       |               |
| 1068 | 294661 | 2      | 0.00%    | 99.89%       | 91.52%       | 3        | 99.7%       |               |
| 1069 | 326588 | 2      | 0.00%    | 99.89%       | 91.60%       | 3        | 99.7%       |               |
| 1070 | 324592 | 2      | 0.00%    | 99.89%       | 91.69%       | 3        | 99.7%       |               |
| 1071 | 305661 | 2      | 0.00%    | 99.90%       | 91.77%       | 3        | 99.7%       |               |
| 1072 | 328586 | 2      | 0.00%    | 99.90%       | 91.86%       | 3        | 99.7%       |               |
| 1073 | 333690 | 2      | 0.00%    | 99.90%       | 91.95%       | 3        | 99.7%       |               |
| 1074 | 300669 | 2      | 0.00%    | 99.90%       | 92.03%       | 3        | 99.7%       |               |
| 1075 | 307627 | 2      | 0.00%    | 99.90%       | 92.12%       | 3        | 99.7%       |               |
| 1076 | 348690 | 2      | 0.00%    | 99.91%       | 92.20%       | 3        | 99.7%       |               |

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| NUM  | Código | Cortes | % Cortes | CUM % cortes | CUM % cuadra | ESTRATOS | CUM % estra | ALEATORIO*100 |
|------|--------|--------|----------|--------------|--------------|----------|-------------|---------------|
| 1077 | 329584 | 2      | 0.00%    | 99.91%       | 92.29%       | 3        | 99.7%       |               |
| 1078 | 322694 | 2      | 0.00%    | 99.91%       | 92.37%       | 3        | 99.7%       |               |
| 1079 | 298654 | 2      | 0.00%    | 99.91%       | 92.46%       | 3        | 99.7%       |               |
| 1080 | 344687 | 2      | 0.00%    | 99.91%       | 92.54%       | 3        | 99.7%       |               |
| 1081 | 271687 | 1      | 0.00%    | 99.91%       | 92.63%       | 3        | 99.7%       |               |
| 1082 | 276687 | 1      | 0.00%    | 99.92%       | 92.72%       | 3        | 99.7%       |               |
| 1083 | 270670 | 1      | 0.00%    | 99.92%       | 92.80%       | 3        | 99.8%       |               |
| 1084 | 265695 | 1      | 0.00%    | 99.92%       | 92.89%       | 3        | 99.8%       |               |
| 1085 | 270663 | 1      | 0.00%    | 99.92%       | 92.97%       | 3        | 99.8%       |               |
| 1086 | 264694 | 1      | 0.00%    | 99.92%       | 93.06%       | 3        | 99.8%       |               |
| 1087 | 284669 | 1      | 0.00%    | 99.92%       | 93.14%       | 3        | 99.8%       |               |
| 1088 | 273690 | 1      | 0.00%    | 99.92%       | 93.23%       | 3        | 99.8%       |               |
| 1089 | 283686 | 1      | 0.00%    | 99.92%       | 93.32%       | 3        | 99.8%       |               |
| 1090 | 286678 | 1      | 0.00%    | 99.92%       | 93.40%       | 3        | 99.8%       |               |
| 1091 | 287680 | 1      | 0.00%    | 99.92%       | 93.49%       | 3        | 99.8%       |               |
| 1092 | 277687 | 1      | 0.00%    | 99.93%       | 93.57%       | 3        | 99.8%       |               |
| 1093 | 267673 | 1      | 0.00%    | 99.93%       | 93.66%       | 3        | 99.8%       |               |
| 1094 | 286681 | 1      | 0.00%    | 99.93%       | 93.74%       | 3        | 99.8%       |               |
| 1095 | 267695 | 1      | 0.00%    | 99.93%       | 93.83%       | 3        | 99.8%       |               |
| 1096 | 265690 | 1      | 0.00%    | 99.93%       | 93.92%       | 3        | 99.8%       |               |
| 1097 | 296641 | 1      | 0.00%    | 99.93%       | 94.00%       | 3        | 99.8%       |               |
| 1098 | 357699 | 1      | 0.00%    | 99.93%       | 94.09%       | 3        | 99.8%       |               |
| 1099 | 305662 | 1      | 0.00%    | 99.93%       | 94.17%       | 3        | 99.8%       |               |
| 1100 | 320598 | 1      | 0.00%    | 99.93%       | 94.26%       | 3        | 99.8%       |               |
| 1101 | 323597 | 1      | 0.00%    | 99.93%       | 94.34%       | 3        | 99.8%       |               |
| 1102 | 293662 | 1      | 0.00%    | 99.94%       | 94.43%       | 3        | 99.8%       |               |
| 1103 | 296656 | 1      | 0.00%    | 99.94%       | 94.52%       | 3        | 99.8%       |               |
| 1104 | 297645 | 1      | 0.00%    | 99.94%       | 94.60%       | 3        | 99.8%       |               |
| 1105 | 294642 | 1      | 0.00%    | 99.94%       | 94.69%       | 3        | 99.8%       |               |
| 1106 | 296652 | 1      | 0.00%    | 99.94%       | 94.77%       | 3        | 99.8%       |               |
| 1107 | 296648 | 1      | 0.00%    | 99.94%       | 94.86%       | 3        | 99.8%       |               |
| 1108 | 297653 | 1      | 0.00%    | 99.94%       | 94.94%       | 3        | 99.8%       |               |
| 1109 | 298653 | 1      | 0.00%    | 99.94%       | 95.03%       | 3        | 99.8%       |               |
| 1110 | 300676 | 1      | 0.00%    | 99.94%       | 95.12%       | 3        | 99.8%       |               |
| 1111 | 299674 | 1      | 0.00%    | 99.94%       | 95.20%       | 3        | 99.8%       |               |
| 1112 | 301638 | 1      | 0.00%    | 99.95%       | 95.29%       | 3        | 99.8%       |               |
| 1113 | 302675 | 1      | 0.00%    | 99.95%       | 95.37%       | 3        | 99.8%       |               |
| 1114 | 306632 | 1      | 0.00%    | 99.95%       | 95.46%       | 3        | 99.8%       |               |
| 1115 | 293673 | 1      | 0.00%    | 99.95%       | 95.54%       | 3        | 99.8%       |               |
| 1116 | 293672 | 1      | 0.00%    | 99.95%       | 95.63%       | 3        | 99.8%       |               |
| 1117 | 289673 | 1      | 0.00%    | 99.95%       | 95.72%       | 3        | 99.9%       |               |
| 1118 | 292674 | 1      | 0.00%    | 99.95%       | 95.80%       | 3        | 99.9%       |               |
| 1119 | 306674 | 1      | 0.00%    | 99.95%       | 95.89%       | 3        | 99.9%       |               |
| 1120 | 286649 | 1      | 0.00%    | 99.95%       | 95.97%       | 3        | 99.9%       |               |
| 1121 | 320685 | 1      | 0.00%    | 99.95%       | 96.06%       | 3        | 99.9%       |               |
| 1122 | 311677 | 1      | 0.00%    | 99.96%       | 96.14%       | 3        | 99.9%       |               |
| 1123 | 290655 | 1      | 0.00%    | 99.96%       | 96.23%       | 3        | 99.9%       |               |
| 1124 | 312621 | 1      | 0.00%    | 99.96%       | 96.32%       | 3        | 99.9%       |               |
| 1125 | 321605 | 1      | 0.00%    | 99.96%       | 96.40%       | 3        | 99.9%       |               |
| 1126 | 322693 | 1      | 0.00%    | 99.96%       | 96.49%       | 3        | 99.9%       |               |
| 1127 | 323696 | 1      | 0.00%    | 99.96%       | 96.57%       | 3        | 99.9%       |               |
| 1128 | 329682 | 1      | 0.00%    | 99.96%       | 96.66%       | 3        | 99.9%       |               |
| 1129 | 332682 | 1      | 0.00%    | 99.96%       | 96.74%       | 3        | 99.9%       |               |
| 1130 | 325594 | 1      | 0.00%    | 99.96%       | 96.83%       | 3        | 99.9%       |               |
| 1131 | 359700 | 1      | 0.00%    | 99.96%       | 96.92%       | 3        | 99.9%       |               |
| 1132 | 320596 | 1      | 0.00%    | 99.97%       | 97.00%       | 3        | 99.9%       |               |
| 1133 | 333682 | 1      | 0.00%    | 99.97%       | 97.09%       | 3        | 99.9%       |               |
| 1134 | 296658 | 1      | 0.00%    | 99.97%       | 97.17%       | 3        | 99.9%       |               |
| 1135 | 340686 | 1      | 0.00%    | 99.97%       | 97.26%       | 3        | 99.9%       |               |
| 1136 | 297663 | 1      | 0.00%    | 99.97%       | 97.34%       | 3        | 99.9%       |               |
| 1137 | 321681 | 1      | 0.00%    | 99.97%       | 97.43%       | 3        | 99.9%       |               |
| 1138 | 331687 | 1      | 0.00%    | 99.97%       | 97.51%       | 3        | 99.9%       |               |
| 1139 | 303659 | 1      | 0.00%    | 99.97%       | 97.60%       | 3        | 99.9%       |               |
| 1140 | 304662 | 1      | 0.00%    | 99.97%       | 97.69%       | 3        | 99.9%       |               |
| 1141 | 301668 | 1      | 0.00%    | 99.97%       | 97.77%       | 3        | 99.9%       |               |
| 1142 | 279656 | 1      | 0.00%    | 99.98%       | 97.86%       | 3        | 99.9%       |               |
| 1143 | 295642 | 1      | 0.00%    | 99.98%       | 97.94%       | 3        | 99.9%       |               |
| 1144 | 300657 | 1      | 0.00%    | 99.98%       | 98.03%       | 3        | 99.9%       |               |
| 1145 | 278654 | 1      | 0.00%    | 99.98%       | 98.11%       | 3        | 99.9%       |               |
| 1146 | 323607 | 1      | 0.00%    | 99.98%       | 98.20%       | 3        | 99.9%       |               |
| 1147 | 324605 | 1      | 0.00%    | 99.98%       | 98.29%       | 3        | 99.9%       |               |
| 1148 | 330587 | 1      | 0.00%    | 99.98%       | 98.37%       | 3        | 99.9%       |               |
| 1149 | 320681 | 1      | 0.00%    | 99.98%       | 98.46%       | 3        | 99.9%       |               |
| 1150 | 299663 | 1      | 0.00%    | 99.98%       | 98.54%       | 3        | 99.9%       |               |
| 1151 | 301657 | 1      | 0.00%    | 99.98%       | 98.63%       | 3        | 100.0%      |               |
| 1152 | 300644 | 1      | 0.00%    | 99.99%       | 98.71%       | 3        | 100.0%      |               |
| 1153 | 331615 | 1      | 0.00%    | 99.99%       | 98.80%       | 3        | 100.0%      |               |

