



**MERENDON DE PERU**  
DEPARTAMENTO DE EXPLORACIONES GEOLOGICA MINERA



# **PROYECTO LOS HORNOS**

## **II ETAPA DE EXPLORACION**

### **ANEXOS**



**VISTA PANORAMICA DEL PROYECTO LOS HORNOS - ZONA EL CURA**

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**Diciembre 2006**

**Lima – Perú**



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**ANEXO N° 1:**  
**INFORME DE POSESIONAMIENTO DE PUNTOS DE**  
**CONTROL GEODESICO - PROYECTISTAS**  
**TECNICOS Y SERVICIOS (PROSAC).**

# **POSICIONAMIENTO DE PUNTOS DE CONTROL MERENDON DE PERU S.A.**

|                    |   |
|--------------------|---|
| <b>PROYECTO</b>    | <b>: Ubicación de Puntos de Control</b>     |
| <b>RESPONSABLE</b> | <b>: Roberto Eyzaguirre Salinas</b>         |
| <b>UBICACIÓN</b>   | <b>: Prov. Buldibuyo, Dpto. La Libertad</b> |
| <b>FECHA</b>       | <b>: 17 de Mayo del 2006</b>                |

***PROYECTISTAS TECNICOS Y SERVICIOS S.A.  
(PROSAC)***



**POSICIONAMIENTO DE PUNTOS DE CONTROL PARA LA EMPRESA  
MERENDON DE PERU S.A.**

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Lima, 17 de Mayo del 2006

## INFORME TECNICO

### POSICIONAMIENTO DE PUNTOS DE CONTROL PARA LA EMPRESA MERENDON DE PERU S.A.

#### I. GENERALIDADES

La **CIA PROYECTISTAS TECNICOS Y SERVICIOS S.A.**, empresa de gran experiencia en los servicios de Topografía y Geodesia y participe de grandes proyectos a nivel nacional, ha sido contratada por la **EMPRESA MERENDON DE PERU S.A.** para la ubicación de Puntos de Control con GPS Geodésico, para fines de trabajos de geología y topografía.

##### 1.1. OBJETIVOS

Asumir la precisión de coordenadas en el Datum WGS84 de **puntos de control** para fines topográficos, para ello se han realizado las siguientes tareas:

- A) Posicionamiento con receptores GPS de doble frecuencia en las estaciones para establecer sus coordenadas. (control horizontal)
- B) Determinar las coordenadas en el datum WGS-84 como: Este, Norte y Altura geoidal.

##### 1.2. ZONA DE TRABAJO Y DURACION

Las operaciones de campo se efectuaron el 14 de Mayo en la ubicación respectiva:

###### 1.2.1. Ubicación Política

- Distrito : Buldibuyo
- Provincia : Trujillo
- Departamento : La Libertad

###### 1.2.2. Ubicación Cartográfica

- Nombre de Carta : Buldibuyo
- Zona : 18

### 1.2.3. Acceso

Se puede llegar al área de trabajo desde la ciudad de Trujillo por avioneta llegando a la pista de aterrizaje de Chagual en un viaje de 45 min. Luego en camioneta en un recorrido que dura 6 horas al sur este de Chagual.

## 1.3. EQUIPOS E INSTRUMENTOS

### GPS

- 01 Receptores GPS Leica/ L1-L2 (01 System 300, 01 System 500)
- 02 Trípodes de aluminio.
- 02 Baterías 12v

#### 1.3.1. Especificaciones Técnicas: GPS

| ESPECIFICACIONES<br>TÉCNICAS    | EQUIPO GPS    |
|---------------------------------|---------------|
| Tipo de Receptor                | Leica         |
| Precisión en modo Dif. Estático | 0.005m + 1ppm |
| Coeficiente de Observación      | 10 seg.       |
| Tiempo de Posicionamiento       | 120 minutos   |
| Doble Frecuencia                | L1-L2         |
| Número de Canales               | 12            |
| Distancia Máxima                | 200           |
| Número de Satélites Visibles    | > 4           |
| GDOP                            | 2             |
| SNR Mask                        | 15°           |

## 1.4. SOFTWARE

Para el procesamiento de los datos GPS y cálculos respectivos se uso el software de Leica SKI v2.3

## 1.5. RECURSOS HUMANOS

- 02 Operadores GPS, 01 Chofer, 01 Ayudante.

## II. PROCEDIMIENTO Y EJECUCION

### 2.1. PLANEAMIENTO

En esta etapa se ha recopilado información del punto GPS Oficial, PARCOY (Ficha Técnica) con la ubicación y descripción de la misma; el cual fue proporcionado por el Instituto Geográfico Nacional con la respectiva descripción y ubicación.

El criterio para el posicionamiento ha tenido en consideración los requerimientos de precisión para puntos de control.

### 2.2. TRABAJOS DE CAMPO

Se ha enlazado desde la estación PARCOY de Orden "B", su valor con coordenadas son integrantes de la DATA GPS en la medición para su procesamiento, dicha coordenada es la siguiente:

#### ESTACION DE REFERENCIA-BASE

| Estación | Coordenadas Geodésicas: WGS-84 |                     |             | Orden | N° Hoja |
|----------|--------------------------------|---------------------|-------------|-------|---------|
|          | Latitud                        | Longitud            | HGT Geoidal |       |         |
| PARCOY   | 08° 01' 19.17973" S            | 77° 28' 29.53310" W | 2923.4929   | "B"   | 17 -i   |

Para efectuar el posicionamiento de los puntos de control desde la estación de "Referencia – Base"; las sesiones son continuas, se miden mediante traslocación a los puntos de interés denominado "móviles", con sesiones de observación de 120 minutos en promedio, mediante el método estático, y su corrección diferencial logra precisiones relativas al milímetro.

### 2.3 . CALCULOS DE GABINETE

La información satelital obtenida en campo se transfiere a una computadora para realizar el post proceso con el software GPS SKI 2.3, obteniendo coordenadas WGS84, correspondientes a la zona 18 para el control horizontal; y la ondulación EGM96 para el control vertical.

Las mediciones Diferenciales GPS, están afectadas por errores sistemáticos, cuyos errores son eliminados por el posicionamiento diferencial (relativo) en el modo estático. Para este proyecto se ha trabajado con la precisión requerida para mediciones con DGPS (Diferencial).

### III. RESULTADOS

a) Coordenada obtenida de la medición en el Sistema WGS-84:

| Id Punto   | Latitud            | Longitud            | Alt. Ellip |
|------------|--------------------|---------------------|------------|
| PARCOY     | 8° 01' 19.17973" S | 77° 28' 29.53310" W | 2923.4929  |
| LAS RUINAS | 8° 07' 50.85906" S | 77° 22' 34.40433" W | 2864.8531  |
| NERIDA     | 8° 07' 42.21657" S | 77° 22' 30.35883" W | 2782.8517  |

| Id Punto   | ESTE        | NORTE        | ALT.GEOIDAL | N(egm96) |
|------------|-------------|--------------|-------------|----------|
| PARCOY     | 227203.8543 | 9112448.0505 | 2906.7825   | 16.7104  |
| LAS RUINAS | 238153.6919 | 9100474.3227 | 2848.9169   | 15.9362  |
| NERIDA     | 238276.0332 | 9100740.6719 | 2766.9153   | 15.9364  |

Una vez obtenidos estos Resultados se Transformaron al DATUM PSAD56 con los parámetros del Registro Publico de Minería.

<http://www.inacc.gob.pe/transformaciones/transforma.html>

| Id Punto   | Latitud             | Longitud            |
|------------|---------------------|---------------------|
| LAS RUINAS | 8° 07' 38.733139" S | 77° 22' 26.64592" W |
| NERIDA     | 8° 07' 30.090507" S | 77° 22' 22.60024" W |

| Id Punto   | ESTE         | NORTE         | ALT.GEOIDAL |
|------------|--------------|---------------|-------------|
| LAS RUINAS | 238378.74852 | 9100838.35511 | 2848.9169   |
| NERIDA     | 238501.10305 | 9101104.71067 | 2766.9153   |

#### 3.1 EVALUACION DE RESULTADOS:

- La geometría de los satélites en el espacio ha sido buena, ya que el PDOP y el GDOP han fluctuado entre los valores 1.9 a 3.5, teniendo como referencia buenos resultados con valores inferiores a 8.

### IV. CONCLUSIONES Y RECOMENDACIONES

- Respecto a la altura (h) y a fin de referir esta a la Carta Nacional, no es conveniente enlazar con los vértices geodésicos, lo aconsejable es enlazar con la Red de Nivelación (B.M.).
- Se calculo la ondulación (N), en base a las coordenadas geográficas del sistema WGS84, para hallar la altura Geoidal, verificandose que este resultado sea idéntico al de la cartilla del IGN del punto PARCOY.

#### ANEXOS:

- Reporte de post proceso de los puntos de control.
- Fichas de los puntos geodésicos LAS RUINAS y NERIDA.



## COORDENADAS

**Unidades:** Metros  
**Coordenadas tipo:** Geodésicas  
**Elipsoide de Referencia:** WGS 1984  
**Zona de Proyección:** 18

| Id Punto   | Latitud |    |              | Longitud |     |             | Alt. Elipsoidal | N (EGM96) |
|------------|---------|----|--------------|----------|-----|-------------|-----------------|-----------|
| PARCOY     | 8°      | 1' | 19.179730" S | 77°      | 28' | 29.53310" W | 2923.4929       | 16.7104   |
| LAS RUINAS | 8°      | 7' | 50.859061" S | 77°      | 22' | 34.40433" W | 2864.8531       | 15.9362   |
| NERIDA     | 8°      | 7' | 42.216577" S | 77°      | 22' | 30.35883" W | 2782.8517       | 15.9364   |

**Coordenadas tipo:** UTM

| Id Punto   | Este        | Norte        | Alt. Geoidal |
|------------|-------------|--------------|--------------|
| PARCOY     | 227203.8543 | 9112448.0505 | 2906.7825    |
| LAS RUINAS | 238153.6919 | 9100474.3227 | 2848.9169    |
| NERIDA     | 238276.0332 | 9100740.6719 | 2766.9153    |

| Id Punto   | Angulo (gra)<br>Convergencia | Factor<br>Grilla | Factor<br>Elevación | Factor<br>Combinado |
|------------|------------------------------|------------------|---------------------|---------------------|
| LAS RUINAS | 0° 20' 10.571487" E          | 1.00044862       | 0.99954979          | 0.99999820          |
| NERIDA     | 0° 20' 09.643481" E          | 1.00044783       | 0.99956266          | 1.00001029          |

Nota: Las transformaciones al PSAD56 estan realizadas con los 13 parametros del Registro Publico de Minería  
<http://www.inaco.pob.pe/transformaciones/transforma.html>

**Coordenadas tipo:** Geodésicas  
**Elipsoide de Referencia:** PSAD 56  
**Zona Catastral:** 18-W-III

| Id Punto   | Latitud |    |             | Longitud |     |             |
|------------|---------|----|-------------|----------|-----|-------------|
| LAS RUINAS | 8°      | 7' | 38.73314" S | 77°      | 22' | 26.64592" W |
| NERIDA     | 8°      | 7' | 30.09051" S | 77°      | 22' | 22.60025" W |

**Coordenadas tipo:** UTM

| Id Punto   | Este        | Norte       | Alt. Geoidal |
|------------|-------------|-------------|--------------|
| LAS RUINAS | 238378.7485 | 9100838.355 | 2848.9169    |
| NERIDA     | 238501.1031 | 9101104.711 | 2766.9153    |



**ANEXO N° 2:**  
**FOTOGRAFIAS Y DESCRIPCION MACROSCOPICA**  
**DE MUESTRAS ESPECIALES CON ESTUDIOS**  
**PETROGRAFICOS Y MINERAGRAFICOS**



**MERENDON DE PERU S.A.**  
DEPARTAMENTO DE EXPLORACIONES GEOLOGICO MINERAS

**PROYECTO LOS HORNOS**

**II ETAPA**

**MUESTRAS ESPECIALES (SECCIONES DELGADAS Y PULIDAS)**

| Muestra N° | COORDENADAS |              | ALTITUD (msnm) | ROCA     | OBSERVACIONES   | REFERENCIA    |
|------------|-------------|--------------|----------------|----------|---|---------------|
|            | Este        | Norte        |                |          |   |               |
| ME-01      | 238,500.37  | 9,101,452.86 | 2,762.50       | Gdl      | Grano fino (ve), Femg cltz 25%, py fina diss, en mvnlis y rellenando alg fract  | M-416, CR-564 |
| ME-02      | 238,561.37  | 9,101,954.45 | 2,865.51       | Gr       | Sil débil, Ser débil, Arg débil, Cfts diss y hem (ro) rellenando fract  | M-077         |
| ME-03      | 238,519.45  | 9,101,616.75 | 2,865.23       | Ton-P    | Grano grueso (ve), cortes basales de xls Qz   | M-093         |
| ME-04      | 238,410.57  | 9,101,526.28 | 2,876.13       | Gdl      | Grano fino (ve), Femg cltz 20%, mvnlis ep, hem (ro) en alg fract  | M-130         |
| ME-05      | 238,369.15  | 9,101,448.79 | 2,881.94       | Gr       | Sil fuerte, lm (pa) en fract y mfract, alg vnls mm de sílice  | M-151         |
| ME-06      | 238,349.34  | 9,101,460.11 | 2,900.52       | Gdl      | Vt, pot 10cm, Qz (bl), ser, ox 7% lm (pa) y hem (ro) en fract y oquedades   | M-179         |
| ME-07      | 238,352.06  | 9,101,460.56 | 2,899.17       | Gdl      | Caja techo, vnls 0.8-2cm, Qz (bl), py mass granular <1%, ser, lm (pa) 2% y hem (ro) <1% en fract  | M-180         |
| ME-08      | 238,352.06  | 9,101,460.56 | 2,899.17       | Gdl      | Vnls fract, 1cm, Qz (bl) y clts en mvnlis   | M-180         |
| ME-09      | 238,663.96  | 9,101,793.96 | 2,922.00       | Ton-P    | Vt, pot 11cm, Qz (bl), lm (pa) 1% en fract, ser en frag de roca. Contacto ser moderada. Caja, cortes basales de xls Qz y orbicular, vnls Qz (bl), 0.5-0.8cm, py cubica oxid puntual | Vt Galileo    |
| M-727      | 238,433.99  | 9,101,707.19 | 2,899.13       | Meta-Gdl | Sil fuerte, Ser débil-mod, Arg débil, Py cubica diss oxid, lm (pa) en fract   | M-727         |
| M-727-A    | 238,433.99  | 9,101,707.19 | 2,899.13       | Meta-Ton | Sil fuerte, Ser débil-mod, Arg débil, Py cubica diss oxid, lm (pa) en fract   | M-727         |
| M-830      | 238,267.01  | 9,101,216.57 | 2,903.39       | Gr       | Ser débil, Arg débil, Cfts 4% diss, lm (pa) en fract y miz  | M-830         |
| M-269      | 238,890.93  | 9,101,756.58 | 2,802.46       | Dio-Qzf  | Grano fino, clts, ep 3% diss  | M-269         |
| M-277      | 238,441.61  | 9,101,707.74 | 2,896.53       | Gdl      | Sil mod-fuerte, Ser débil, Arg débil, Cfts 1% diss y alg palinas, frag Qz (bl), lm (pa) en fract  | M-277         |
| M-777      | 238,552.40  | 9,101,854.96 | 2,953.58       | Gr       | Sil mod, Ser débil, Craquelado, hm (ro) en fract, Cfts 2% vnls mm, fract y diss, ep 2% en vnls mm y fract, vnls mm si (bl) puntual  | M-777         |
| M-569      | 238,498.88  | 9,101,892.27 | 2,954.85       | Ton-P    | Grano grueso (ve), cortes basales de xls Qz, clts diss, disgregación granular débil, lm (pa) en fract   | M-569         |

**ABREVIATURAS**

| MINERALES |                 | COLORES    |               |
|-----------|-----------------|------------|---------------|
| clts      | Cloritas        | bl         | Blanco        |
| ep        | Epidota         | roj        | Rojo          |
| Femg      | Ferromagnesiano | ve         | Verde         |
| hm        | Hematitas       |            | VARIOS        |
| lm        | Limonitas       | alg        | Algunas       |
| py        | Pirita          | Craquelado | Craquelado    |
| Qz        | Cuarzo          | diss       | Diseminado    |
| ser       | Sercolita       | fract      | Fractura      |
|           |                 | med        | Medio         |
|           |                 | mfract     | Microfractura |
|           |                 | mm         | Millimétrica  |
|           |                 | mod        | Moderada      |
|           |                 | miz        | Matriz        |
|           |                 | mvnlis     | Microvenillas |
|           |                 | oxid       | Oxidada       |
|           |                 | peq        | Pequeña       |
|           |                 | pot        | Potencia      |
|           |                 | vnls       | Venillas      |
|           |                 | Vt         | Veta          |
|           |                 | xls        | Cristales     |

| LITOLOGIA |                      |
|-----------|----------------------|
| Gdl       | Granodiorita         |
| Gr        | Granito              |
| Ton-P     | Tonalita Porfiritica |
| Dio-Qzf   | Diorita Cuarzifera   |

| ALTERACION |              |
|------------|--------------|
| Sil        | Silificación |
| Ser        | Seritización |
| Arg        | Argilización |
| Cltz       | Cloritizados |





**PROYECTO LOS HORNOS**  
**II ETAPA**  
**MUESTRAS ESPECIALES CON ESTUDIOS DE MICROSCOPIA**

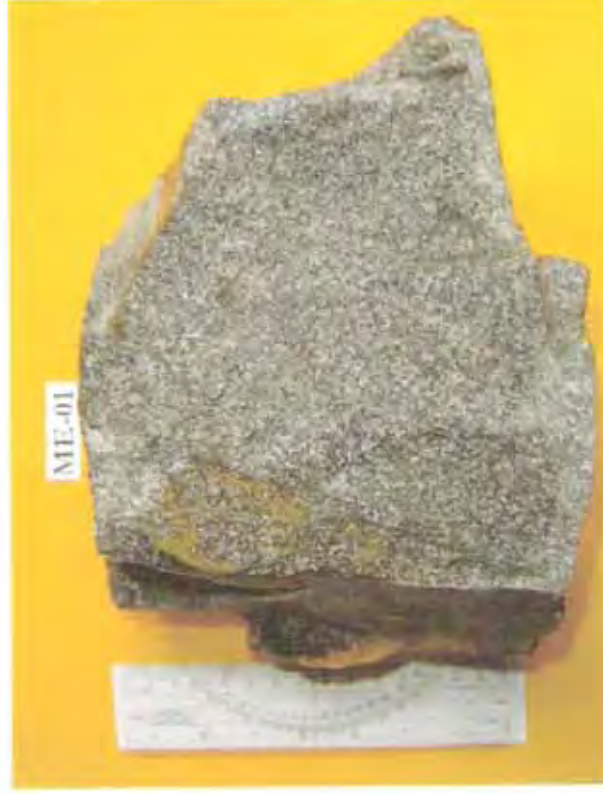


Foto N° 1: ME- 01: Granodiorita.



Foto N° 2: ME- 02: Granito.



**PROYECTO LOS HORNOS**  
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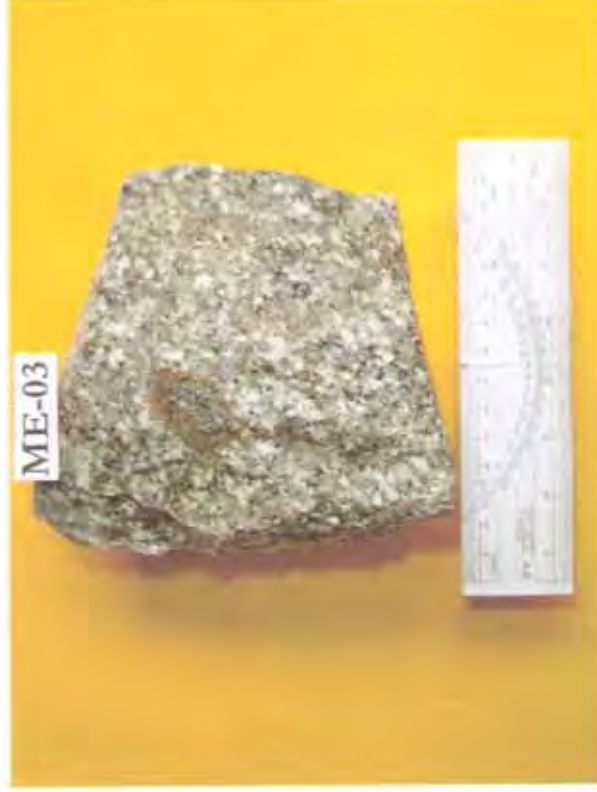


Foto N° 3: ME- 03: Tonalita porfiritica.