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| NUM  | Código | Cortes | % Cortes | CUM % cortes | CUM % cuadra | ESTRATOS | CUM % estra | ALEATORIO*100 |
|------|--------|--------|----------|--------------|--------------|----------|-------------|---------------|
| 1154 | 319685 | 1      | 0.00%    | 99.99%       | 98.89%       | 3        | 100.0%      |               |
| 1155 | 357698 | 1      | 0.00%    | 99.99%       | 98.97%       | 3        | 100.0%      |               |
| 1156 | 335684 | 1      | 0.00%    | 99.99%       | 99.06%       | 3        | 100.0%      |               |
| 1157 | 302657 | 1      | 0.00%    | 99.99%       | 99.14%       | 3        | 100.0%      |               |
| 1158 | 302634 | 1      | 0.00%    | 99.99%       | 99.23%       | 3        | 100.0%      |               |
| 1159 | 323591 | 1      | 0.00%    | 99.99%       | 99.31%       | 3        | 100.0%      |               |
| 1160 | 295650 | 1      | 0.00%    | 99.99%       | 99.40%       | 3        | 100.0%      |               |
| 1161 | 299641 | 1      | 0.00%    | 99.99%       | 99.49%       | 3        | 100.0%      |               |
| 1162 | 306628 | 1      | 0.00%    | 100.00%      | 99.57%       | 3        | 100.0%      |               |
| 1163 | 293644 | 1      | 0.00%    | 100.00%      | 99.66%       | 3        | 100.0%      |               |
| 1164 | 297670 | 1      | 0.00%    | 100.00%      | 99.74%       | 3        | 100.0%      |               |
| 1165 | 346689 | 1      | 0.00%    | 100.00%      | 99.83%       | 3        | 100.0%      |               |
| 1166 | 330685 | 1      | 0.00%    | 100.00%      | 99.91%       | 3        | 100.0%      |               |
| 1167 | 287660 | 1      | 0.00%    | 100.00%      | 100.00%      | 3        | 100.0%      |               |



**ANEXO G: MARCO MUESTRAL CORTES PIURA ENE 2006**

| NUM | Código | Cortes | % Cortes | ACUM % est | CUM % cuad | ESTRATOS | ACUM % estr | ALEATORIO * 100 |
|-----|--------|--------|----------|------------|------------|----------|-------------|-----------------|
| 1   | 871423 | 112    | 5.48%    | 5.48%      | 1.22%      | 1        | 17.2%       |                 |
| 2   | 872423 | 105    | 5.14%    | 10.63%     | 2.44%      | 1        | 33.3%       |                 |
| 3   | 875423 | 103    | 5.04%    | 15.67%     | 3.66%      | 1        | 49.1%       |                 |
| 4   | 872422 | 93     | 4.55%    | 20.23%     | 4.88%      | 1        | 63.3%       |                 |
| 5   | 875422 | 88     | 4.31%    | 24.53%     | 6.10%      | 1        | 76.8%       |                 |
| 6   | 873422 | 79     | 3.87%    | 28.40%     | 7.32%      | 1        | 89.0%       | 87.36322        |
| 7   | 874422 | 72     | 3.53%    | 31.93%     | 8.54%      | 1        | 100.0%      |                 |
| 8   | 873423 | 69     | 3.38%    | 35.31%     | 9.76%      | 2        | 10.3%       |                 |
| 9   | 874421 | 66     | 3.23%    | 38.54%     | 10.98%     | 2        | 20.1%       |                 |
| 10  | 869424 | 66     | 3.23%    | 41.77%     | 12.20%     | 2        | 29.9%       |                 |
| 11  | 872425 | 65     | 3.18%    | 44.96%     | 13.41%     | 2        | 39.6%       |                 |
| 12  | 870423 | 61     | 2.99%    | 47.94%     | 14.63%     | 2        | 48.7%       |                 |
| 13  | 874423 | 60     | 2.94%    | 50.88%     | 15.85%     | 2        | 57.6%       |                 |
| 14  | 870415 | 55     | 2.69%    | 53.57%     | 17.07%     | 2        | 65.8%       |                 |
| 15  | 873424 | 52     | 2.55%    | 56.12%     | 18.29%     | 2        | 73.5%       | 67.21962        |
| 16  | 872426 | 48     | 2.35%    | 58.47%     | 19.51%     | 2        | 80.7%       |                 |
| 17  | 870414 | 45     | 2.20%    | 60.68%     | 20.73%     | 2        | 87.4%       |                 |
| 18  | 869414 | 44     | 2.15%    | 62.83%     | 21.95%     | 2        | 93.9%       |                 |
| 19  | 870424 | 41     | 2.01%    | 64.84%     | 23.17%     | 2        | 100.0%      |                 |
| 20  | 868424 | 40     | 1.96%    | 66.80%     | 24.39%     | 3        | 5.6%        | 3.20197         |
| 21  | 871424 | 40     | 1.96%    | 68.76%     | 25.61%     | 3        | 11.1%       |                 |
| 22  | 871422 | 38     | 1.86%    | 70.62%     | 26.83%     | 3        | 16.4%       | 12.20172        |
| 23  | 868425 | 36     | 1.76%    | 72.38%     | 28.05%     | 3        | 21.4%       | 21.39772        |
| 24  | 873425 | 35     | 1.71%    | 74.09%     | 29.27%     | 3        | 26.3%       |                 |
| 25  | 874424 | 34     | 1.67%    | 75.76%     | 30.49%     | 3        | 31.1%       | 29.14443        |
| 26  | 875421 | 33     | 1.62%    | 77.38%     | 31.71%     | 3        | 35.7%       |                 |
| 27  | 869423 | 29     | 1.42%    | 78.80%     | 32.93%     | 3        | 39.7%       | 39.37673        |
| 28  | 872424 | 26     | 1.27%    | 80.07%     | 34.15%     | 3        | 43.3%       |                 |
| 29  | 874425 | 25     | 1.22%    | 81.29%     | 35.37%     | 3        | 46.8%       | 43.39078        |
| 30  | 875420 | 24     | 1.18%    | 82.47%     | 36.59%     | 3        | 50.1%       |                 |
| 31  | 869415 | 23     | 1.13%    | 83.59%     | 37.80%     | 3        | 53.3%       |                 |
| 32  | 876421 | 23     | 1.13%    | 84.72%     | 39.02%     | 3        | 56.5%       |                 |
| 33  | 875419 | 22     | 1.08%    | 85.80%     | 40.24%     | 3        | 59.6%       |                 |
| 34  | 869425 | 18     | 0.88%    | 86.68%     | 41.46%     | 3        | 62.1%       |                 |
| 35  | 873421 | 17     | 0.83%    | 87.51%     | 42.68%     | 3        | 64.5%       |                 |
| 36  | 871426 | 16     | 0.78%    | 88.30%     | 43.90%     | 3        | 66.7%       |                 |
| 37  | 878423 | 15     | 0.73%    | 89.03%     | 45.12%     | 3        | 68.8%       | 67.98169        |
| 38  | 879423 | 15     | 0.73%    | 89.76%     | 46.34%     | 3        | 70.9%       |                 |
| 39  | 876419 | 15     | 0.73%    | 90.50%     | 47.56%     | 3        | 73.0%       |                 |
| 40  | 871415 | 15     | 0.73%    | 91.23%     | 48.78%     | 3        | 75.1%       |                 |
| 41  | 869413 | 14     | 0.69%    | 91.92%     | 50.00%     | 3        | 77.0%       |                 |
| 42  | 871408 | 14     | 0.69%    | 92.61%     | 51.22%     | 3        | 79.0%       |                 |
| 43  | 876422 | 13     | 0.64%    | 93.24%     | 52.44%     | 3        | 80.8%       | 79.46435        |
| 44  | 875424 | 10     | 0.49%    | 93.73%     | 53.66%     | 3        | 82.2%       |                 |
| 45  | 871425 | 10     | 0.49%    | 94.22%     | 54.88%     | 3        | 83.6%       |                 |
| 46  | 879424 | 10     | 0.49%    | 94.71%     | 56.10%     | 3        | 85.0%       |                 |
| 47  | 872420 | 8      | 0.39%    | 95.10%     | 57.32%     | 3        | 86.1%       |                 |
| 48  | 877423 | 8      | 0.39%    | 95.49%     | 58.54%     | 3        | 87.2%       |                 |
| 49  | 876423 | 8      | 0.39%    | 95.89%     | 59.76%     | 3        | 88.3%       |                 |
| 50  | 876420 | 8      | 0.39%    | 96.28%     | 60.98%     | 3        | 89.4%       |                 |
| 51  | 870422 | 7      | 0.34%    | 96.62%     | 62.20%     | 3        | 90.4%       |                 |
| 52  | 874426 | 6      | 0.29%    | 96.91%     | 63.41%     | 3        | 91.2%       |                 |
| 53  | 875425 | 6      | 0.29%    | 97.21%     | 64.63%     | 3        | 92.1%       |                 |
| 54  | 866413 | 5      | 0.24%    | 97.45%     | 65.85%     | 3        | 92.8%       |                 |
| 55  | 872417 | 5      | 0.24%    | 97.70%     | 67.07%     | 3        | 93.5%       |                 |
| 56  | 865413 | 4      | 0.20%    | 97.89%     | 68.29%     | 3        | 94.0%       |                 |
| 57  | 868411 | 4      | 0.20%    | 98.09%     | 69.51%     | 3        | 94.6%       |                 |
| 58  | 867414 | 3      | 0.15%    | 98.24%     | 70.73%     | 3        | 95.0%       |                 |
| 59  | 872421 | 3      | 0.15%    | 98.38%     | 71.95%     | 3        | 95.4%       |                 |
| 60  | 872419 | 3      | 0.15%    | 98.53%     | 73.17%     | 3        | 95.8%       |                 |
| 61  | 866415 | 3      | 0.15%    | 98.68%     | 74.39%     | 3        | 96.2%       |                 |
| 62  | 872416 | 2      | 0.10%    | 98.78%     | 75.61%     | 3        | 96.5%       |                 |
| 63  | 871418 | 2      | 0.10%    | 98.87%     | 76.83%     | 3        | 96.8%       |                 |
| 64  | 871416 | 2      | 0.10%    | 98.97%     | 78.05%     | 3        | 97.1%       |                 |
| 65  | 868413 | 2      | 0.10%    | 99.07%     | 79.27%     | 3        | 97.4%       |                 |
| 66  | 873417 | 2      | 0.10%    | 99.17%     | 80.49%     | 3        | 97.6%       |                 |
| 67  | 871409 | 2      | 0.10%    | 99.27%     | 81.71%     | 3        | 97.9%       |                 |
| 68  | 871406 | 1      | 0.05%    | 99.31%     | 82.93%     | 3        | 98.1%       |                 |
| 69  | 878424 | 1      | 0.05%    | 99.36%     | 84.15%     | 3        | 98.2%       |                 |
| 70  | 876424 | 1      | 0.05%    | 99.41%     | 85.37%     | 3        | 98.3%       |                 |
| 71  | 877424 | 1      | 0.05%    | 99.46%     | 86.59%     | 3        | 98.5%       |                 |
| 72  | 871417 | 1      | 0.05%    | 99.51%     | 87.80%     | 3        | 98.6%       |                 |