Foto N° 4: ME- 04: Granodiorita.





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Foto N° 5: ME- 05: Granito silicificado.



Foto N° 6: ME- 06: Veta de cuarzo en granodiorita.

**PROYECTO LOS HORNOS**  
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Foto N° 7: ME- 05: Granodiorita con vetillas de cuarzo.



Foto N° 8: ME- 08: Vetillas de cuarzo en granodiorita.



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Foto N° 9: ME- 09: Veta de cuarzo en tonalitas.



Foto N° 10: ME- 727: Silicificación en granodiorita.



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Foto N° 11: ME- 630: Granito.



Foto N° 12: ME- 269: Diorita cuarcífera.



**PROYECTO LOS HORNOS**  
**II ETAPA**  
MUESTRAS ESPECIALES CON ESTUDIOS DE MICROSCOPIA



Foto N° 13: ME- 277: Granodiorita silicificada

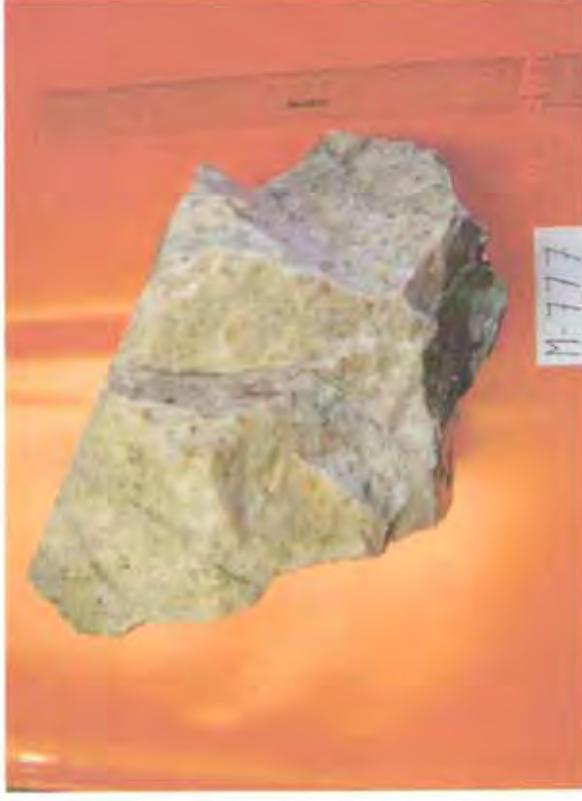


Foto N° 14: ME- 777: Granito silicificado





**PROYECTO LOS HORNOS**  
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**MUESTRAS ESPECIALES CON ESTUDIOS DE MICROSCOPIA**



**Foto N° 15: ME- 569: Tonalita porfiritica**



**ANEXO N° 3:**  
**INFORME DE ESTUDIOS PETROGRAFICOS Y**  
**MINERAGRAFICOS**

**(Dra. Gladys Ocharan)**

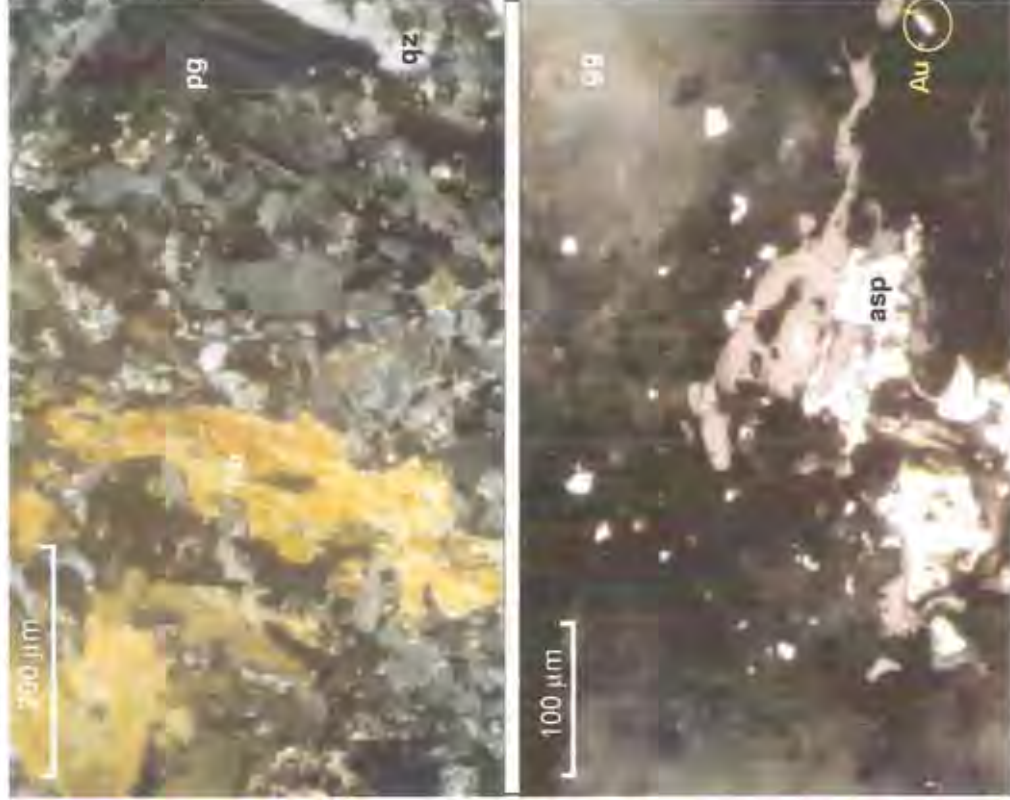
## Estudio petrográfico - minerográfico de nueve muestras

|         |        |
|---------|--------|
| ME - O1 | M - O6 |
| ME - O2 | M - O7 |
| ME - O3 | M - O8 |
| ME - O4 | M - O9 |
| M - O5  |        |

(MERENDON DEL PERU S.A.)

Septiembre 2006 (0906/053)

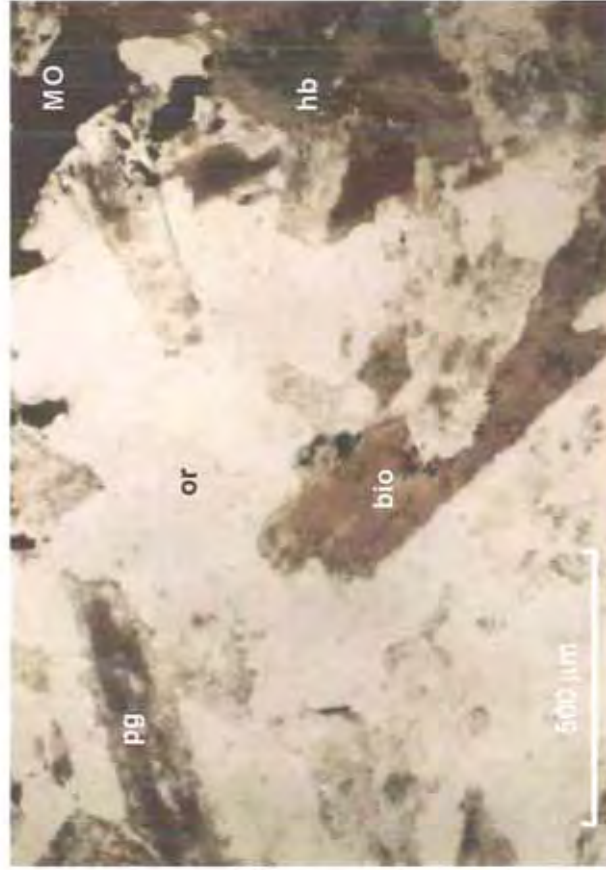
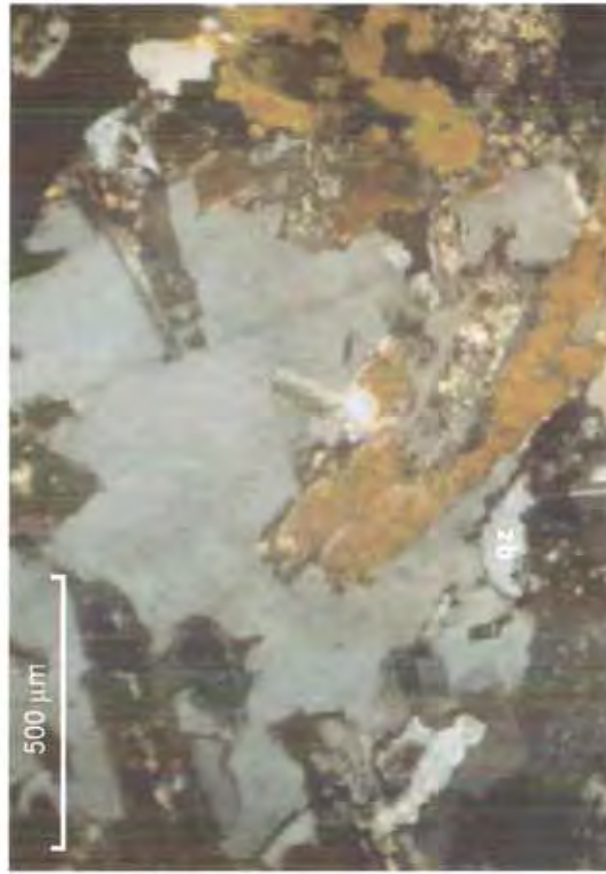
**Myap**  
MINERALOGIA APLICADA



|  |  |  |   |
|--|--|--|---|
| MUESTRA ME - 01  |  |  |   |
| CLASIFICACION Granodiorita   |  |  |   |
| COMPOSICION  |  | MINERALIZACION Fe-As, (Ti, Au) moderada  |   |
| Minerales Principales  |  | Accesorios   | Trazas  |
| <b>Plagioclasa (pg)</b> : Ocurre en cristales elongados, maclados, algunos zonados, microfracturados; sericitizados, en parte argilitizados, y ligeros signos de silicificación y carbonatación; con inclusiones de epidota que se ubican a lo largo de los planos de macla. |  | <b>Hornblenda (hb)</b> : En cristales desarrollados, maclados, algunos zonados, en ciertos casos con sus bordes epidotizados.  | Apatita<br>Rutilo<br>Hematita (hm)<br>Oro Nativo  |
| <b>Cuarzo (qz)</b> : Cristales anhedral de ocurrencia intersticial; en parte de textura gráfica cuando está intercedido con la ortoclasa, también es microcristalino de reemplazamiento.   |  | <b>Biotita (bio)</b> : Subordinada a la hornblenda como cristales subhedral, están total o parcialmente cloritizadas con una fina diseminación de opacos y rutilo a lo largo de los planos de clivaje.   | *) en relación a los planos de clivaje en los ferromagnesianos; también se observa pequeñas trazas de muy escasas partículas de oro nativo que no superan a las 5 micras. |
| <b>Ortoclasa (or)</b> : Subhedral con macla de Carlsbad y bordes mirmequíticos, es también anhedral muy desarrollada que engloba a plagioclasa, biotita y hornblenda   |  | <b>Minerales Opacos (MO)</b> : Moderada mineralización fundamentalmente de arsenopirita (asp), pirrita (py), magnetita (mt), desarrollada y en fina diseminación, con algunos bordes ligeramente oxidados (hematita), con microcristales de rutilo con preferente orientación *) |   |
| <b>TEXTURA</b> Holocristalina e hipidiomórfica, en parte gráfica con venillas de epidota y/o cuarzo  |  |  |   |
| <b>ALTERACION</b> Moderada sericitización; ligera argilitización, silicificación, epidotización, carbonatación, cloritización y oxidación.   |  |  |   |
| Minerales de alteración: Sericita, cuarzo, epidota, arcilla, calcita, clorita, hematita  |  |  |   |

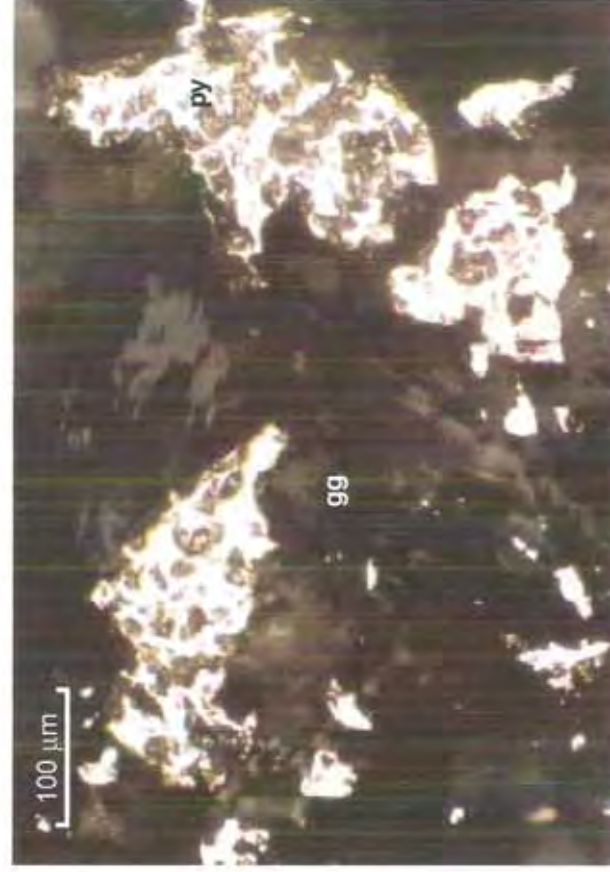
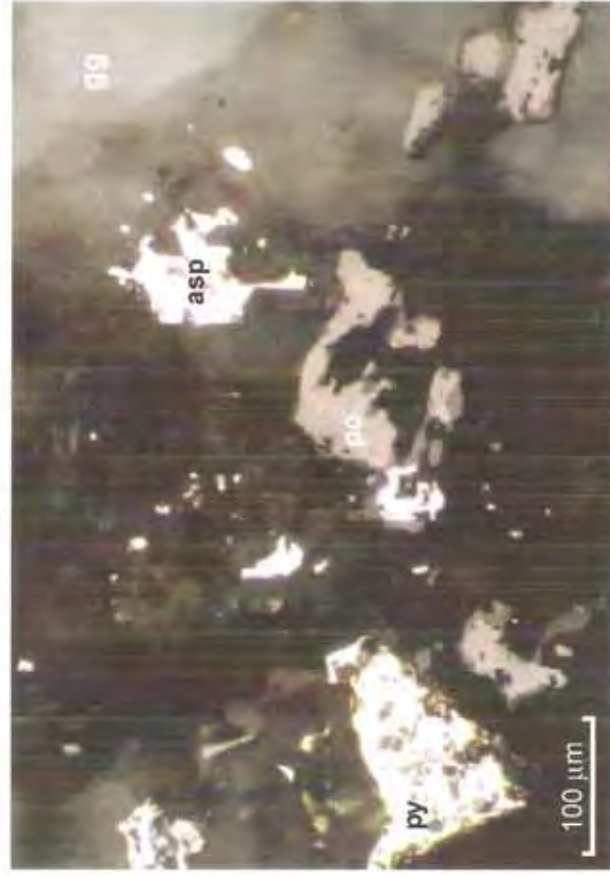


MUESTRA ME - 01



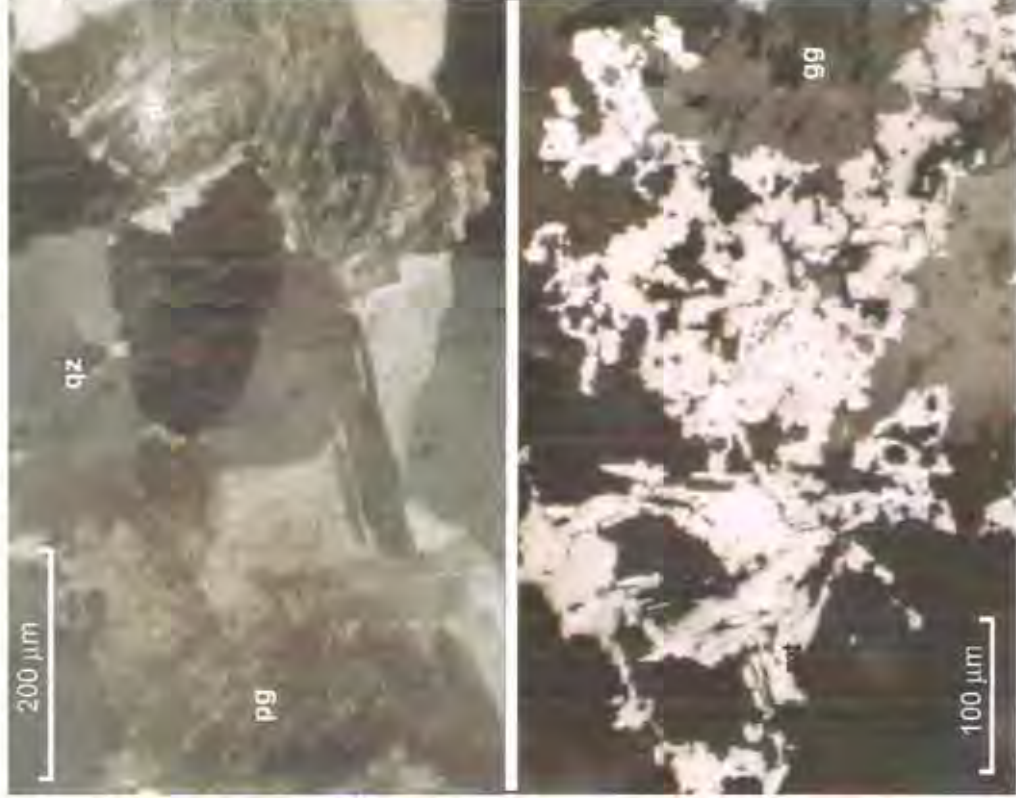


MUESTRA ME - 01



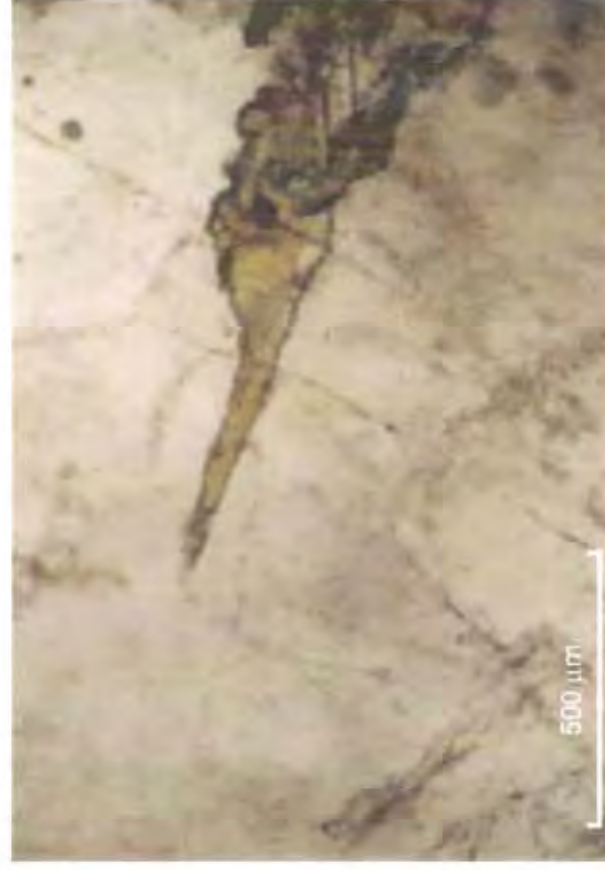
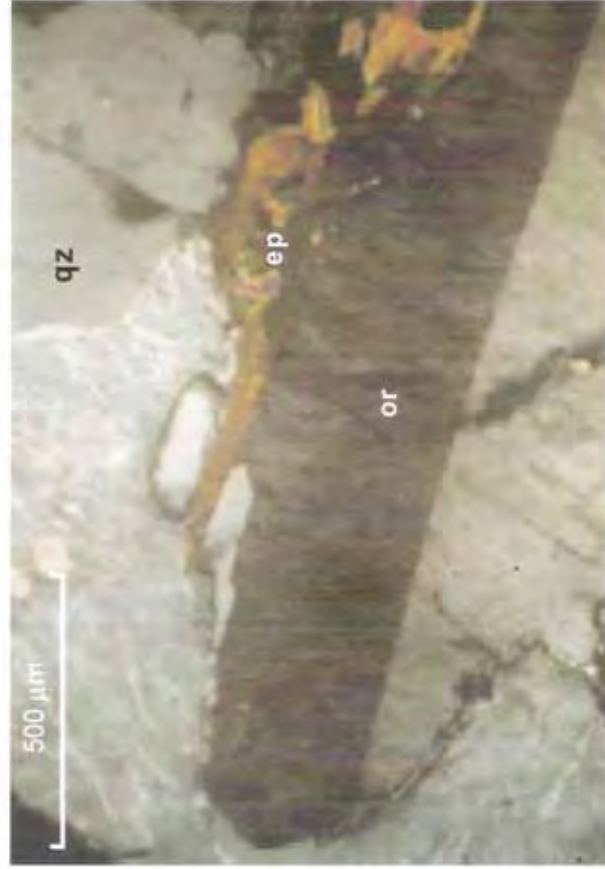
ESTUDIO PETROGRAFICO - MINERAGRAFICO

(MERENDON DEL PERU.S.A.)