| NUM | Código | Cortes | % Cortes | ACUM % est | CUM % cuad | ESTRATOS | ACUM % estr | ALEATORIO * 100 |
|-----|--------|--------|----------|------------|------------|----------|-------------|-----------------|
| 73  | 878422 | 1      | 0.05%    | 99.56%     | 89.02%     | 3        | 98.7%       |                 |
| 74  | 869410 | 1      | 0.05%    | 99.61%     | 90.24%     | 3        | 98.9%       |                 |
| 75  | 868412 | 1      | 0.05%    | 99.66%     | 91.46%     | 3        | 99.0%       |                 |
| 76  | 866414 | 1      | 0.05%    | 99.71%     | 92.68%     | 3        | 99.2%       |                 |
| 77  | 876427 | 1      | 0.05%    | 99.76%     | 93.90%     | 3        | 99.3%       |                 |
| 78  | 868417 | 1      | 0.05%    | 99.80%     | 95.12%     | 3        | 99.4%       |                 |
| 79  | 872418 | 1      | 0.05%    | 99.85%     | 96.34%     | 3        | 99.6%       |                 |
| 80  | 872406 | 1      | 0.05%    | 99.90%     | 97.56%     | 3        | 99.7%       |                 |
| 81  | 870416 | 1      | 0.05%    | 99.95%     | 98.78%     | 3        | 99.9%       |                 |
| 82  | 867415 | 1      | 0.05%    | 100.00%    | 100.00%    | 3        | 100.0%      |                 |




**ANEXO H: MARCO MUESTRAL CORTES ZONA RURAL VALLE DEL MANTARO SEPT 2006**

| NUM | Código | Cortes | % Cortes | ACUM %<br>cortes | CUM %<br>cuadrante | ESTRATOS | ACUM %<br>estrato | ALEATORIO * 100 |
|-----|--------|--------|----------|------------------|--------------------|----------|-------------------|-----------------|
| 1   | 445698 | 43     | 9.43%    | 9.43%            | 0.80%              | 1        | 30.1%             | 17.61936443     |
| 2   | 445697 | 33     | 7.24%    | 16.67%           | 1.60%              | 1        | 53.1%             |                 |
| 3   | 468666 | 22     | 4.82%    | 21.49%           | 2.40%              | 1        | 68.5%             |                 |
| 4   | 472667 | 16     | 3.51%    | 25.00%           | 3.20%              | 1        | 79.7%             |                 |
| 5   | 465664 | 15     | 3.29%    | 28.29%           | 4.00%              | 1        | 90.2%             |                 |
| 6   | 446697 | 14     | 3.07%    | 31.36%           | 4.80%              | 2        | 100.0%            |                 |
| 7   | 446698 | 14     | 3.07%    | 34.43%           | 5.60%              | 2        | 8.9%              |                 |
| 8   | 469671 | 14     | 3.07%    | 37.50%           | 6.40%              | 2        | 17.7%             |                 |
| 9   | 465682 | 12     | 2.63%    | 40.13%           | 7.20%              | 2        | 25.3%             |                 |
| 10  | 466676 | 12     | 2.63%    | 42.76%           | 8.00%              | 2        | 32.9%             |                 |
| 11  | 473664 | 10     | 2.19%    | 44.96%           | 8.80%              | 2        | 39.2%             |                 |
| 12  | 466682 | 8      | 1.75%    | 46.71%           | 9.60%              | 2        | 44.3%             |                 |
| 13  | 473667 | 7      | 1.54%    | 48.25%           | 10.40%             | 2        | 48.7%             |                 |
| 14  | 454688 | 6      | 1.32%    | 49.56%           | 11.20%             | 2        | 52.5%             |                 |
| 15  | 469666 | 6      | 1.32%    | 50.88%           | 12.00%             | 2        | 56.3%             |                 |
| 16  | 473661 | 6      | 1.32%    | 52.19%           | 12.80%             | 2        | 60.1%             | 57.19403649     |
| 17  | 473660 | 6      | 1.32%    | 53.51%           | 13.60%             | 2        | 63.9%             |                 |
| 18  | 469679 | 5      | 1.10%    | 54.61%           | 14.40%             | 2        | 67.1%             |                 |
| 19  | 457691 | 5      | 1.10%    | 55.70%           | 15.20%             | 2        | 70.3%             | 69.71179989     |
| 20  | 469672 | 5      | 1.10%    | 56.80%           | 16.00%             | 2        | 73.4%             |                 |
| 21  | 471667 | 5      | 1.10%    | 57.89%           | 16.80%             | 2        | 76.6%             |                 |
| 22  | 473663 | 5      | 1.10%    | 58.99%           | 17.60%             | 2        | 79.7%             |                 |
| 23  | 473672 | 4      | 0.88%    | 59.87%           | 18.40%             | 2        | 82.3%             |                 |
| 24  | 452695 | 4      | 0.88%    | 60.75%           | 19.20%             | 2        | 84.8%             |                 |
| 25  | 453694 | 4      | 0.88%    | 61.62%           | 20.00%             | 2        | 87.3%             |                 |
| 26  | 447696 | 4      | 0.88%    | 62.50%           | 20.80%             | 2        | 89.9%             |                 |
| 27  | 445699 | 4      | 0.88%    | 63.38%           | 21.60%             | 2        | 92.4%             |                 |
| 28  | 438707 | 4      | 0.88%    | 64.25%           | 22.40%             | 2        | 94.9%             |                 |
| 29  | 470667 | 4      | 0.88%    | 65.13%           | 23.20%             | 2        | 97.5%             |                 |
| 30  | 472668 | 4      | 0.88%    | 66.01%           | 24.00%             | 2        | 100.0%            |                 |
| 31  | 473662 | 4      | 0.88%    | 66.89%           | 24.80%             | 2        | 2.6%              |                 |
| 32  | 459678 | 3      | 0.66%    | 67.54%           | 25.60%             | 3        | 4.5%              |                 |
| 33  | 471675 | 3      | 0.66%    | 68.20%           | 26.40%             | 3        | 6.5%              |                 |
| 34  | 472674 | 3      | 0.66%    | 68.86%           | 27.20%             | 3        | 8.4%              |                 |
| 35  | 465683 | 3      | 0.66%    | 69.52%           | 28.00%             | 3        | 10.3%             |                 |
| 36  | 461682 | 3      | 0.66%    | 70.18%           | 28.80%             | 3        | 12.3%             |                 |
| 37  | 450693 | 3      | 0.66%    | 70.83%           | 29.60%             | 3        | 14.2%             |                 |
| 38  | 457685 | 3      | 0.66%    | 71.49%           | 30.40%             | 3        | 16.1%             |                 |
| 39  | 447697 | 3      | 0.66%    | 72.15%           | 31.20%             | 3        | 18.1%             |                 |
| 40  | 444698 | 3      | 0.66%    | 72.81%           | 32.00%             | 3        | 20.0%             |                 |
| 41  | 466677 | 3      | 0.66%    | 73.46%           | 32.80%             | 3        | 21.9%             |                 |
| 42  | 473666 | 3      | 0.66%    | 74.12%           | 33.60%             | 3        | 23.9%             |                 |
| 43  | 470666 | 3      | 0.66%    | 74.78%           | 34.40%             | 3        | 25.8%             |                 |
| 44  | 472669 | 3      | 0.66%    | 75.44%           | 35.20%             | 3        | 27.7%             |                 |
| 45  | 464664 | 3      | 0.66%    | 76.10%           | 36.00%             | 3        | 29.7%             |                 |
| 46  | 467665 | 3      | 0.66%    | 76.75%           | 36.80%             | 3        | 31.6%             |                 |
| 47  | 469665 | 3      | 0.66%    | 77.41%           | 37.60%             | 3        | 33.5%             |                 |
| 48  | 468664 | 3      | 0.66%    | 78.07%           | 38.40%             | 3        | 35.5%             |                 |
| 49  | 473665 | 3      | 0.66%    | 78.73%           | 39.20%             | 3        | 37.4%             | 37.2217167      |
| 50  | 472673 | 2      | 0.44%    | 79.17%           | 40.00%             | 3        | 38.7%             |                 |
| 51  | 471676 | 2      | 0.44%    | 79.61%           | 40.80%             | 3        | 40.0%             |                 |
| 52  | 464682 | 2      | 0.44%    | 80.04%           | 41.60%             | 3        | 41.3%             |                 |
| 53  | 468679 | 2      | 0.44%    | 80.48%           | 42.40%             | 3        | 42.6%             |                 |
| 54  | 472675 | 2      | 0.44%    | 80.92%           | 43.20%             | 3        | 43.9%             |                 |
| 55  | 471677 | 2      | 0.44%    | 81.36%           | 44.00%             | 3        | 45.2%             |                 |
| 56  | 464687 | 2      | 0.44%    | 81.80%           | 44.80%             | 3        | 46.5%             |                 |
| 57  | 448694 | 2      | 0.44%    | 82.24%           | 45.60%             | 3        | 47.7%             |                 |
| 58  | 455688 | 2      | 0.44%    | 82.68%           | 46.40%             | 3        | 49.0%             |                 |
| 59  | 457692 | 2      | 0.44%    | 83.11%           | 47.20%             | 3        | 50.3%             |                 |
| 60  | 456692 | 2      | 0.44%    | 83.55%           | 48.00%             | 3        | 51.6%             |                 |
| 61  | 438702 | 2      | 0.44%    | 83.99%           | 48.80%             | 3        | 52.9%             |                 |
| 62  | 469674 | 2      | 0.44%    | 84.43%           | 49.60%             | 3        | 54.2%             |                 |
| 63  | 462668 | 2      | 0.44%    | 84.87%           | 50.40%             | 3        | 55.5%             |                 |
| 64  | 465665 | 2      | 0.44%    | 85.31%           | 51.20%             | 3        | 56.8%             |                 |
| 65  | 465666 | 2      | 0.44%    | 85.75%           | 52.00%             | 3        | 58.1%             |                 |
| 66  | 461667 | 2      | 0.44%    | 86.18%           | 52.80%             | 3        | 59.4%             |                 |
| 67  | 469667 | 2      | 0.44%    | 86.62%           | 53.60%             | 3        | 60.6%             |                 |
| 68  | 467667 | 2      | 0.44%    | 87.06%           | 54.40%             | 3        | 61.9%             |                 |
| 69  | 473659 | 2      | 0.44%    | 87.50%           | 55.20%             | 3        | 63.2%             |                 |
| 70  | 462685 | 1      | 0.22%    | 87.72%           | 56.00%             | 3        | 63.9%             |                 |