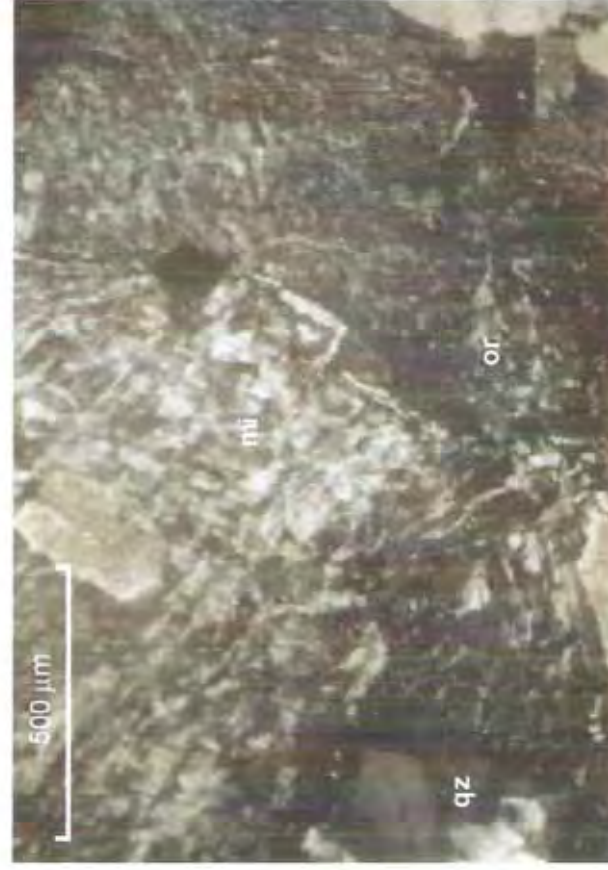
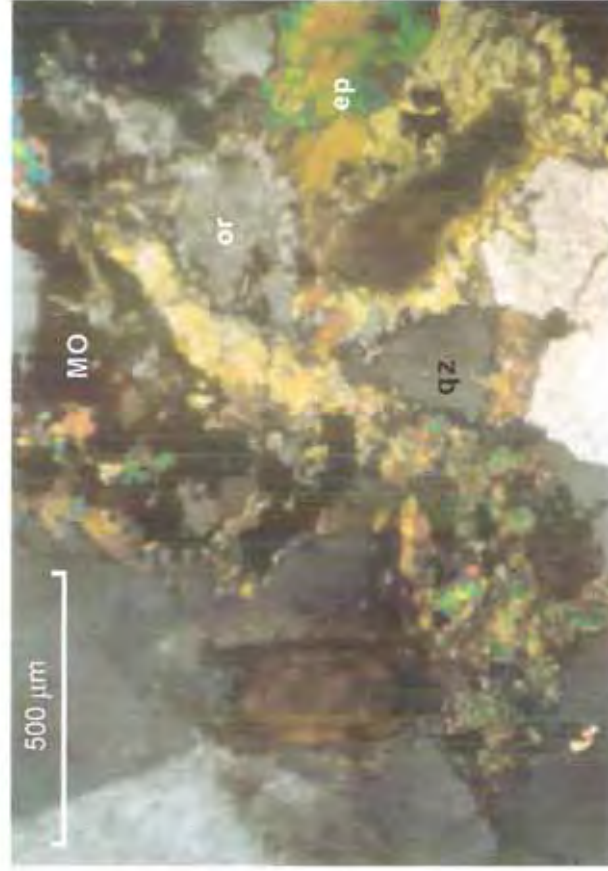
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|---|--|---|--|
| MUESTRA ME - 02   |  |   |  |
| CLASIFICACION Granito   |  |   |  |
| COMPOSICION   | MINERALIZACION Fe, (Ti) débil  |   |  |
| Minerales Principales   | Accesorios   | Trazas  |  |
| <i>Ortoclasa (or)</i> : ~55%, ocurre en cristales de diferente forma y tamaño, por lo general, con diámetros que superan a las 900 micras y menos frecuentemente de no más de 200 micras; algunos están maclados, moderadamente argilitizados y con crecimientos mirmequiticos.<br><i>Cuarzo (qz)</i> : ~30%, cristales anhedrales desarrollados, de ocurrencia intersticial; y microcristalino de reemplazamiento.<br><i>Plagioclasa (pg)</i> : ~10%, cristales subhedrales con bordes de reacción, están macladas, zonadas, microfracturadas, moderadamente argilitizadas e incipientemente sencitizadas. | <i>Epidota (ep)</i> : Conforman parte de xenolitos que han sido digeridos por el granito, se presentan como cristales agrupados de ocurrencia intersticial.<br><br><i>Minerales Opacos (MO)</i> : Débil mineralización de magnetita (mt) desarrollada y en fina diseminación, reemplazada por hematita (hm), con microcristales aciculares de ilmenita (il) con preferente orientación. Muy localmente ocurrencia de pirrotina (po). Fina diseminación de rutilo (ru) y leucoxeno. | Apatita<br>Rutilo<br>Zircón<br>Leucoxeno<br><br>Pirrotina |  |
| TEXTURA Holocristalina e hipidiomórfica, con venillas de cuarzo   |  |   |  |
| ALTERACION  | Moderada argilitización; ligera silicificación, sencitización y oxidación.   |   |  |
| Minerales de alteración: Albita, cuarzo, epidota, arcilla, hematita   |  |   |  |

MUESTRA ME - 02

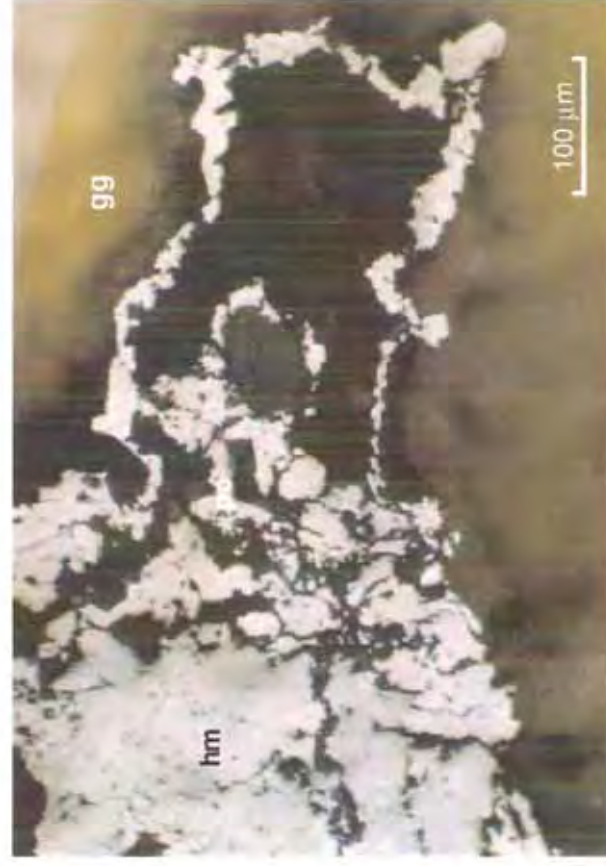
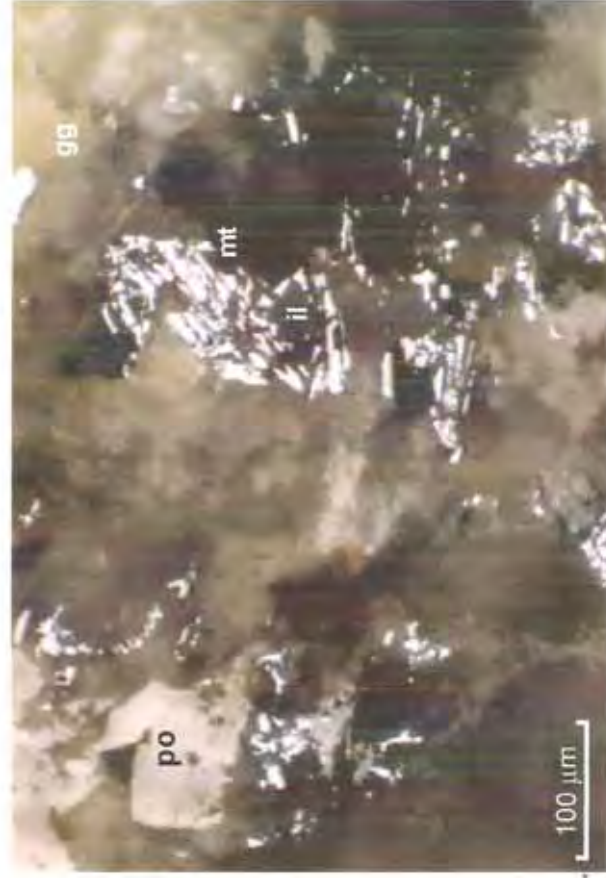




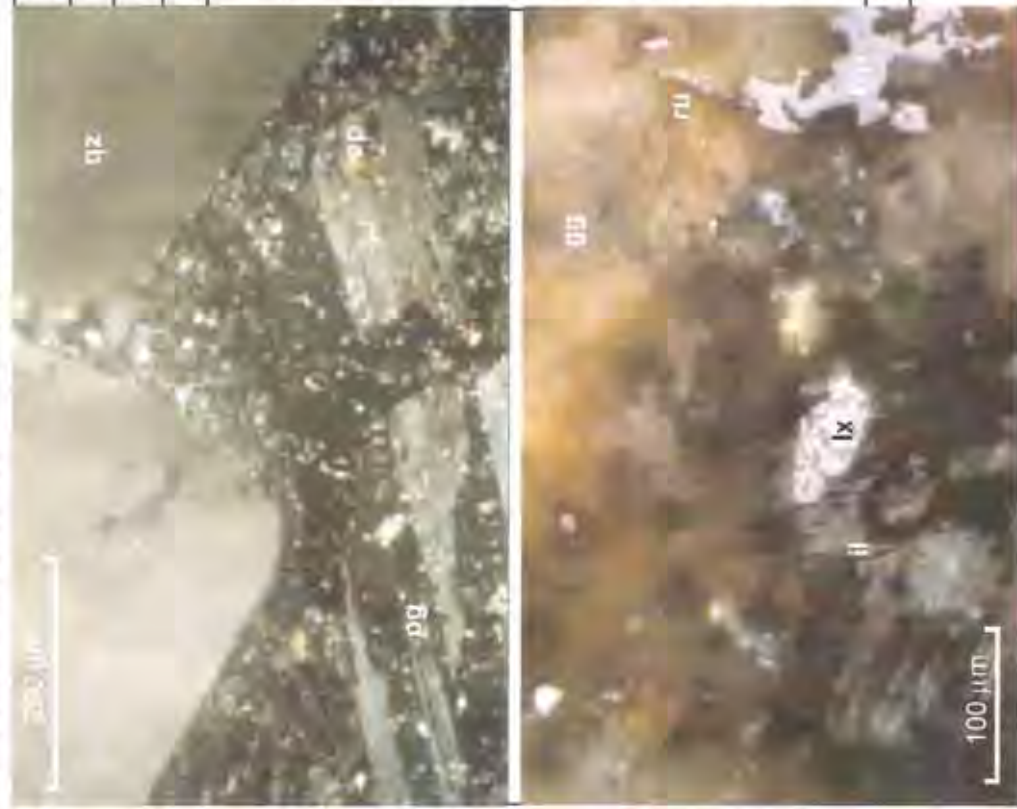
MUESTRA ME - 02



MUESTRA ME - 02





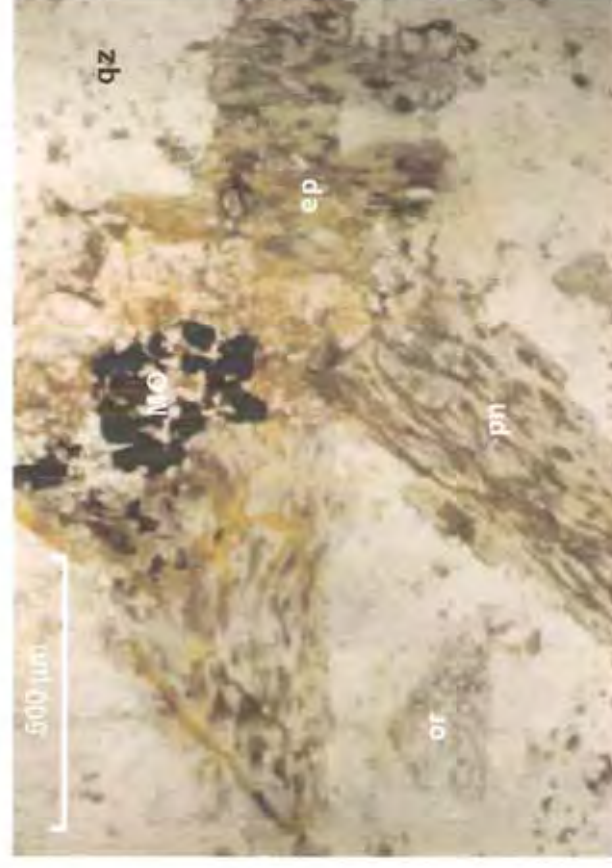
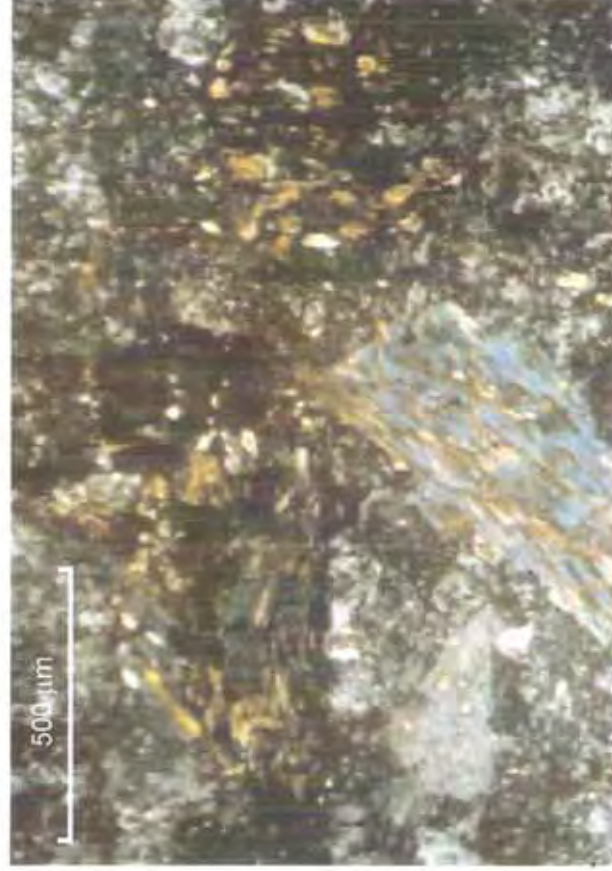


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| MUESTRA ME - 03  |  |  |  |
| CLASIFICACION Tonalita porfirítica (con xenolitos de diorita)  |  |  |  |
| COMPOSICION  |  | MINERALIZACION Fe, (Au, Ti), débil   |  |
| Minerales Principales  |  | Accesorios   | Trazas   |
| <p><b>Plagioclasa (pg):</b> ~60%, se observa claramente que es un porfido ya que los fenocristales están muy desarrollados y diferenciados de otros de menor desarrollo que conforman la matriz en una relación de 2:1, están macledados, zonados, parcialmente microfracturados; en parte y selectivamente sericitizados, otros localmente argilitizados o con alteración potásica (ortoclasa secundaria en la matriz).</p> <p><b>Cuarzo (qz):</b> ~25%, fenocristales en forma de «ojos» característicos de los cuerpos porfíricos, en microcristales intersticiales en la matriz y de recristalización.</p> |  | <p><b>Biotita (bio):</b> ~10%, fenocristales en parte microfracturados y reemplazados por clorita, pseudomorfos de ferromagnesianos totalmente reemplazados por epidota, calcita y opacos (alteración propilitica)</p> <p><b>Minerales Opacos:</b> Subhedral, anhedral, en fina disseminación. Se les reconoce como hematita (hm) y goethita; con trazas de ilmenita (il), rutilo (ru) y leucoxeno (lx). Muy escasas trazas de oro libre de no más de 10 micras, asociado al cuarzo.</p> | <p>Zircon<br/>Apatita<br/>Rutilo<br/>Leucoxeno*)</p> <p>Ilmenita<br/>Oro Nativo</p> <p>*) producto de alteración de ilmenita o titanomagnetita que es una mezcla fina entre anatasa, rutilo y titanita</p> |
| TEXTURA Porfirítica con matriz hocristalina, hipidiomórfica, con venillas de cuarzo y opacos.  |  |  |  |
| ALTERACION Modeada alteración potásica, sericitización, cloritización y silicificación; ligera epidotización, carbonatación, argilitización y oxidación.<br>Minerales de alteración: Sericitita, ortoclasa, cuarzo, arcilla, clorita, epidota, calcita y hematita  |  |  |  |

ESTUDIO PETROGRAFICO - MINERAGRAFICO

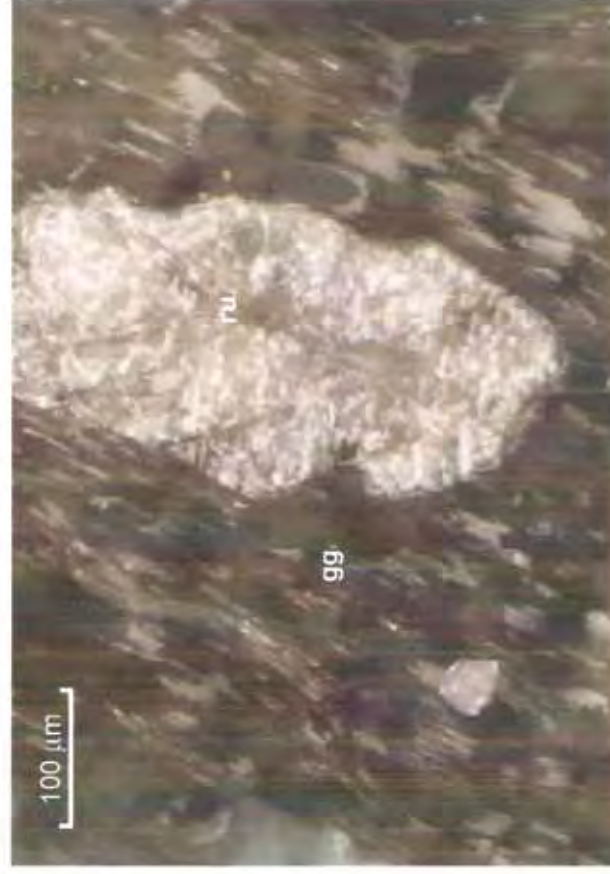
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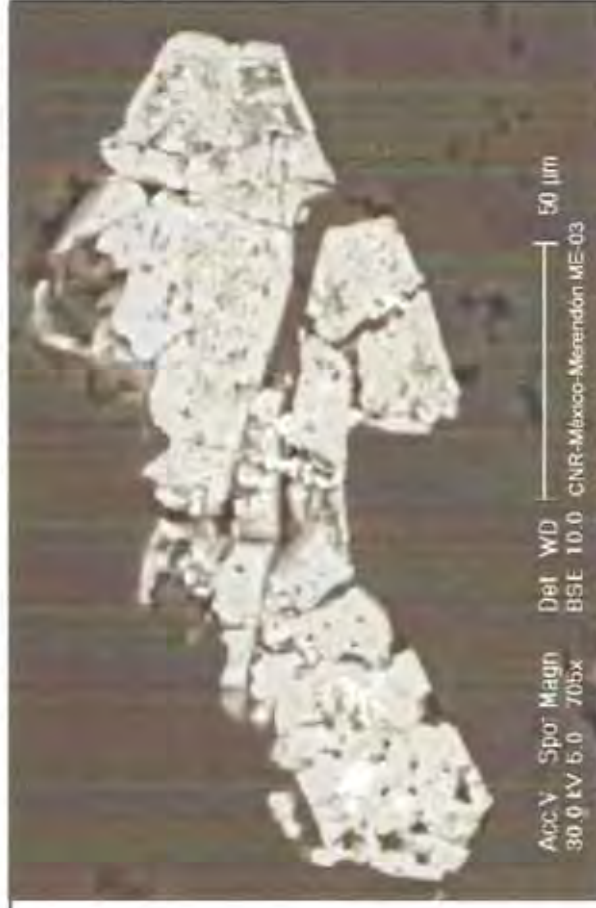
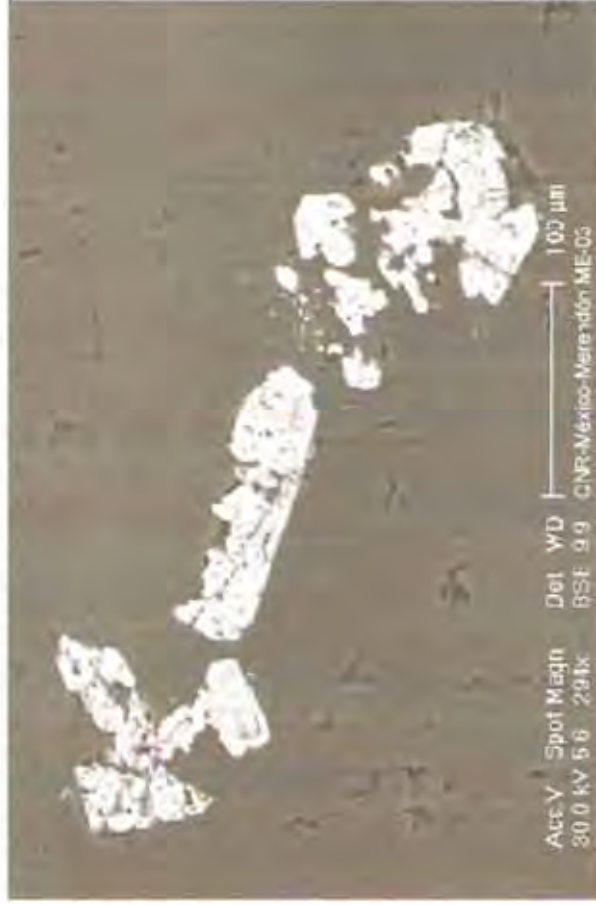
MUESTRA ME - 03