| NUM | Código | Cortes | % Cortes | ACUM %<br>cortes | CUM %<br>cuadrante | ESTRATOS | ACUM %<br>estrato | ALEATORIO * 100 |
|-----|--------|--------|----------|------------------|--------------------|----------|-------------------|-----------------|
| 71  | 466686 | 1      | 0.22%    | 87.94%           | 56.80%             | 3        | 64.5%             |                 |
| 72  | 469678 | 1      | 0.22%    | 88.16%           | 57.60%             | 3        | 65.2%             |                 |
| 73  | 463680 | 1      | 0.22%    | 88.38%           | 58.40%             | 3        | 65.8%             |                 |
| 74  | 468686 | 1      | 0.22%    | 88.60%           | 59.20%             | 3        | 66.5%             |                 |
| 75  | 473675 | 1      | 0.22%    | 88.82%           | 60.00%             | 3        | 67.1%             |                 |
| 76  | 471680 | 1      | 0.22%    | 89.04%           | 60.80%             | 3        | 67.7%             |                 |
| 77  | 458690 | 1      | 0.22%    | 89.25%           | 61.60%             | 3        | 68.4%             |                 |
| 78  | 471679 | 1      | 0.22%    | 89.47%           | 62.40%             | 3        | 69.0%             |                 |
| 79  | 471685 | 1      | 0.22%    | 89.69%           | 63.20%             | 3        | 69.7%             |                 |
| 80  | 466684 | 1      | 0.22%    | 89.91%           | 64.00%             | 3        | 70.3%             |                 |
| 81  | 464684 | 1      | 0.22%    | 90.13%           | 64.80%             | 3        | 71.0%             |                 |
| 82  | 465681 | 1      | 0.22%    | 90.35%           | 65.60%             | 3        | 71.6%             |                 |
| 83  | 464678 | 1      | 0.22%    | 90.57%           | 66.40%             | 3        | 72.3%             |                 |
| 84  | 471686 | 1      | 0.22%    | 90.79%           | 67.20%             | 3        | 72.9%             |                 |
| 85  | 472676 | 1      | 0.22%    | 91.01%           | 68.00%             | 3        | 73.5%             |                 |
| 86  | 461686 | 1      | 0.22%    | 91.23%           | 68.80%             | 3        | 74.2%             |                 |
| 87  | 468678 | 1      | 0.22%    | 91.45%           | 69.60%             | 3        | 74.8%             |                 |
| 88  | 460678 | 1      | 0.22%    | 91.67%           | 70.40%             | 3        | 75.5%             |                 |
| 89  | 460683 | 1      | 0.22%    | 91.89%           | 71.20%             | 3        | 76.1%             |                 |
| 90  | 464685 | 1      | 0.22%    | 92.11%           | 72.00%             | 3        | 76.8%             |                 |
| 91  | 464679 | 1      | 0.22%    | 92.32%           | 72.80%             | 3        | 77.4%             |                 |
| 92  | 458691 | 1      | 0.22%    | 92.54%           | 73.60%             | 3        | 78.1%             |                 |
| 93  | 449694 | 1      | 0.22%    | 92.76%           | 74.40%             | 3        | 78.7%             | 78.3448937      |
| 94  | 450694 | 1      | 0.22%    | 92.98%           | 75.20%             | 3        | 79.4%             |                 |
| 95  | 453690 | 1      | 0.22%    | 93.20%           | 76.00%             | 3        | 80.0%             |                 |
| 96  | 452694 | 1      | 0.22%    | 93.42%           | 76.80%             | 3        | 80.6%             |                 |
| 97  | 457693 | 1      | 0.22%    | 93.64%           | 77.60%             | 3        | 81.3%             |                 |
| 98  | 456691 | 1      | 0.22%    | 93.86%           | 78.40%             | 3        | 81.9%             |                 |
| 99  | 442700 | 1      | 0.22%    | 94.08%           | 79.20%             | 3        | 82.6%             |                 |
| 100 | 440702 | 1      | 0.22%    | 94.30%           | 80.00%             | 3        | 83.2%             |                 |
| 101 | 440701 | 1      | 0.22%    | 94.52%           | 80.80%             | 3        | 83.9%             |                 |
| 102 | 437704 | 1      | 0.22%    | 94.74%           | 81.60%             | 3        | 84.5%             |                 |
| 103 | 442698 | 1      | 0.22%    | 94.96%           | 82.40%             | 3        | 85.2%             |                 |
| 104 | 441698 | 1      | 0.22%    | 95.18%           | 83.20%             | 3        | 85.8%             |                 |
| 105 | 439700 | 1      | 0.22%    | 95.39%           | 84.00%             | 3        | 86.5%             |                 |
| 106 | 437703 | 1      | 0.22%    | 95.61%           | 84.80%             | 3        | 87.1%             |                 |
| 107 | 465677 | 1      | 0.22%    | 95.83%           | 85.60%             | 3        | 87.7%             |                 |
| 108 | 470671 | 1      | 0.22%    | 96.05%           | 86.40%             | 3        | 88.4%             |                 |
| 109 | 471669 | 1      | 0.22%    | 96.27%           | 87.20%             | 3        | 89.0%             |                 |
| 110 | 473668 | 1      | 0.22%    | 96.49%           | 88.00%             | 3        | 89.7%             |                 |
| 111 | 463673 | 1      | 0.22%    | 96.71%           | 88.80%             | 3        | 90.3%             |                 |
| 112 | 464674 | 1      | 0.22%    | 96.93%           | 89.60%             | 3        | 91.0%             |                 |
| 113 | 464673 | 1      | 0.22%    | 97.15%           | 90.40%             | 3        | 91.6%             |                 |
| 114 | 466663 | 1      | 0.22%    | 97.37%           | 91.20%             | 3        | 92.3%             |                 |
| 115 | 465663 | 1      | 0.22%    | 97.59%           | 92.00%             | 3        | 92.9%             |                 |
| 116 | 464665 | 1      | 0.22%    | 97.81%           | 92.80%             | 3        | 93.5%             |                 |
| 117 | 462666 | 1      | 0.22%    | 98.03%           | 93.60%             | 3        | 94.2%             |                 |
| 118 | 466667 | 1      | 0.22%    | 98.25%           | 94.40%             | 3        | 94.8%             |                 |
| 119 | 466668 | 1      | 0.22%    | 98.46%           | 95.20%             | 3        | 95.5%             |                 |
| 120 | 468665 | 1      | 0.22%    | 98.68%           | 96.00%             | 3        | 96.1%             |                 |
| 121 | 470664 | 1      | 0.22%    | 98.90%           | 96.80%             | 3        | 96.8%             |                 |
| 122 | 474663 | 1      | 0.22%    | 99.12%           | 97.60%             | 3        | 97.4%             |                 |
| 123 | 467662 | 1      | 0.22%    | 99.34%           | 98.40%             | 3        | 98.1%             |                 |
| 124 | 469660 | 1      | 0.22%    | 99.56%           | 99.20%             | 3        | 98.7%             |                 |
| 125 | 459670 | 1      | 0.22%    | 99.78%           | 100.00%            | 3        | 99.4%             | 99.18715157     |
| 126 | 459669 | 1      | 0.22%    | 100.00%          | 100.80%            | 3        | 100.0%            |                 |