MUESTRA ME - 03



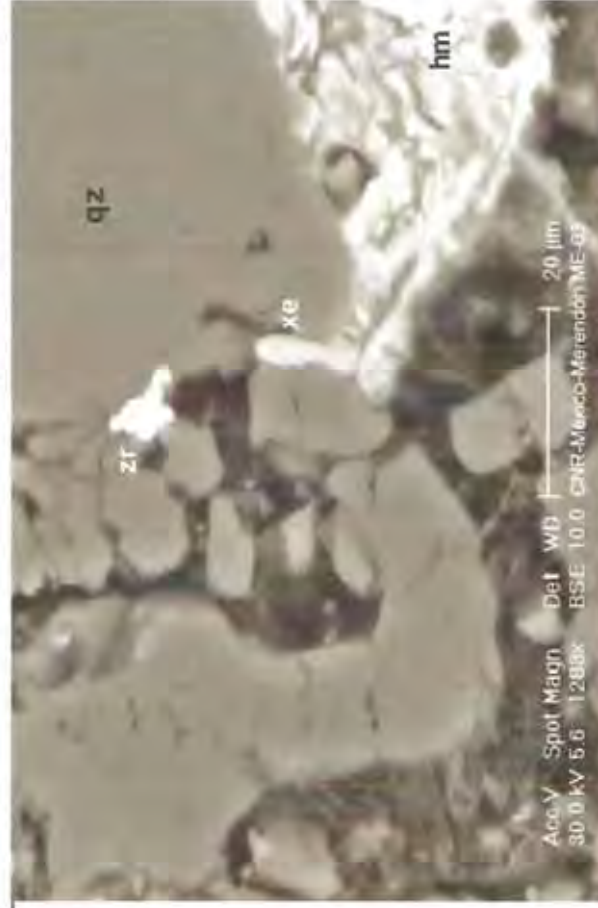
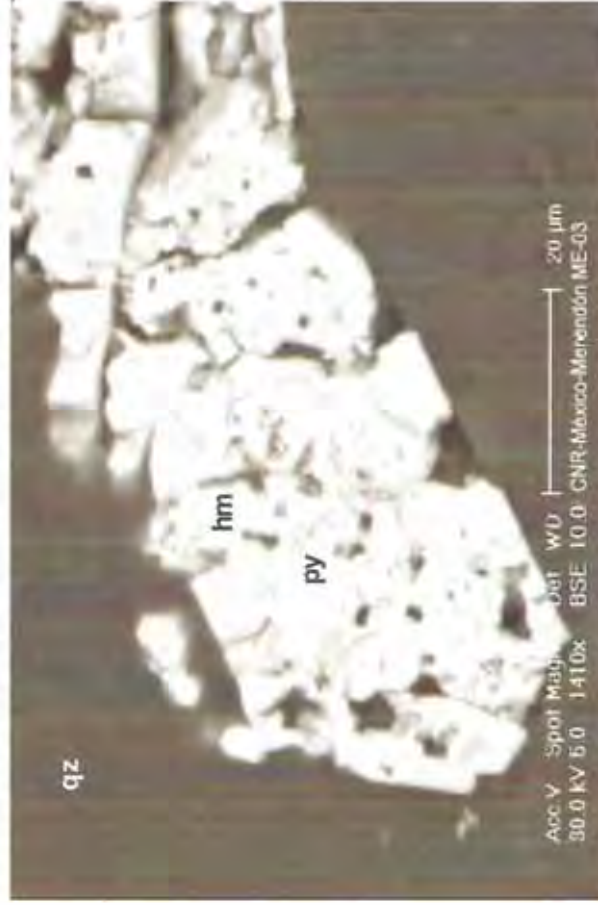


### Introducción

Las muestras fueron analizadas en un microscopio electrónico de barrido ambiental, modelo (ESEM XL30 + EDX4i) del Instituto Nacional de Rehabilitación del Distrito Federal - México (CNR), de FEI Company.

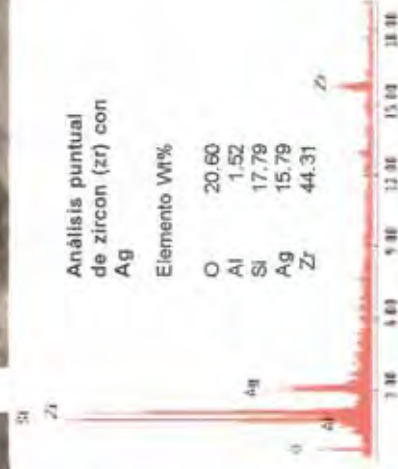
Para los análisis areales y puntuales en diferentes áreas de la muestra, se usó el detector de electrones retrodispersados (BSE); cabe indicar que este es un análisis elemental no destructivo y repetitivo (simultáneamente analiza 85 elementos comprendidos entre el boro y el uranio) que fueron efectuados para determinar la presencia de oro y otros elementos que estén relacionados con ellos. Los valores son dados en porcentaje de peso atómico de cada elemento (Wt%).

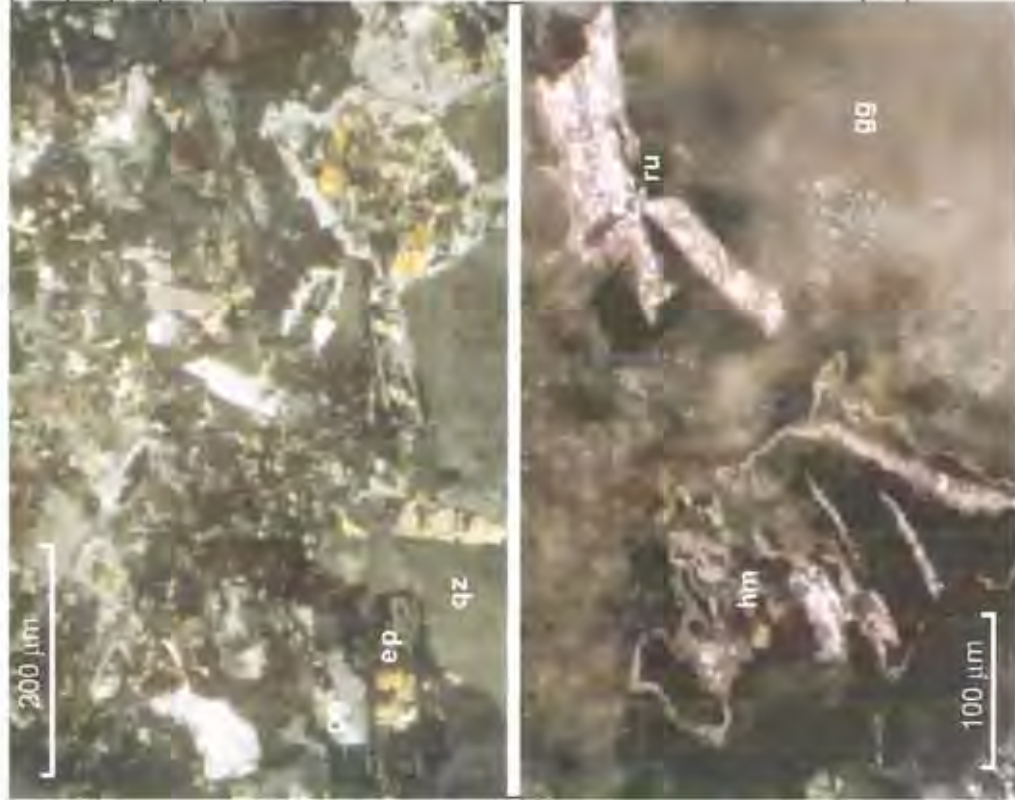




## MUESTRA ME - 03

Mayoritariamente son pseudomorfos de pirita que han sido reemplazadas por hematita (hm) y goethita (goe), de las cuales en ciertos casos sólo quedan las geoformas, con cuarzo. Las fases de algunas piritas están asociadas con la ocurrencia de trazas de partículas libres de oro, cuyo tamaño no excede de las 15 micras. También se observa una fina disseminación de cristales subhedrales de rutilo, leucóxeno e ilmenita. Pequeñas partículas que no sobrepasan a las 20 micras de trazas de xenotima y zircones con plata.

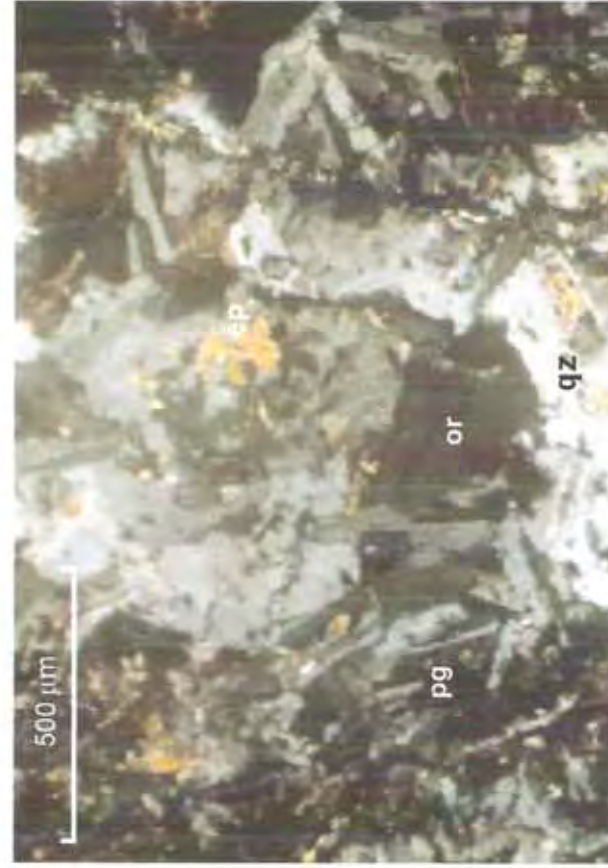
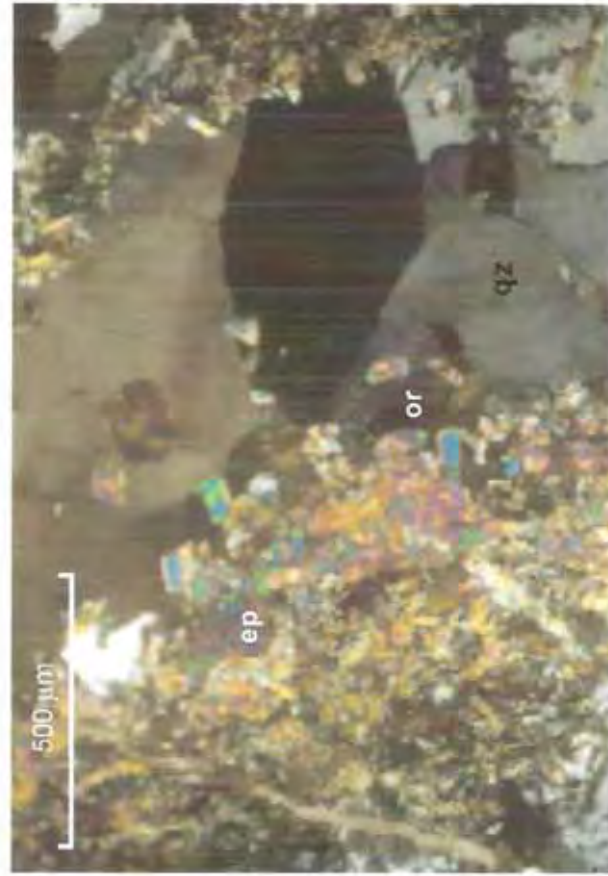




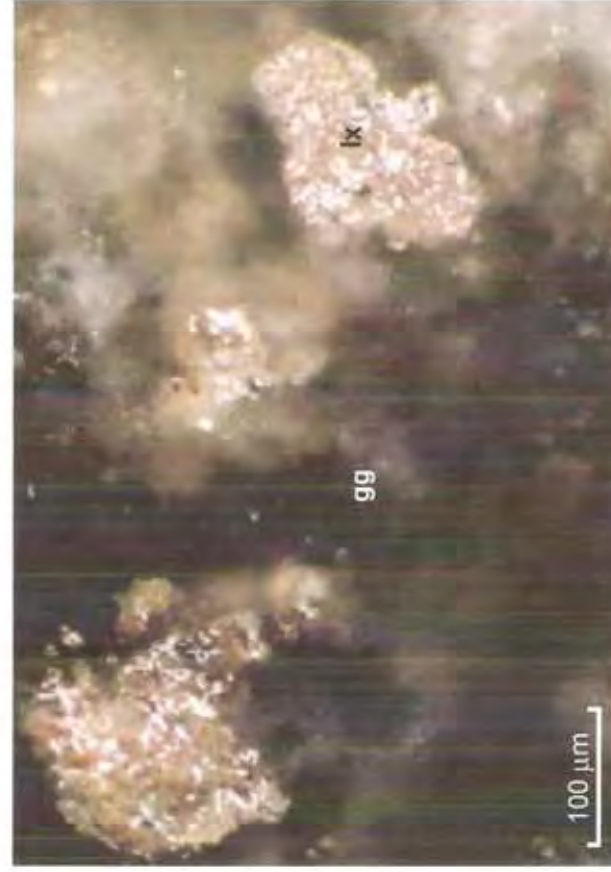
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|--|--|---|--|
| MUESTRA ME - 04  |  |   |  |
| CLASIFICACION Granodiorita   |  |   |  |
| COMPOSICION  |  | MINERALIZACION Fe, (Ti) débil   |  |
| Minerales Principales  |  | Accesorios  | Trazas                                     |
| <b>Plagioclasa (pg):</b> Cristales elongados, están maclados, algunos zonados, microfracturados, moderadamente argilitizados y con ligeros signos de sericitización y silicificación; contienen inclusiones de epidota que se ubica a lo largo de los planos de macia. |  | <b>Epidota (ep):</b> Cristales desarrollados de ocurrencia intersticial, en ciertos casos está reemplazando a antiguos ferromagnesianos de los cuales sólo quedan las geoformas con algo de clorita.<br><br><b>Minerales Opacos (MO):</b><br>Débil mineralización de hematita (h), con microcristales de rutilo con preferente orientación en relación a los planos de clivaje de los ferromagnesianos. | Apatita<br>Rutilo<br>Leucoxeno<br>Titanita |
| <b>Cuarzo (qz):</b> Anhedral y de ocurrencia intersticial; es también de reemplazamiento. Subhedral y anhedral en el relleno de venillas, otras están rellenas de epidota o de calcita, este enjambre de venillas le da a la roca una apariencia de brecha.            |  |   |  |
| TEXTURA Holocristalina e hipidiomórfica, en parte brechosa   |  |   |  |
| ALTERACION Moderada argilitización, ligera silicificación, sericitización, epidotización, cloritización, carbonatación y oxidación.<br>Minerales de alteración: Arcilla, cuarzo, epidota, calcita, clorita, hematita   |  |   |  |



MUESTRA ME - 04



MUESTRA ME - 04

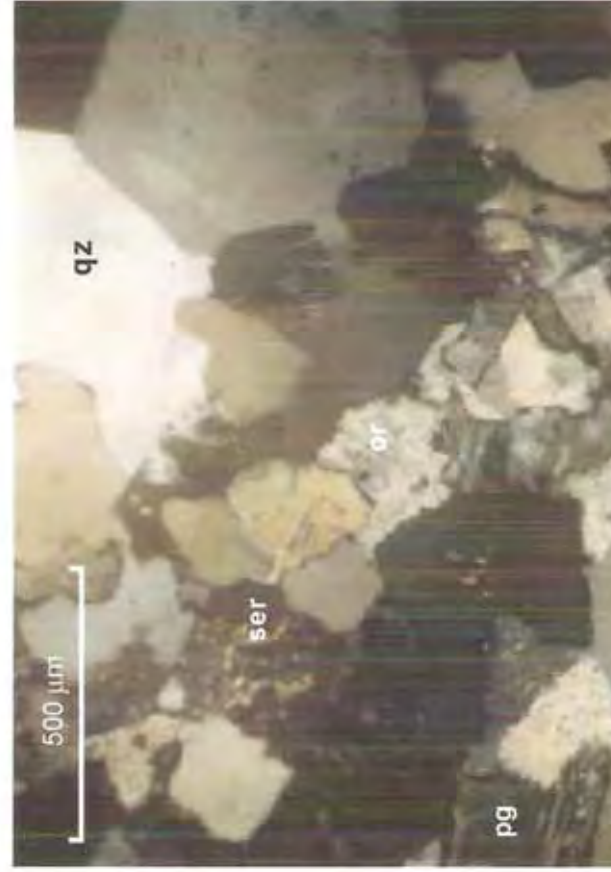
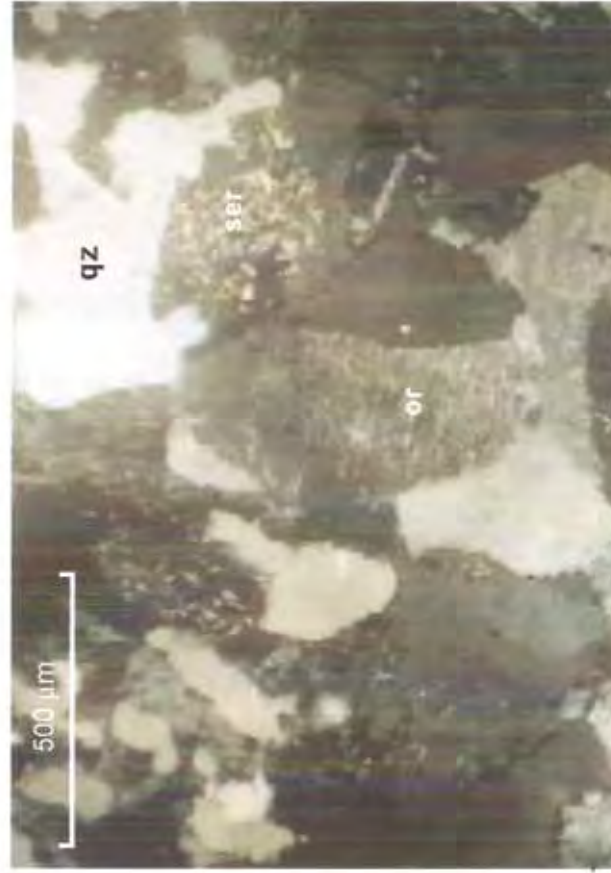




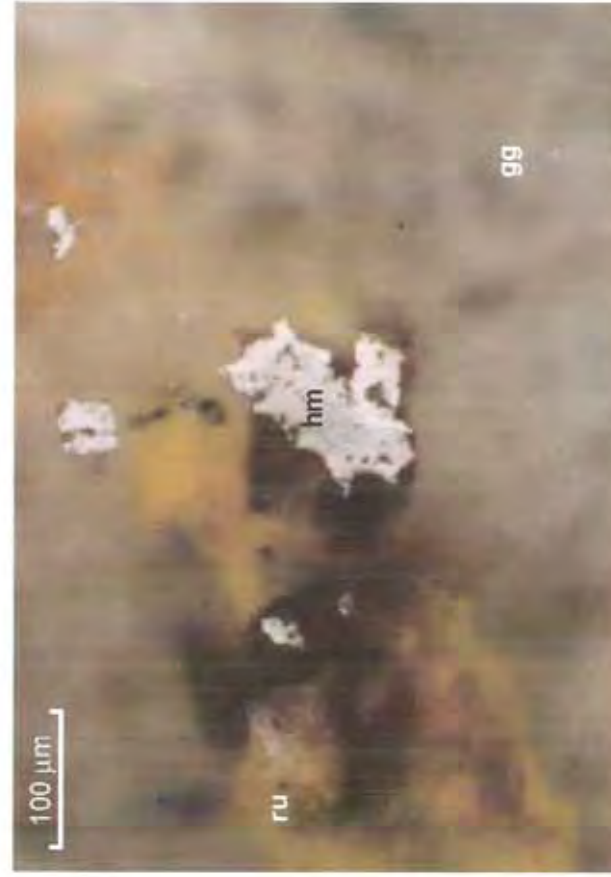


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| MUESTRA M - 05  |  |  |   |
| CLASIFICACION Granito   |  |  |   |
| COMPOSICION   |  | MINERALIZACION Fe, (Au, Ti, C) débil   |   |
| Minerales Principales   |  | Accesorios   | Trazas  |
| <p><b>Ortoclasa (or):</b> Cristales poco desarrollados y fragmentos de cristales, maclados, microfracturados, selectivamente argilitizados y bordes silicificados con <b>Microclina</b> subordinada.</p> <p><b>Cuarzo (qz):</b> Como cristales intersticiales, microcristalino producto del parcial reemplazamiento y en intercrecimientos micrográficos con la ortoclasa. En el relleno es sub y anhedral desarrollado, con trazas de oro</p> <p><b>Plagioclasa (pg):</b> Cristales subhedrales con bordes de reacción, están macladas, microfracturadas, moderadamente argilitizadas e incipientemente sericitizadas.</p> |  | <p><b>Minerales Opacos:</b> Subhedrales, anhedrales en el relleno hidrotermal con cuarzo y trazas de oro que no exceden de las 15 micras, con finísimas venillas de opacos oxidados. Rutilo (ru) y hematita (hm) en fina disseminación, a veces asociada a pequeñas partículas anhedrales de carbón.</p> | <p>Zircon</p> <p>Apatita</p> <p>Rutilo</p> <p>Leucoxeno</p> <p>Titanita</p> <p>Oro Nativo</p> <p>Carbón</p> |
| TEXTURA Holocristalina, hipidiomorfa con venillas de cuarzo, calcita.   |  |  |   |
| ALTERACION Moderada argilitización, ligera sericitización, silicificación y oxidación.  |  |  |   |
| Minerales de alteración: Arcilla, cuarzo, sericita, hematita  |  |  |   |

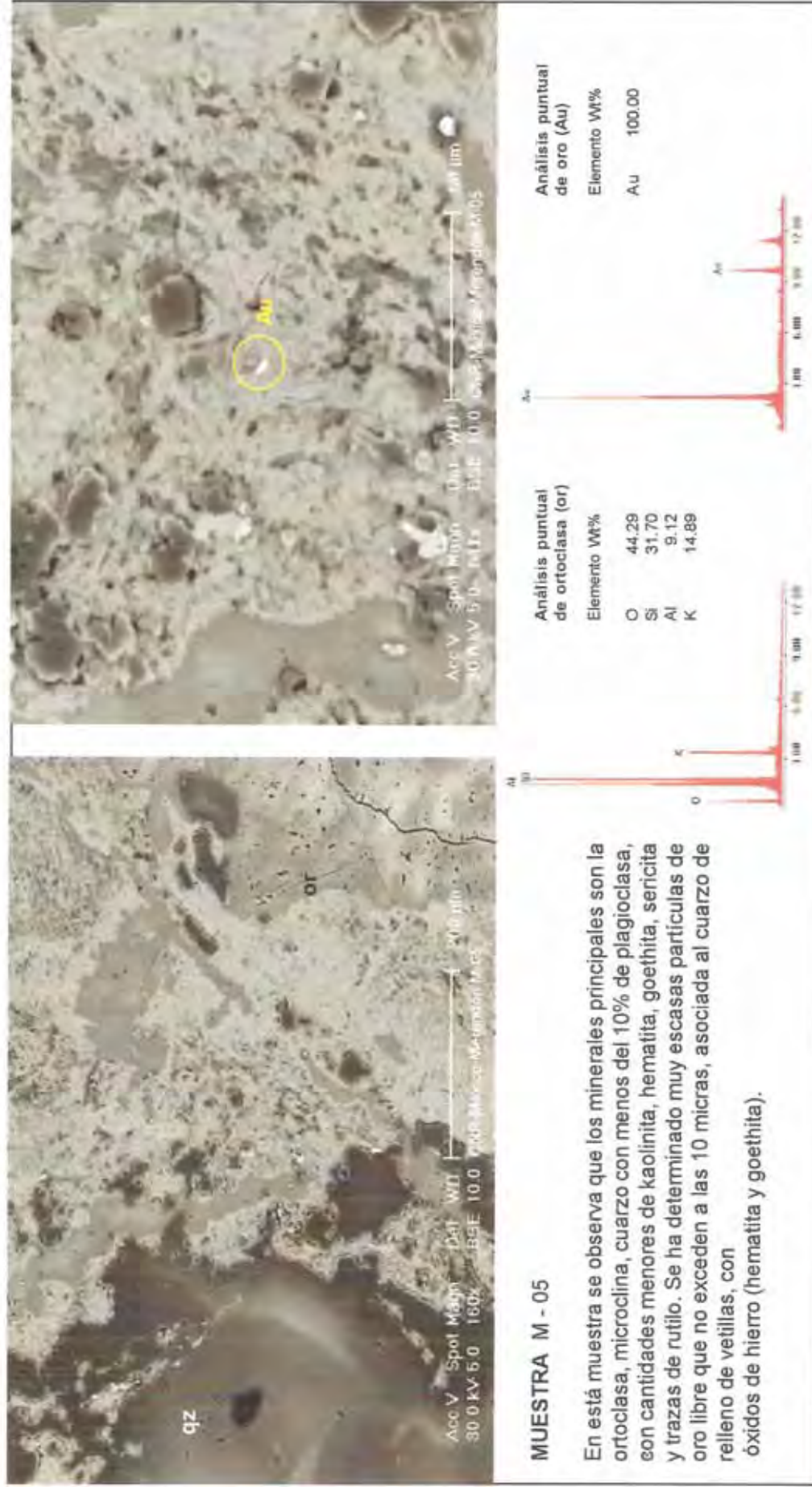
MUESTRA M - 05



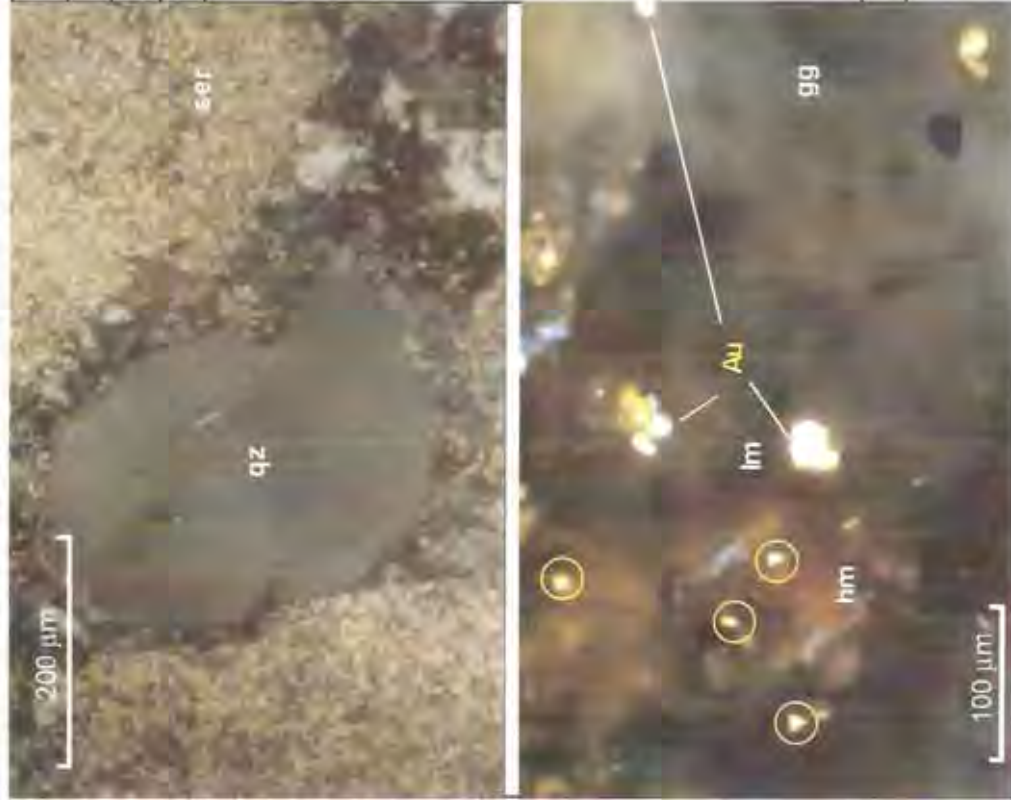
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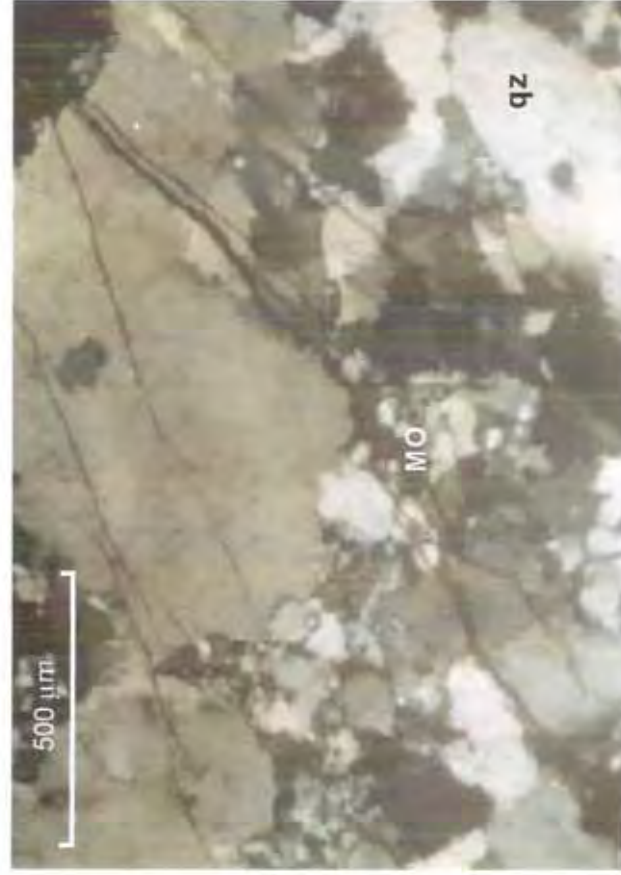




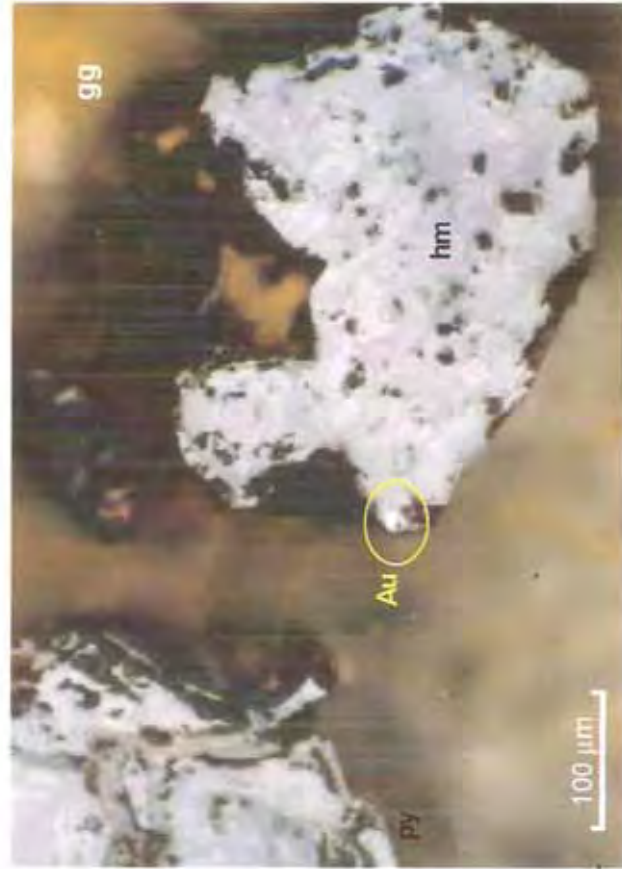


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| MUESTRA M - 06  |  |  |  |
| CLASIFICACION Meta granodiorita   |  |  |  |
| COMPOSICION   |  | MINERALIZACION Fe, (Au, Ti) moderada   |  |
| Minerales Principales   |  | Accesorios   | Trazas   |
| <p><b>Plagioclasa (pg):</b> Como seudomorfos han sido totalmente reemplazadas por sericita y cuarzo (alteración filica)</p> <p><b>Cuarzo (qz):</b> Cristales anhedral de notable extinción ondulante y de ocurrencia intersticial; es también de reemplazamiento. Se observa también en intercrecimientos gráficos con sericita y relictos de ortoclasa. Anhedral y subhedral desarrollado en el relleno hidrotermal, con partículas de oro que miden más de 50 micras.</p> |  | <p><b>Minerales Opacos (MO):</b> Moderada mineralización fundamentalmente de hematita (hm) desarrollada y en fina disseminación, con algunos bordes de goethita, trazas de microcristales de rutilo en fina disseminación.</p> <p>Pirita (py) intersticial, en fina disseminación (alteración filica) y en el relleno de venillas.</p> <p>Partículas de oro libre con tamaños que oscilan entre menos de 10 micras a cerca de 50 micras diseminadas en el cuarzo de relleno hidrotermal.</p> | <p>Apatita</p> <p>Rutilo</p> <p>Leucoxeno</p> <p>Muscovita</p> <p>Oro Nativo</p> |
| TEXTURA Reemplazamiento en parte brechosa por el enjambre de venillas.  |  |  |  |
| ALTERACION Intensa sericitización, marcada silicificación; ligera argilitización y oxidación.   |  |  |  |
| Minerales de alteración: Sericita, cuarzo, arcilla, rutilo, hematita  |  |  |  |

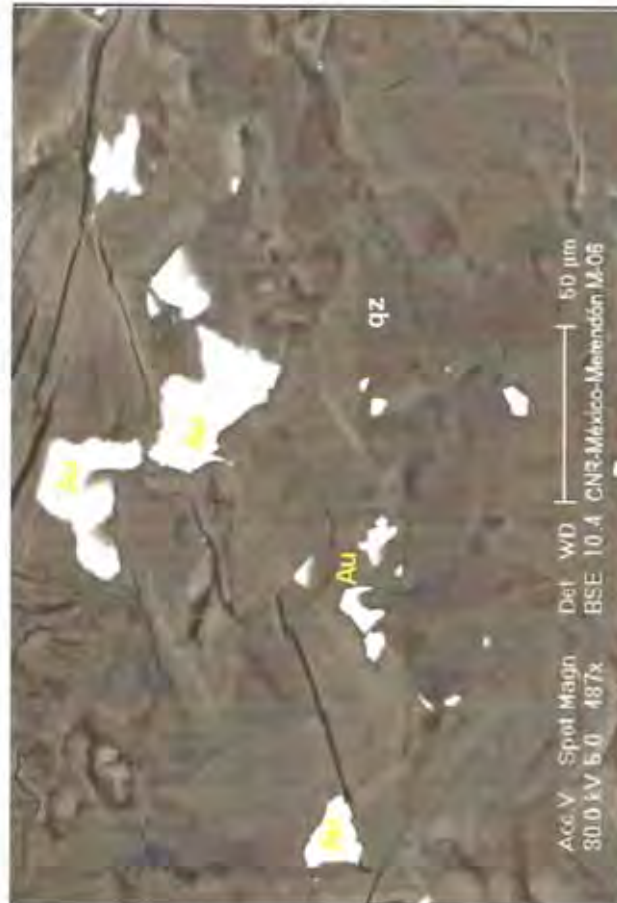
MUESTRA M - 06



MUESTRA M - 06







### MUESTRA M - 06

Ocurrencia de partículas de oro libre no mayor de 60 micras, asociadas al cuarzo, las partículas de oro libre entre menos de una micra y no mayores de 10 micras, están como inclusiones en la hematita y goethita, las estás reemplazando a piritas de las cuasoles sólo quedan las geofomaas.

#### Análisis puntual cuarzo (qz)

| Elemento | Wt%   |
|----------|-------|
| O        | 53.07 |
| Si       | 46.93 |