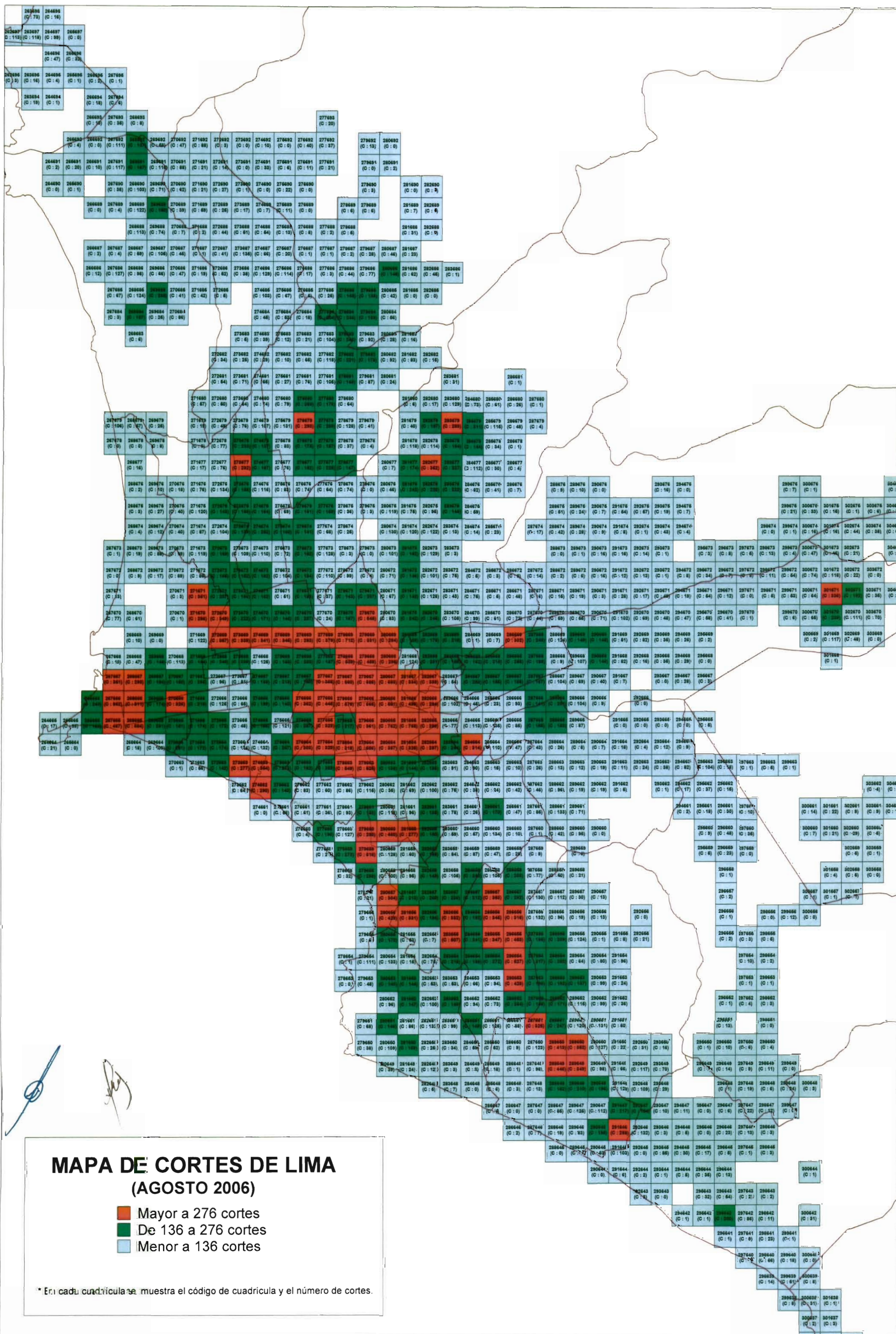
**ANEXO I PILOTODE REGISTRO DE TIEMPOS DE TRASLADO ZONA RURAL - CAMIONETA**  
**zona1 Jauja y zonas 3a y 3b concepción**