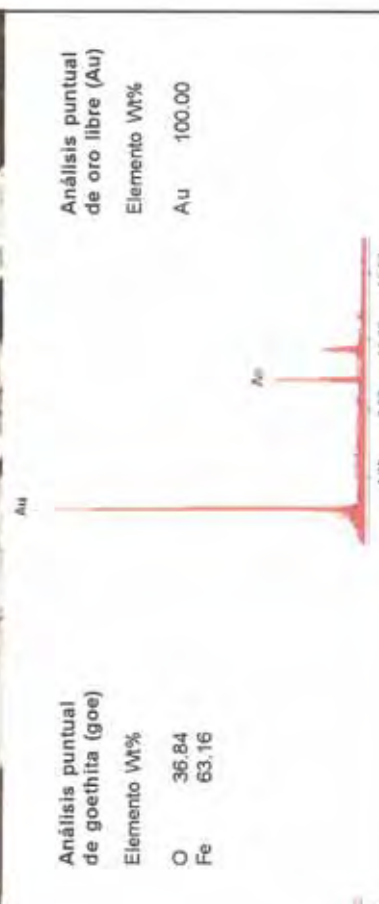
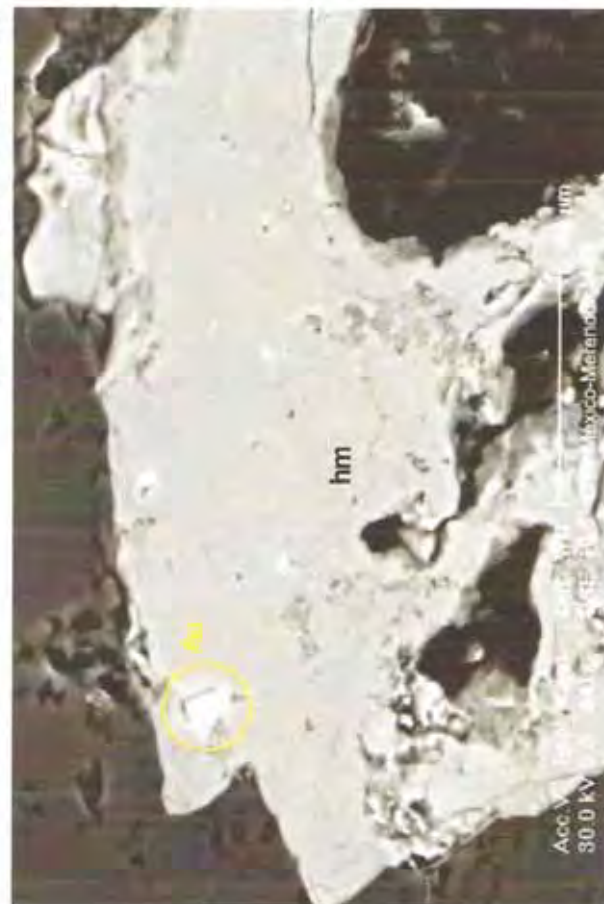
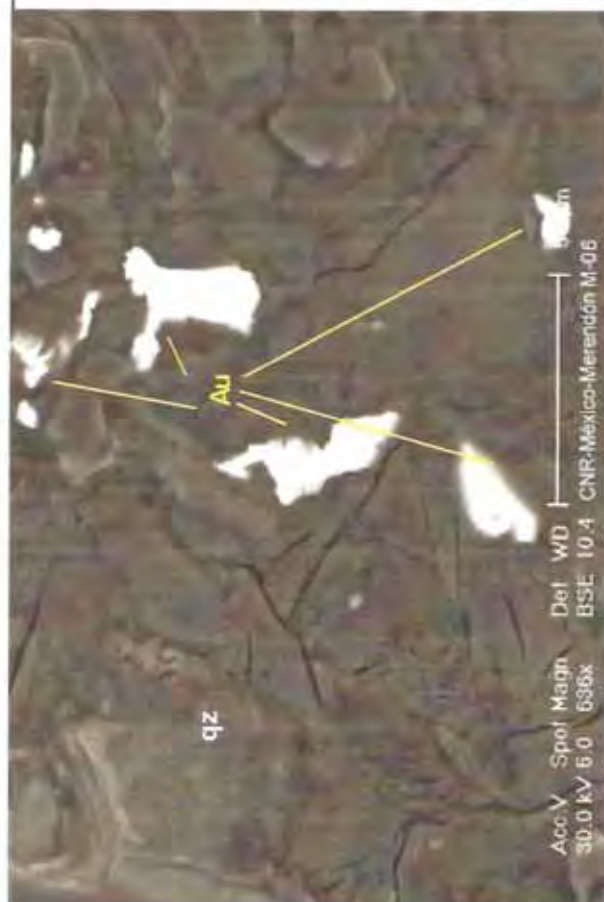
#### Análisis puntual de oro (Au)

| Elemento | Wt%    |
|----------|--------|
| Au       | 100.00 |



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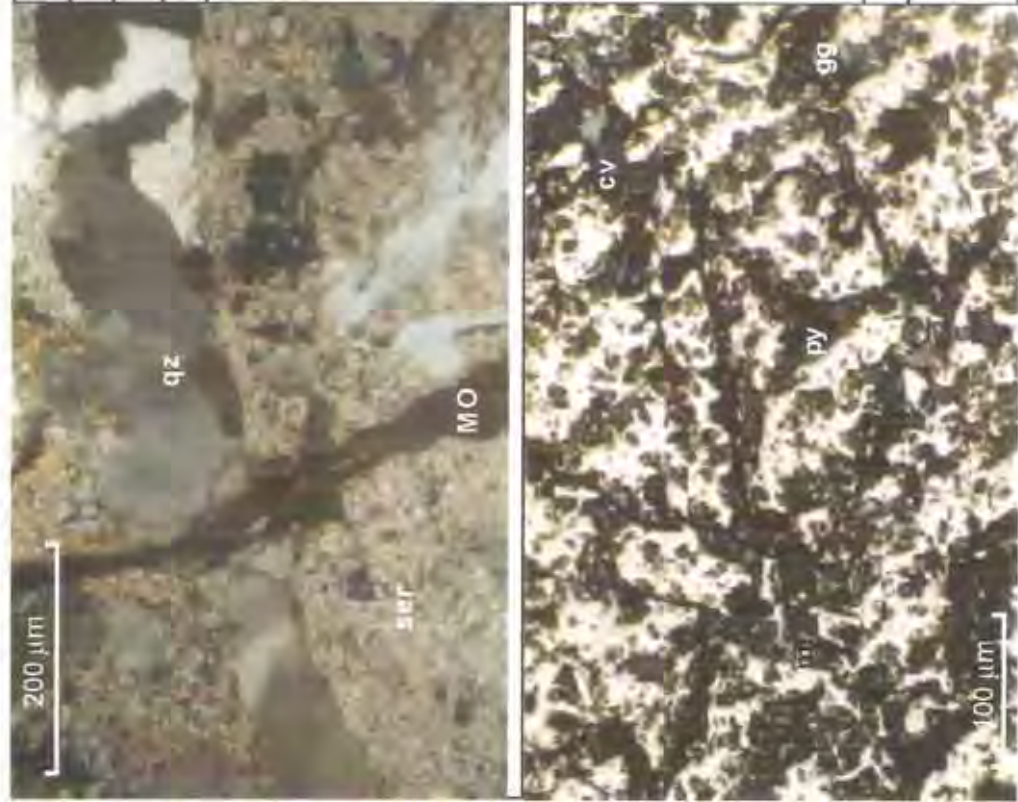
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# ESTUDIO PETROGRAFICO - MINERAGRAFICO

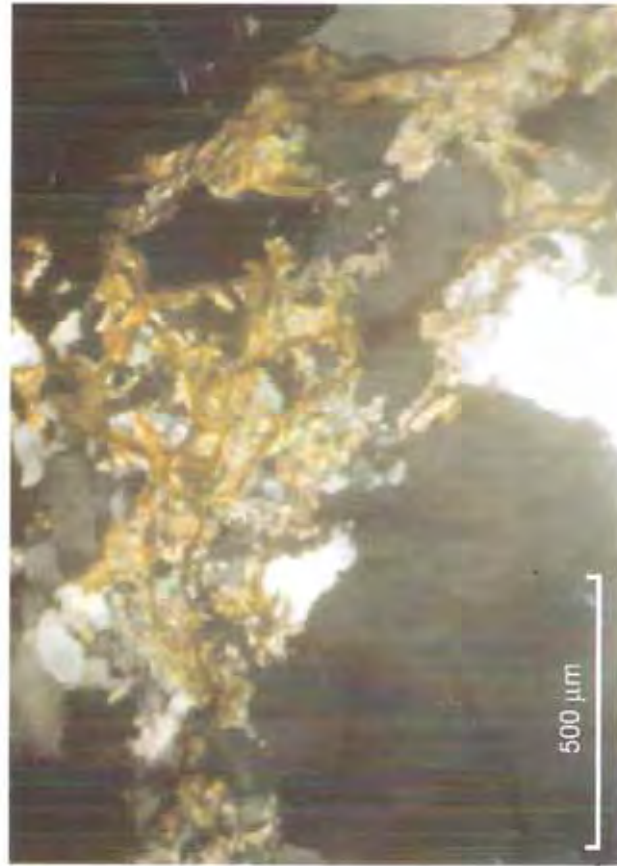
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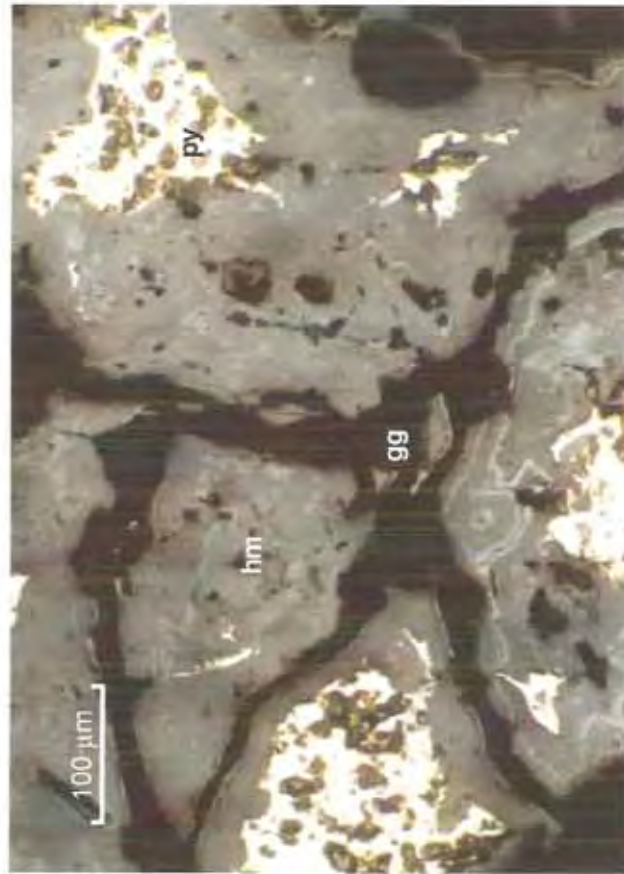
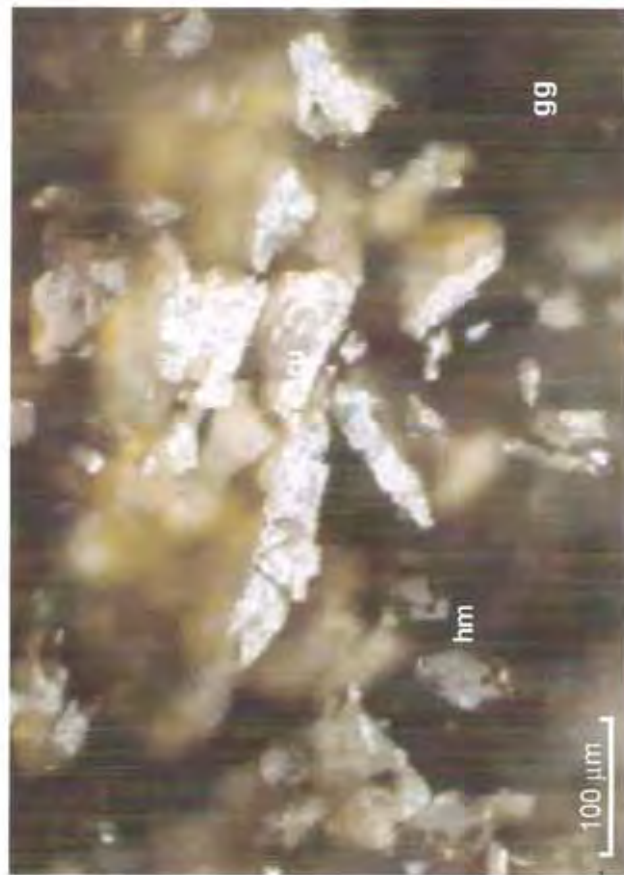
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| MUESTRA M - 07   |  |   |  |
| CLASIFICACION Metatonalita   |  |   |  |
| COMPOSICION  |  | MINERALIZACION  | Fe, (Au, Ti) débil a moderada  |
| Minerales Principales  |  | Accesorios  | Trazas   |
| <p><b>Plagioclasa (pg):</b> Ocurre en pseudomorfos de cristales de diferente forma y tamaño, por lo general, han sido totalmente reemplazados por sercita y cuarzo (alteración filica), en ciertos casos es posible aún observar relictos de macias.</p> <p><b>Cuarzo (qz):</b> Cristales anhedrales desarrollados con marcada extinción ondulante y también de ocurrencia intersticial. Microcristalino de reemplazamiento. Anhedral y subhedral en el relleno hidrotermal.</p> |  | <p><b>Minerales Opacos (MO):</b><br/>Mineralización de pirita (py) anhedral desarrollada en las venillas con inclusiones de antiguas calcopiritas que han sido totalmente reemplazadas por covelina (cv) - alteración supergénea-; también en fina diseminación (alteración filica), con algunos bordes marcadamente oxidados (hematita). Fina diseminación de rutilo (ru) y leucoxeno.<br/>Trazas de partículas de oro libre que no sobrepasan a las 15 micras. Hematita y goethita como relleno de finisimas venillas</p> | <p>Apatita<br/>Zircon<br/>Rutilo<br/>Leucoxeno<br/>Titanita<br/><br/>Covelina<br/>Oro Nativo</p> |
| TEXTURA  |  | Reemplazamiento de apariencia brechosa por el enjambre de venillas  |  |
| ALTERACION   |  | Intensa sericitización y silicificación; ligera argilitización, y oxidación.  |  |
| Minerales de alteración: Sercita, cuarzo, arcilla, rutilo, hematita  |  |   |  |

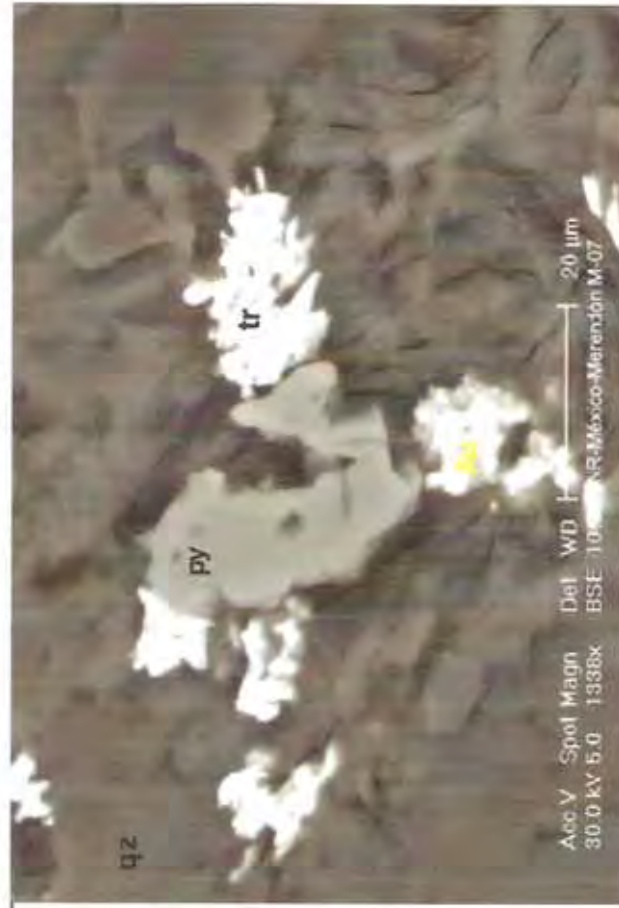
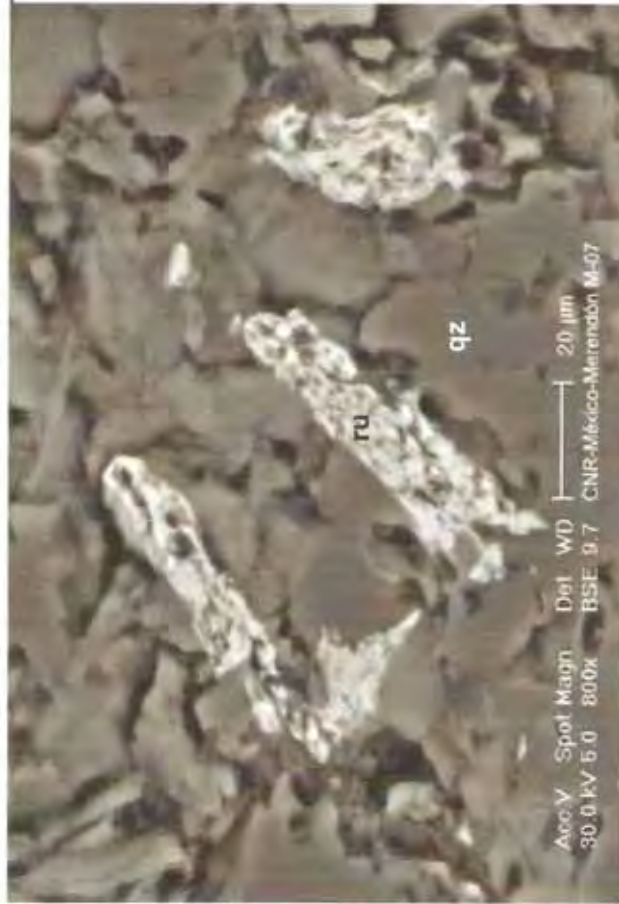


MUESTRA M - 07

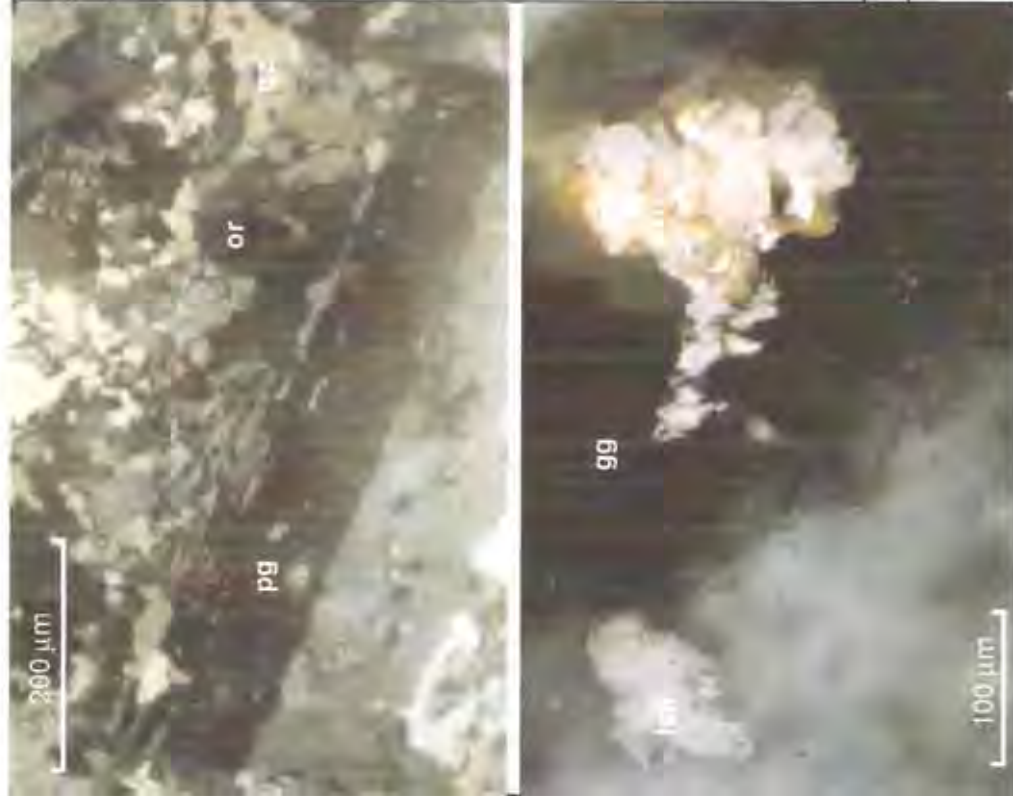


MUESTRA M - 07



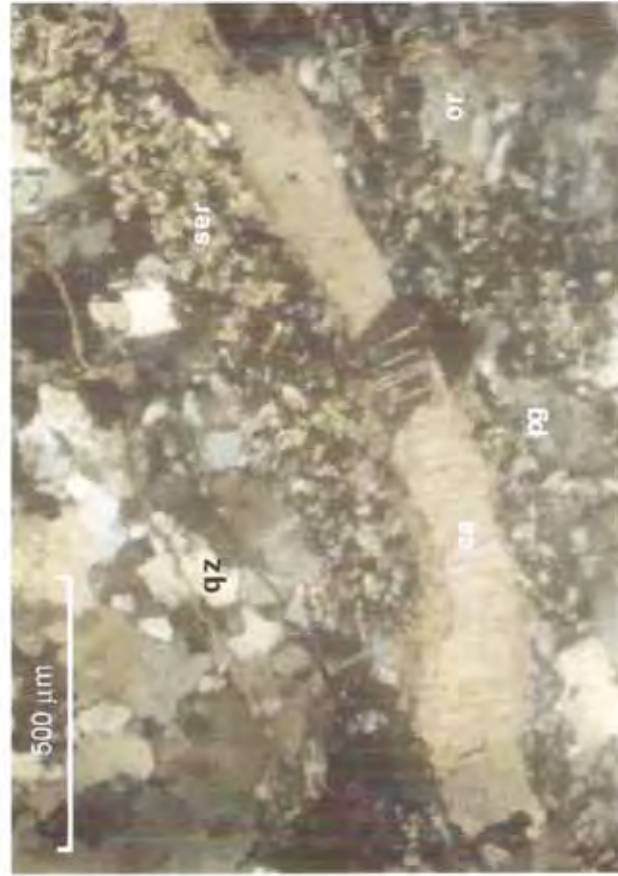
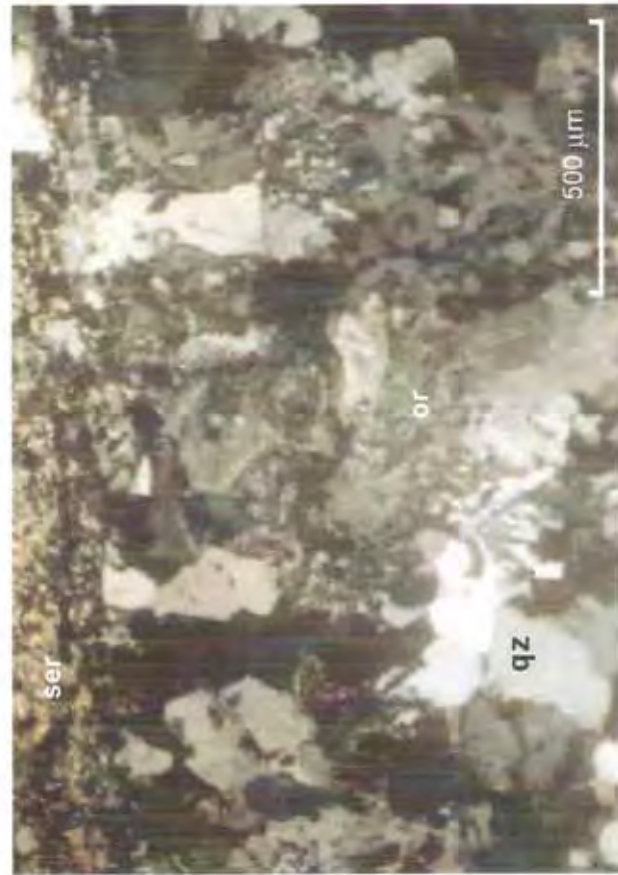




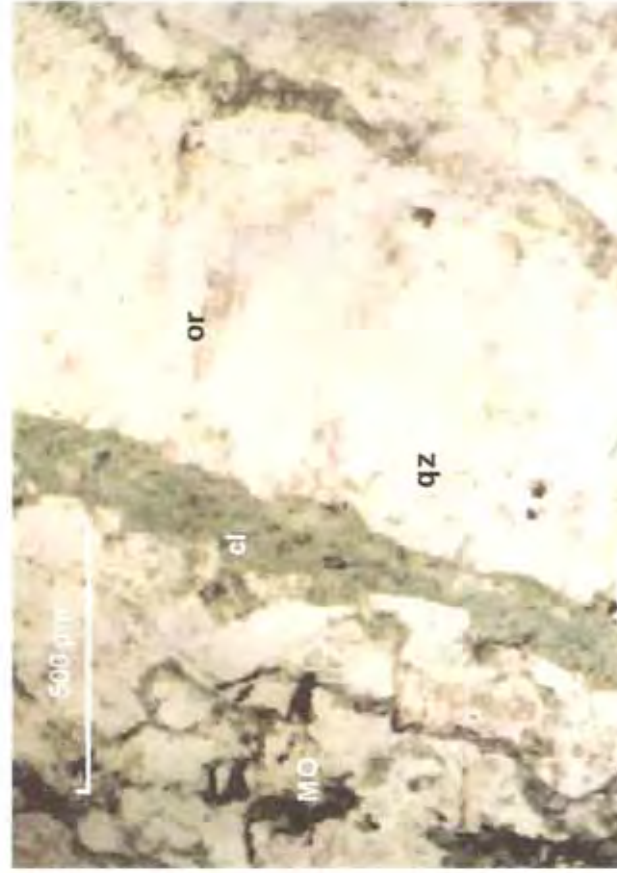
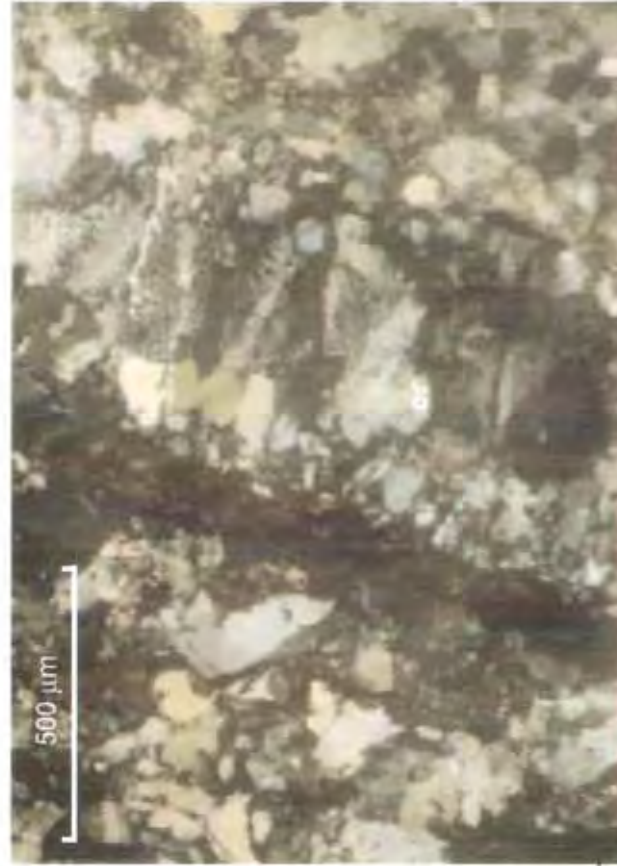


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|--|--|---|--|
| MUESTRA M - 08   |  |   |  |
| CLASIFICACION Metagranito  |  |   |  |
| COMPOSICION  |  | MINERALIZACION Fe, (Ti) débil a moderada  |  |
| Minerales Principales  |  | Accesorios  | Trazas   |
| <p><b>Ortoclase (or):</b> Ocurre en forma anhedral desarrollada y menos frecuente maclada, contiene cristales de plagioclase sericitizada. En el contacto con las venillas de cuarzo, clorita y/o calcita, genera un intercrecimiento micrográfico con el cuarzo.</p> <p><b>Cuarzo (qz):</b> Cristales anhedrales con marcada extinción ondulante y también de ocurrencia intersticial. Microcristalino de reemplazamiento. Anhedral y subhedral en el relleno hidrotermal.</p> <p><b>Plagioclase (pg):</b> Escasos cristales maclados por lo general son pseudomorfos de cristales reemplazados por sericita y cuarzo (alteración filica)</p> |  | <p><b>Minerales Opacos (MO):</b> Mineralización de pirita (py) anhedral en las venillas; también en fina disseminación con algunos bordes oxidados (hematita). Fina disseminación de rutilo (ru) y leucóxeno. Hematita (hm) y goethita como relleno de finísimas venillas</p> | Apatita<br>Zircon<br>Rutilo<br>Leucóxeno<br>Calcita<br>Clorita |
| TEXTURA Reemplazamiento de apariencia brechosa por el enjambre de venillas   |  |   |  |
| ALTERACION   |  | Intensa silicificación; marcada sericitización; ligera argilitización, y oxidación.   |  |
| Minerales de alteración: Sericita, cuarzo, arcilla, rutilo, hematita   |  |   |  |

MUESTRA M - 08

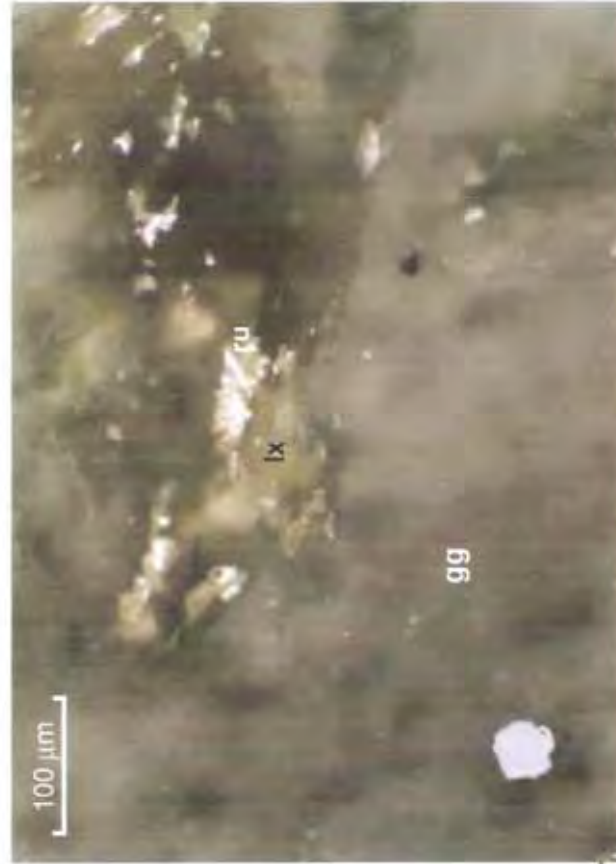


MUESTRA M - 08





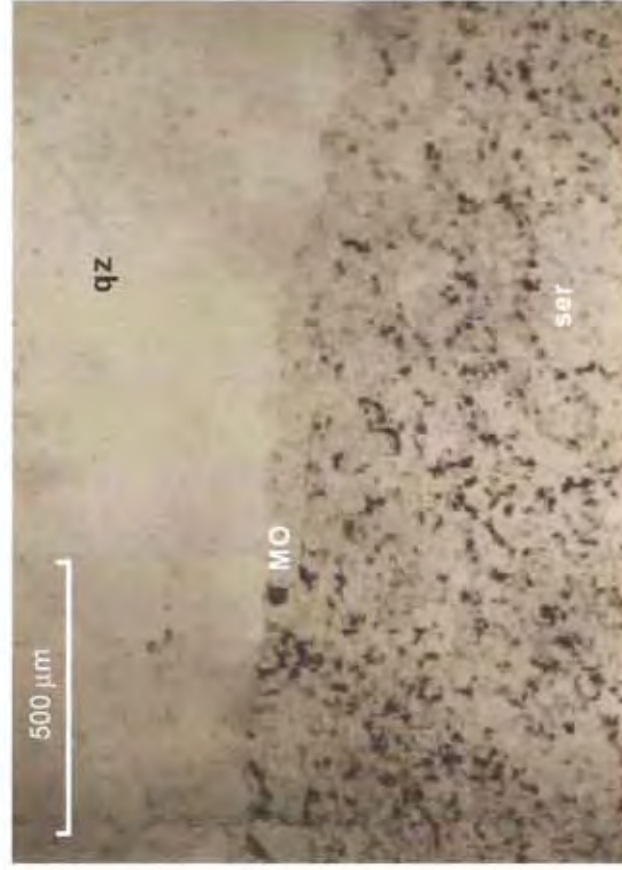
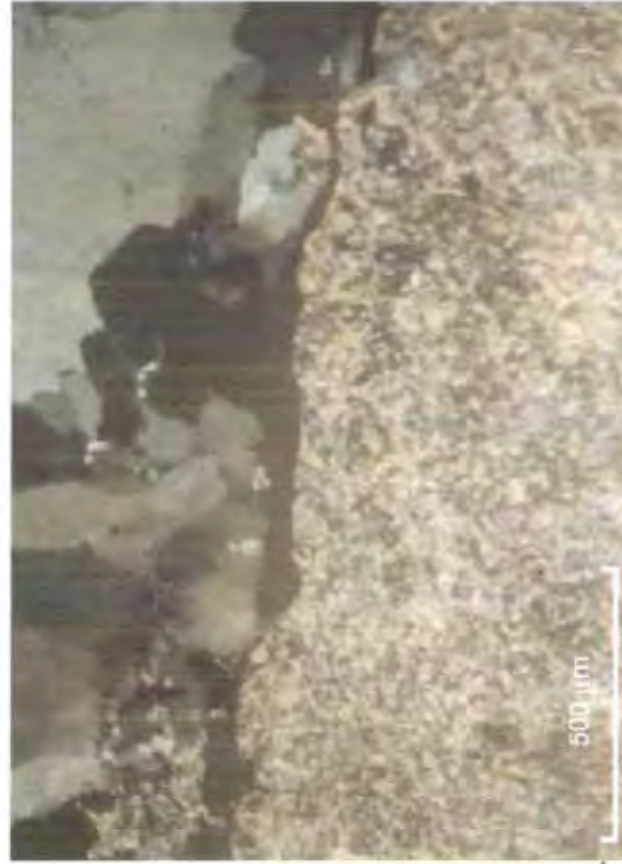
MUESTRA M - 08





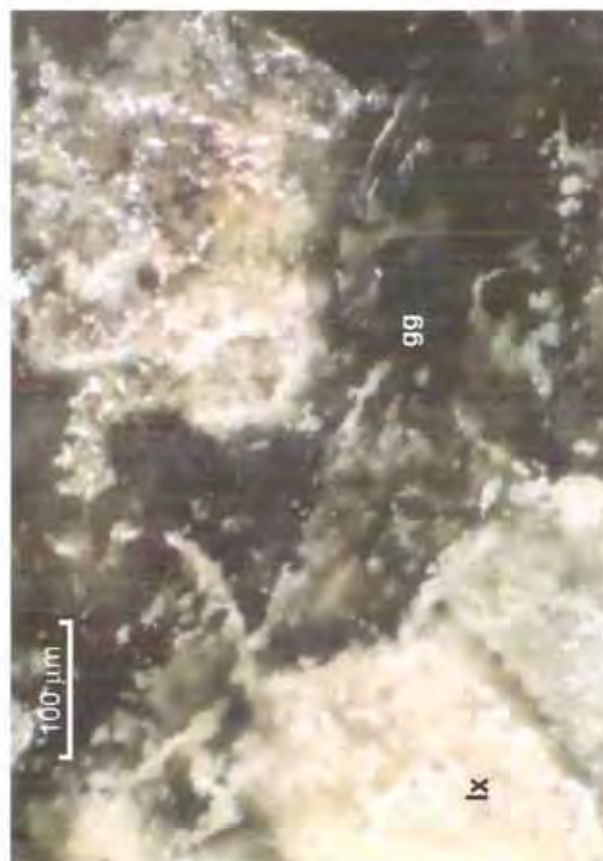
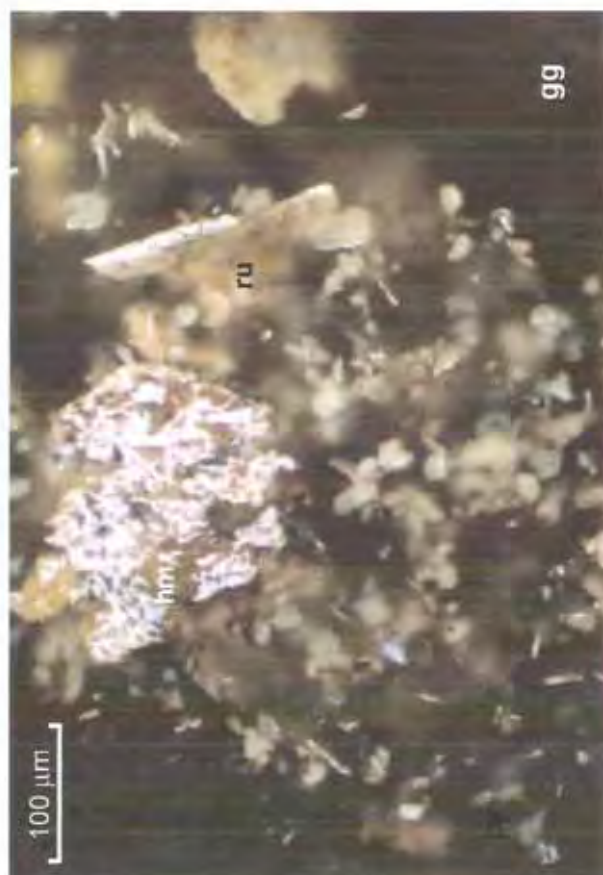
|   |            |  |  |
|---|------------|--|--|
| MUESTRA M - 09  |            |  |  |
| CLASIFICACION Metatonalita porfiritica  |            |  |  |
| COMPOSICION   |            | MINERALIZACION Fe, (Ti) débil a moderada   |  |
| Minerales Principales   | Accesorios | Trazas   |  |
| <p><b>Plagioclasa (pg):</b> Seudomorfos de fenocristales desarrollados, en algunas de ellas se observa relictos de maclas; están selectivamente sericitizados, en relación a las bandas de zonación y maclas. En la matriz han sido totalmente reemplazadas por sericita, cuarzo y opacos oxidados (alteración filica)</p> <p><b>Cuarzo (qz):</b> Como fenocristales anhedral y de ocurrencia intersticial en la matriz, es producto del reemplazamiento, con sericita y fina diseminación de opacos. Anhedral desarrollado en las venillas con opacos.</p> |            | <p><b>Biotita (bio):</b> Fenocristales sub y anhedral, alterada a clorita de ocurrencia radial e intersticial con con muscovita secundaria (alteración potásica), rutilo, opacos y cuarzo.</p> <p><b>Minerales Opacos:</b> Fomas subhedrales, anhedral de hematita (hm) rellendo venillas, también ocurre en fina diseminación, conjuntamente con ilmenita (il). La pirita (py) subordinada, es anhedral en las venillas y de menor tamaño que no supera a las 10 micras cuando está finamente diseminada. Fina diseminación de rutilo (ru) y leucóxeno (lx)</p> |  |
| TEXTURA Porfiritica, brechosa y de reemplazamiento, con venillas de cuarzo y opacos   |            |  |  |
| ALTERACION Intensa sericitización y silicificación, moderada argilitización; ligera alteración potásica y oxidación.  |            |  |  |
| Minerales de alteración: Sericita, cuarzo, muscovita, arcilla, rutilo y hematita  |            |  |  |

MUESTRA M - 09





MUESTRA M - 09



Lima, 15 de Setiembre de 2006

*Gladys Ocharan*

Dra. Gladys Ocharan Velásquez

## Estudio petrográfico - minerográfico de siete muestras

|     |      |
|-----|------|
| 269 | 727  |
| 272 | 727A |
| 569 | 777  |
| 630 |      |

(MERENDON DEL PERU S.A.)

Noviembre 2006 (1106/067)

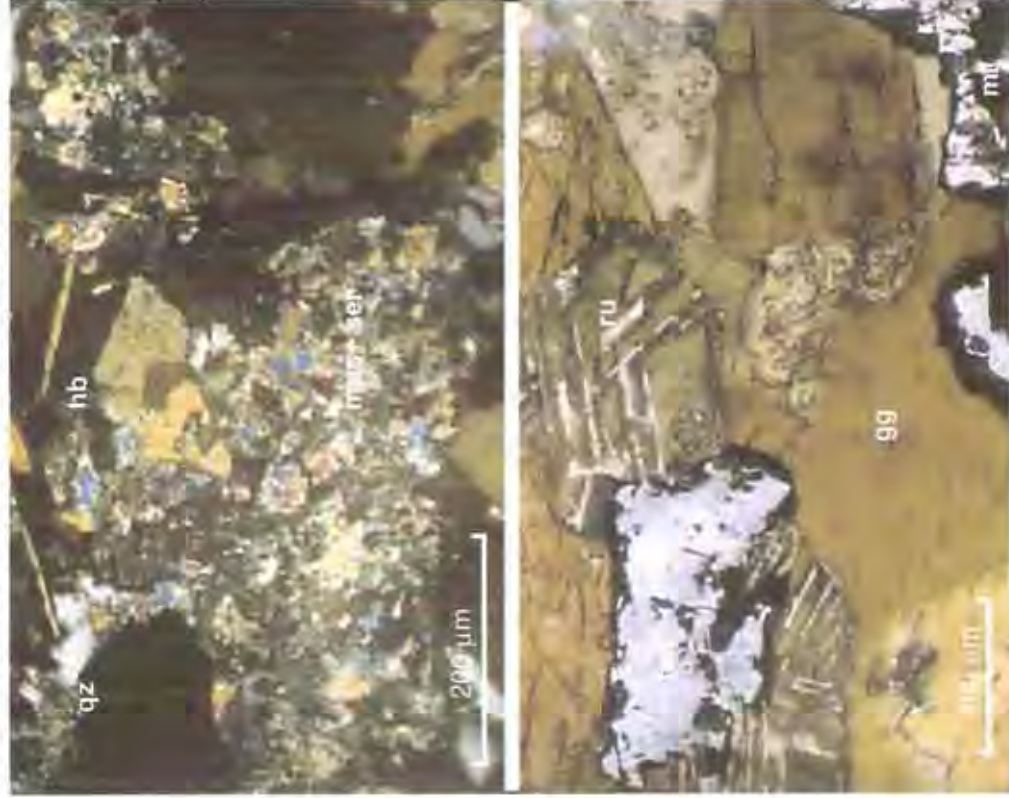
**MyAP** Microscopía Electrónica y Aplicaciones en el Perú S.A.C.