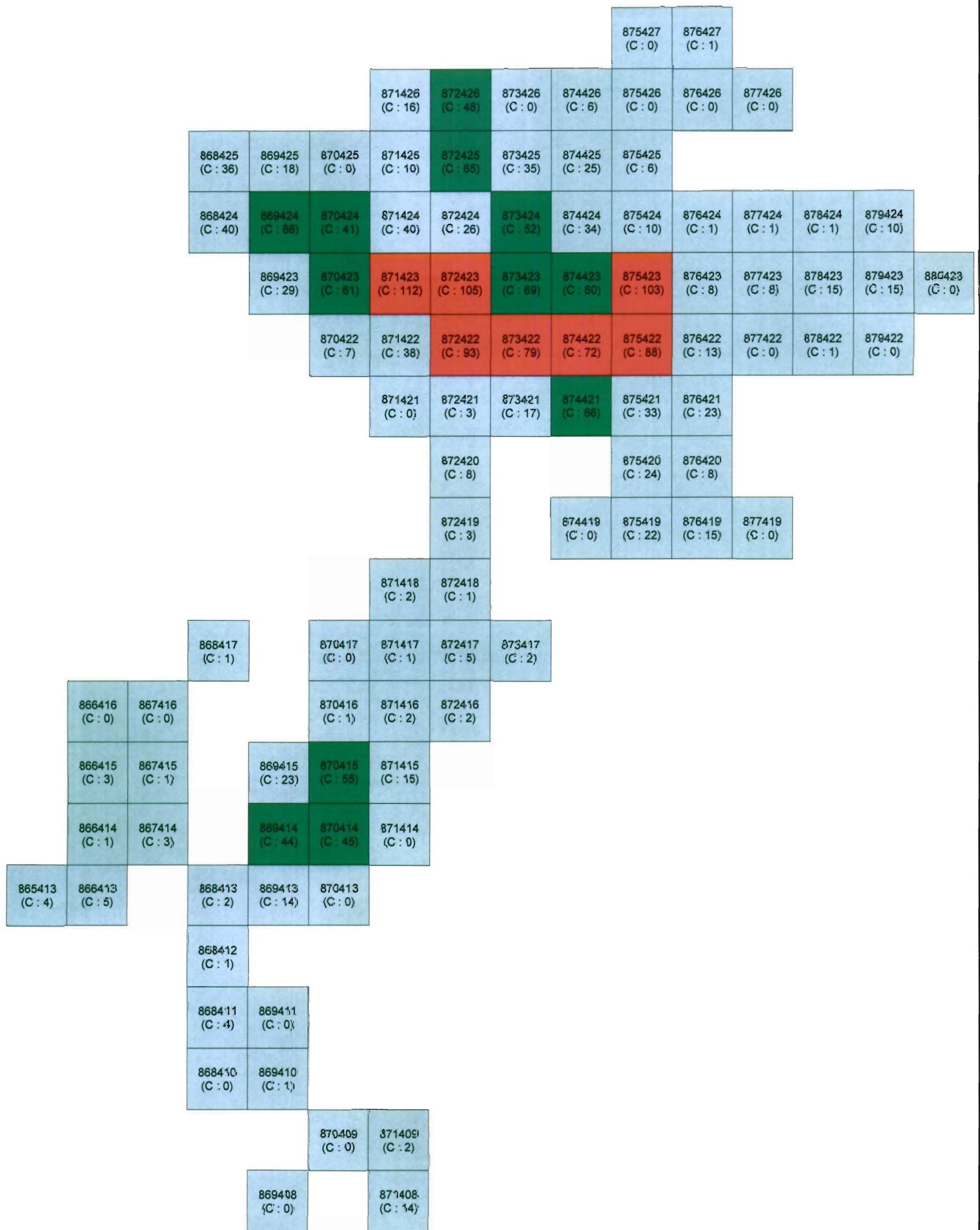
| SUMINISTRO | NOMBRE                             | DIRECCION                               | HORA LLEGA     | TIEMPOS TRASLADO | OBSERVACION                  |
|------------|------------------------------------|-----------------------------------------|----------------|------------------|------------------------------|
| 69905528   | ESPINOZA PALACIOS, FORTUNATO       | Jr JUNIN 853 Sec. SECTOR CENTRO         | 08:52          |                  |                              |
| 69905742   | URCO ARENALES, JUDY                | Jr JUNIN 949 Sec. SECTOR CENTRO         | 08:54          | 00:02            |                              |
| 69892706   | HUAYLINOS SOSA, IRENE              | Jr TARAPACA 435 Sec. SECTOR CENTRO      | 08:59          | 00:04            |                              |
| 69892644   | OSORIO INGAROCA, ARTURO            | Jr TARAPACA 411 Sec. SECTOR CENTRO      | 09:00          | 00:00            |                              |
| 69909670   | CALVAY MONTEJO, AUREA              | Jr AYACUCHO 967 Sec. SECTOR CENTRO      | 09:04          | 00:03            |                              |
| 70132444   | PALOMINO ZEGARRA, ANGEL GRUJER     | Jr AYACUCHO 00929 Sec. SECTOR CENTRO    | 09:05          | 00:01            |                              |
| 69893740   | LOAYZA , ROSA                      | Jr BOLOGNESI 351 Sec. SECTOR CENTRO     | 09:07          | 00:01            |                              |
| 70126975   | PEREZ LEON, HUGO                   | Jr CIRO LANDA 0118 Sec. SECTOR NORTE    | 09:11          | 00:04            |                              |
| 70004453   | HURTADO VDA. DE ZUMBA, SUSANA      | Jr PUNO 425 Sec. SECTOR NORTE           | 09:14          | 00:02            |                              |
| 69897023   | MEDRANO DE GONZALES, VILMA         | Jr GALVEZ 145 Int. 0003 Sec. SECTOR CE  | 09:18          | 00:03            |                              |
| 70004730   | PUENTE MONTEBLANCO, BERTHA         | Jr BUENOS AIRES 0 Sec. SECTOR NORTE     | 09:20          | 00:01            |                              |
| 69908127   | SOCIEDAD DE BENEFICENCIA DE JAUJA  | Jr SUCRE 720 Sec. SECTOR CENTRO         | 09:24          | 00:04            |                              |
| 70116496   | RIVERA OROSQO, VICTORIA FLAVIA     | Jr MANCO CAPAC 0365 Sec. SECTOR CENTRO  | 09:27          | 00:03            |                              |
| 69898479   | GARCIA DE LOPEZ, MARIA N.          | Jr MANCO CAPAC 542 Sec. SECTOR CENTRO   | 09:31          | 00:03            |                              |
| 69910591   | TALPUSHUN CIPRU, .                 | Jr BOLIVAR 429 Sec. SECTOR CENTRO       | 09:34          | 00:03            |                              |
| 69910466   | GONZALES GRANADOS, FABIAN          | Jr BOLIVAR 329 Sec. SECTOR CENTRO       | 09:37          | 00:02            |                              |
| 69904253   | ESCUDEIRO , FABIAN                 | Jr JUNIN 220 Sec. SECTOR CENTRO         | 09:39          | 00:02            |                              |
| 69908913   | HUATUCO JESUS, MAURA               | Jr AYACUCHO 269 Sec. SECTOR CENTRO      | 09:42          | 00:02            |                              |
| 69912540   | TORRES , VICTORIA                  | Jr SAN MARTIN 460 Sec. SECTOR CENTRO    | 09:46          | 00:04            |                              |
| 69912550   | SOLIS NONALAYA, LUIS FERNANDO      | Jr SAN MARTIN 461 Sec. SECTOR CENTRO    | 09:47          | 00:00            |                              |
| 69913646   | PIZARRO , LEONIDAS                 | Jr SALAVERRY 345 Sec. SECTOR CENTRO     | 09:49          | 00:01            |                              |
| 69912569   | AQUINO POMA, LUIS A.               | Jr SAN MARTIN 468 Sec. SECTOR CENTRO    | 09:54          | 00:05            |                              |
| 69913987   | LOPEZ , JULIAN                     | Jr SALAVERRY 570 Sec. SECTOR CENTRO     | 09:58          | 00:03            |                              |
| 69898782   | VARGAS SOTO, MANUEL FLORENCIO      | Jr MANCO CAPAC 830 Sec. SECTOR CENTRO   | 10:00          | 00:02            |                              |
| 69900441   | JESUS ZAMBRANO, IRINEO             | Jr ALFONSO UGARTE 904 Sec. SECTOR CENTR | 10:03          | 00:02            |                              |
| 69915005   | DIAZ SUAREZ, MARIO                 | Jr ARICA 696 Sec. SECTOR CENTRO         | 10:06          | 00:02            |                              |
| 69897972   | AQUINO HUAMAN, SIXTO               | Jr GALVEZ 1028 Sec. SECTOR CENTRO       | 10:08          | 00:02            |                              |
| 69896705   | SALAS CAMARENA, MARIVEL DINA       | Jr GRAU 896 Sec. SECTOR CENTRO          | 10:11          | 00:02            |                              |
| 69915355   | LIZARRAGA REYES, PEDRO             | Jr ARICA 931 Sec. SECTOR CENTRO         | 10:14          | 00:03            |                              |
| 69915373   | CHUQUIN , ZOSIMO                   | Jr ARICA 951 Sec. SECTOR CENTRO         | 10:15          | 00:01            |                              |
| 69894980   | GAMARRA LIMAYMANTA, AIDA           | Jr BOLOGNESI 877 Sec. SECTOR CENTRO     | 10:19          | 00:03            |                              |
| 70102220   | NUÑEZ USCUILCA, YUDI JULIA         | Jr BOLOGNESI 0855 Int. 0003 Sec. SECTOR | 10:20          | 00:01            |                              |
| 69894854   | CURASI FLORES, JORGE               | Jr BOLOGNESI 851 Sec. SECTOR CENTRO     | 10:21          | 00:00            |                              |
| 69894827   | SIMEON CAMARENA, RAUL              | Jr BOLOGNESI 814 Sec. SECTOR CENTRO     | 10:22          | 00:01            |                              |
| 69914474   | PALACIOS CHUQUIN, BERTHA LUISA     | Jr SALAVERRY 985 Sec. SECTOR CENTRO     | 10:26          | 00:03            |                              |
| 69893122   | NUÑEZ NUÑEZ, HECTOR                | Jr TARAPACA 785 Sec. SECTOR CENTRO      | 10:27          | 00:01            |                              |
| 69892994   | BONILLA RUCABADO, EUSEBIA          | Jr TARAPACA 681 Sec. SECTOR CENTRO      | 10:29          | 00:01            |                              |
| 69913127   | GAMARRA E., AIDA                   | Jr SAN MARTIN 934 Sec. SECTOR CENTRO    | 10:32          | 00:03            | 00:06:42 * CAMBIO DE MEMORIA |
| 69894513   | SOCIEDAD DE BENEFICENCIA DE JAUJA  | Jr BOLOGNESI 638 Sec. SECTOR CENTRO     | 10:40          | 00:01            |                              |
| 69896017   | SACIGA SALAS, FLORENCIO            | Jr GRAU 565 Sec. SECTOR CENTRO          | 10:42          | 00:02            |                              |
| 69911196   | PEÑALOZA SOVERO, EDUVIGUEZ         | Jr BOLIVAR 759 Sec. SECTOR CENTRO       | 10:45          | 00:02            |                              |
| 70127874   | ROSALES FLORES, INDALECIO          | Jr BOLIVAR 1155 Sec. SECTOR CENTRO      | 10:47          | 00:02            |                              |
| 69913440   | ALVAREZ BALVIN, MABELITA FELICITAS | Jr SAN MARTIN 1120 Sec. SECTOR CENTRO   | 10:51          | 00:04            |                              |
| 69477412   | FERNANDEZ CASAS, LOLO              | Carr. CENTRAL KM91 C.P.M San Lorenzo    | 16:13          |                  |                              |
| 69319496   | MUÑOZ QUINTE, BEATRIZ              | Ca LOS INCAS 0 C.P.M SAN LORENZO        | 16:22          | 00:08            |                              |
| 69943260   | TORRES PALACIOS, CLARA             | Carr. CENTRAL 2460 Pblo. MANTARO        | 16:31          | 00:09            |                              |
| 69943190   | POMA TERREL, SERAFIN               | Carr. CENTRAL 0 Pblo. MANTARO           | 16:36          | 00:04            | 00:02:25 * CAMBIO DE MEMORIA |
| 69943046   | ELESCANO ROSALES, CARLOS           | Carr. CENTRAL 2000 Pblo. MANTARO        | 16:42          | 00:03            |                              |
|            |                                    |                                         | s              | 00:01:45         |                              |
|            |                                    |                                         | s <sup>1</sup> | 3.0625           |                              |

## **ANEXO J**

### **MAPAS CON LA ESTRATIFICACION POR DENSIDAD DE CORTE**







## MAPA DE CORTES DE PIURA (ENERO 2006)

- Mayor a 71 cortes
- De 41 a 71 cortes
- Menor a 41 cortes

\* En cada cuadrícula se muestra el código de cuadrícula y el número de cortes.

871406  
(C : 1)

872406  
(C : 1)

871404  
(C : 0)

871403  
(C : 0)