## **FE DE ERRATAS**

La muestra M -272 del informe del Estudio petrográfico - minieragráfico de siete muestras de la Dra. Gladys Ocharan (Informe - Noviembre 2006) es la muestra M-277 del plano de ubicación de muestras y la tabla de muestreo y análisis geoquímico.





|   |   |   |
|---|---|---|
| MUESTRA 269   |   |   |
| CLASIFICACION Diorita cuarcífera  |   |   |
| COMPOSICION MINERALIZACION Fe (Au, Ti) débil  |   |   |
| Minerales Principales   | Accesorios Trazas   |   |
| <b>Plagioclasa (pg):</b> ~55%, cristales muy desarrollados, de los cuales sólo quedan las geofor-mas, se les reconoce porque en algunos de ellos es posible identificar los planos de macla, están microfracturados y selec-tivamente muscovitizados (alteración potásica) y en parte sericitizada (ser) y silicificada, otras localmente carbonatada y argi-litizada. Contienen inclusiones de cristales euhedrales de hornblenda. | <b>Hornblenda (hb):</b> ~25%, cris-tales euhedrales y subhedrales, maclados, con algunos bordes reemplazados por clorita y epidota, con finas inclusiones de rutilo (ru) y opacos.<br><br><b>Minerales Opacos (MO):</b> Subhedrales, anhedrales, en fina diseminación; se les reconoce subordinadamente como hema-tita (hm) la cual se ha formado a expensas de la magnetita (mt); con trazas de pirita diseminada que no supera las 20 micras, sus bordes han sido reemplazados localmente por trazas de hema-tita. Partículas libres de oro (Au) que no supera a las 10 micras, en fina diseminación. | Zircon<br>Apatita<br>Clorita<br>Epidota<br>Rutilo y Sagenita<br>Leucoxeno<br><br>Pirita<br>Oro Nativo |
| <b>Cuarzo (qz):</b> ~15% ; por lo ge-neral, como cristales de ocu-lencia intersticial, y de reem-plazamiento en los pseudomor-fos de plagioclasa.   |   |   |
| TEXTURA Holocristalina, hipidiomórfica, en parte de reemplazamiento.  |   |   |
| ALTERACION Marcada alteración potásica; moderada sericitización, silicificación y argilitización; ligera cloritización, carbonatación, epidotización y oxidación.<br>Minerales de alteración: Muscovita, sericita, cuarzo, arcilla, epidota, clorita, calcita y hematita.   |   |   |

MUESTRA 269





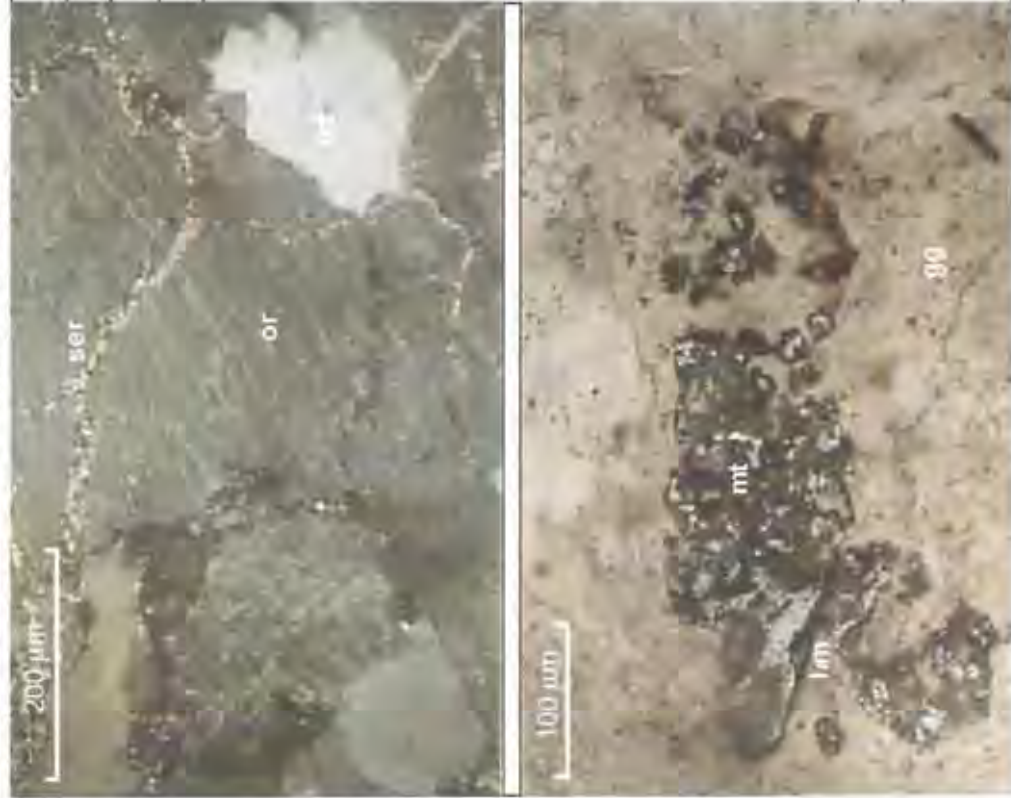
MUESTRA 269





ESTUDIO PETROGRAFICO - MINERAGRAFICO

(MERENDON DEL PERU.S.A.)



|   |  |  |  |
|---|--|--|--|
| MUESTRA 272   |  |  |  |
| CLASIFICACION Granodiorita  |  |  |  |
| COMPOSICION   |  |  |  |
| Minerales Principales   |  | MINERALIZACION Fe, (Ti) muy débil  | Trazas                                   |
| <b>Plagioclasa (pg):</b> Seudomorfos de cristales subhedrales desarrollados han sido casi totalmente reemplazados por sericita con algo de arcilla (ser+ar) y cuarzo; algunos de ellos presentan macías y zonación difusa, microfracturadas.                          |  | <b>Muscovita (mus):</b> Laminillas poco desarrolladas, flexionadas y de ocurrencia intersticial entre el cuarzo y ortoclasa.   | Zircon<br>Apatita<br>Leucoxeno<br>Rutilo |
| <b>Ortoclasa (or):</b> En cristales anhedrales y subhedrales desarrollados, maclados y con intercrecimientos perfiticos (albita) y en los bordes en contacto con el cuarzo en intercrecimientos microméuticos; engloba a cristales de plagioclasa sericitizada (ser). |  | <b>Minerales opacos (MO):</b> Trazas de magnetita (mt) en formas anhedrales como una fina disseminación en toda la roca y a lo largo de los planos de clivaje de antiguas y escasas laminillas de biotitas; trazas de hematita (hm) y goethita rodean a escasa formas anhedrales de magnetita. Trazas de fina disseminación de rutilo con tamaños que no exceden a las 5 micras. | Magnetita<br>Hematita<br>Goethita        |
| <b>Cuarzo (qz):</b> Formas anhedrales con bordes de reacción y marcada extinción ondulante.   |  |  |  |
| TEXTURA Holocristalina, hipidiomórfica; con venillas de cuarzo y sericita.  |  |  |  |
| ALTERACION Marcada sericitización; moderada argilitización, silicificación; ligera oxidación.   |  |  |  |
| Minerales de alteración: Sericita, cuarzo, arcilla, rutilo, hematita y goethita.  |  |  |  |

MUESTRA 272



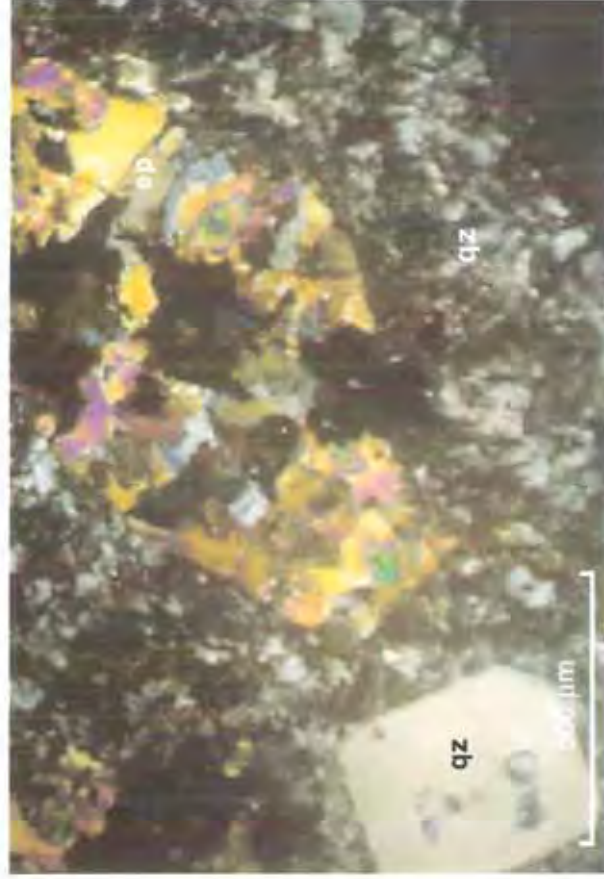


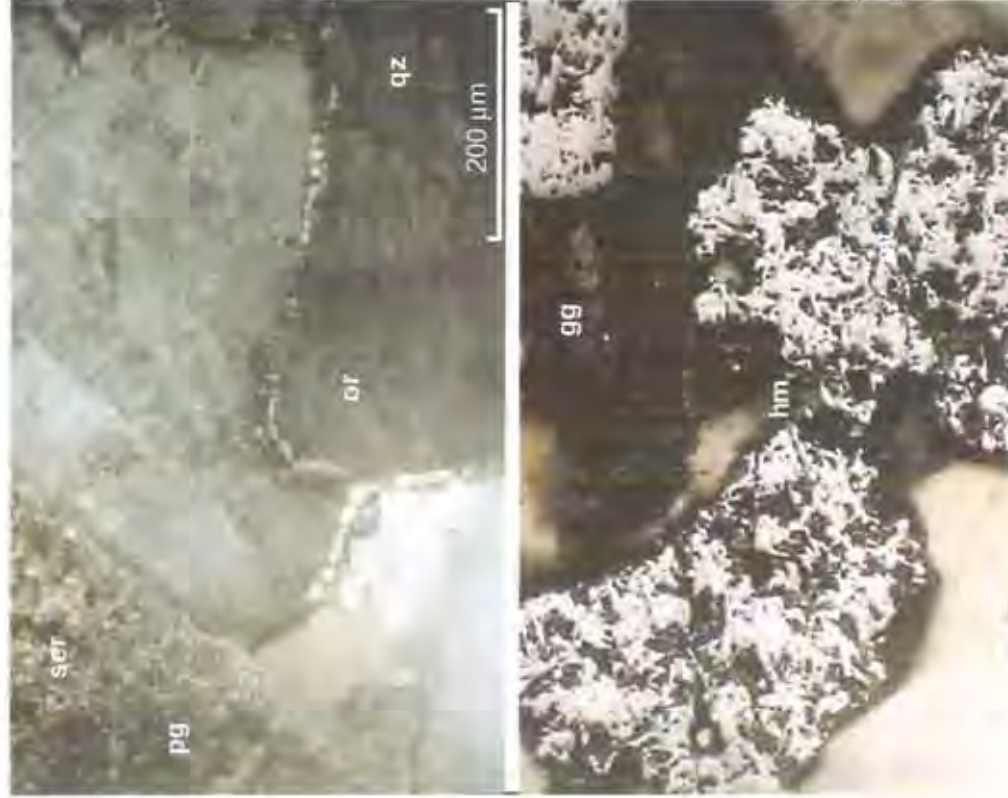


|  |   |   |
|--|---|---|
| MUESTRA 569  |   |   |
| CLASIFICACION Tonalita porfírica con xenolitos de granodiorita   |   |   |
| COMPOSICION MINERALIZACION Fe, (As, Cu, Ti), débil   |   |   |
| Minerales Principales  | Accesorios  | Trazas  |
| <b>Plagioclasa (pg):</b> Fenocristales desarrollados con bordes de reacción, macles y zonación difusas, microfracturadas; marcadamente sericitizadas (ser), selectivamente argilitizadas, a veces con los bordes silicificados. Contiene finas inclusiones de opacos y apatitas. | <b>Biotita (bio):</b> En forma de fenocristales, mayoritariamente cloritizados de la variedad penninita (pn), con hematita, rutilo y en ciertos casos por muy escasa muscovita y epidota (ep).  | Muscovita<br>Epidota<br>Zircon<br>Apatita<br>Rutilo<br>Leucoxeno  |
| <b>Cuarzo (qz):</b> Fenocristales anhedral con bordes de reacción con inclusiones de rutilo y zircon; en la matriz es microcristalino e intersticial conjuntamente con pequeños cristales de plagioclasa, epidota y laminillas de biotita cloritizada (penninita).               | <b>Minerales Opacos (MO):</b><br>Ocurrencia de pirita (py) anhedral con escasas inclusiones de calcopirita. Fina diseminación de magnetita (mt) que no superan a las 20 micras; y en menor proporción por una fina diseminación de calcopirita con algo de covelina en los bordes y arsenopirita; similar ocurrencia de rutilo en las biotitas. Presencia de hematita (hm) y goethita*) | Magnetita<br>Arsenopirita<br>Calcopirita<br>Covelina<br>Hematita<br>Goethita<br><br>*) que está reemplazando los bordes de algunas pirita o magnetitas. |
| TEXTURA Porfírica con matriz holocristalina, hipidiomórfica.   |   |   |
| ALTERACION Marcada sericitización; moderada argilitización y cloritización; ligera silicificación, epidotización y oxidación.<br>Minerales de alteración: Sericita, cuarzo, arcilla, clorita, rutilo, epidota y hematita.  |   |   |



MUESTRA 569

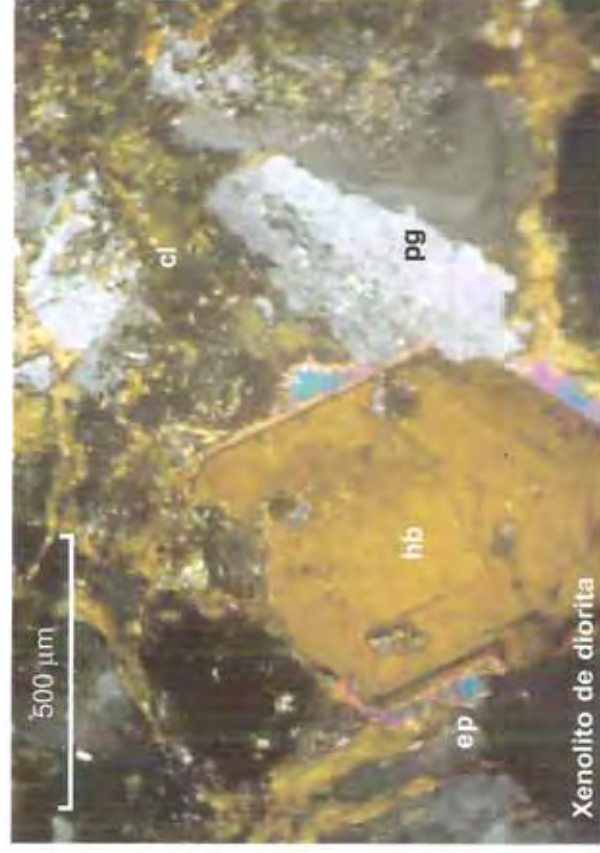
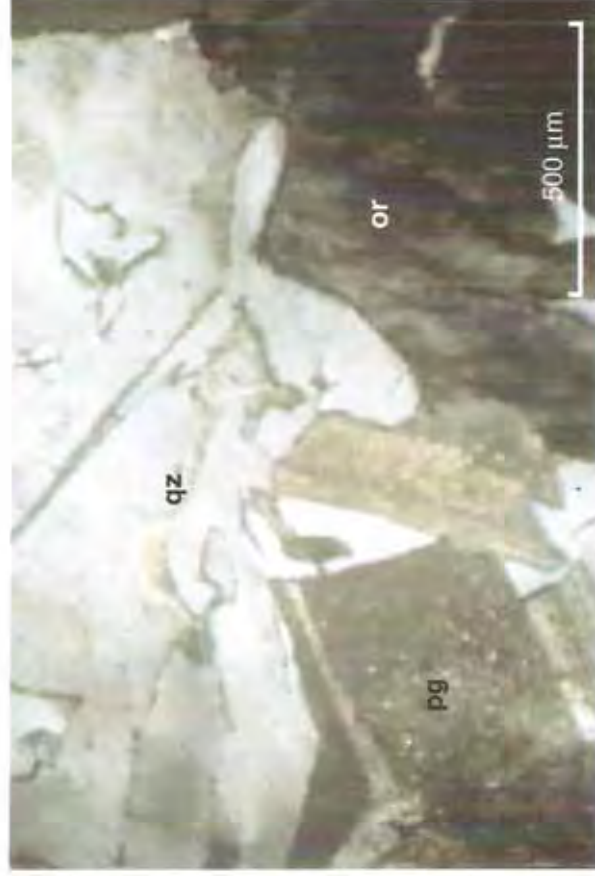




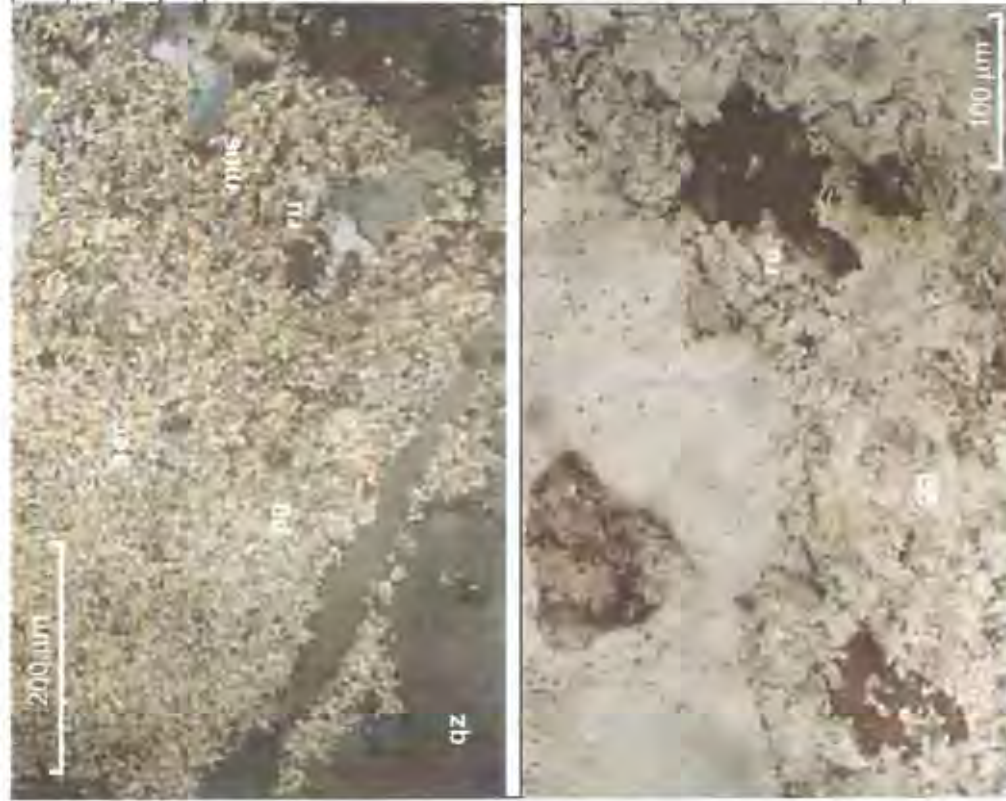
|  |   |   |  |
|--|---|---|--|
| MUESTRA 630  | CLASIFICACION Granito con Xenolito de Diorita   |   |  |
| COMPOSICION  | MINERALIZACION Fe, (Au, Ti), débil  |   |  |
| Minerales Principales  | Accesorios  | Trazas  |  |
| <p><b>Ortoclasa (or):</b> En cristales anhedrales y subhedrales desarrollados, con macia de Carlsbad y con intercrecimientos periticos y mirmeciticos en los bordes en contacto con el cuarzo; engloba a cristales de plagioclasa.</p> <p><b>Plagioclasa (pg):</b> Cristales subhedrales desarrollados, maciados, zonados, microfracturados; en ciertos casos reemplazadas selectivamente por sercita (ser), otros localmente argilitizados; en los xenolitos de diorita marcada-mente sericitizadas.</p> <p><b>Cuarzo (qz):</b> Como cristales anhedrales desarrollados y de ocurrencia intersticial y marcada extinción ondulante.</p> | <p><b>Minerales Opacos (MO):</b> Formas anhedrales desarrolladas de magnetita (mt) con inclusiones muy finas de ilmenita; también finamente diseminadas en la roca. Hematita reemplaza los bordes de algunas magnetitas.</p> <p>Trazas de partículas libre de oro que no superan las 10 micras, son muy escasas y están finamente diseminadas y asociadas a cuarzo hidrotermal.</p> | <p>Zircon<br/>Apatita<br/>Clorita<br/>Rutilo<br/>Leucoxeno</p> <p>Oro Nativo<br/>Hematita<br/>Ilmenita</p> <p>Xenolitos de diorita de similar composición y textura que la muestra 269.</p> |  |
| TEXTURA  | Holocristalina, hipidiomórfica; con venillas de cuarzo  |   |  |
| ALTERACION   | Moderada silicificación y sericitización; localmente argilitización; ligera cloritización y oxidación.<br>Minerales de alteración: Cuarzo, sercita, arcilla, clorita, rutilo, leucoxeno, hematita.  |   |  |



MUESTRA 630





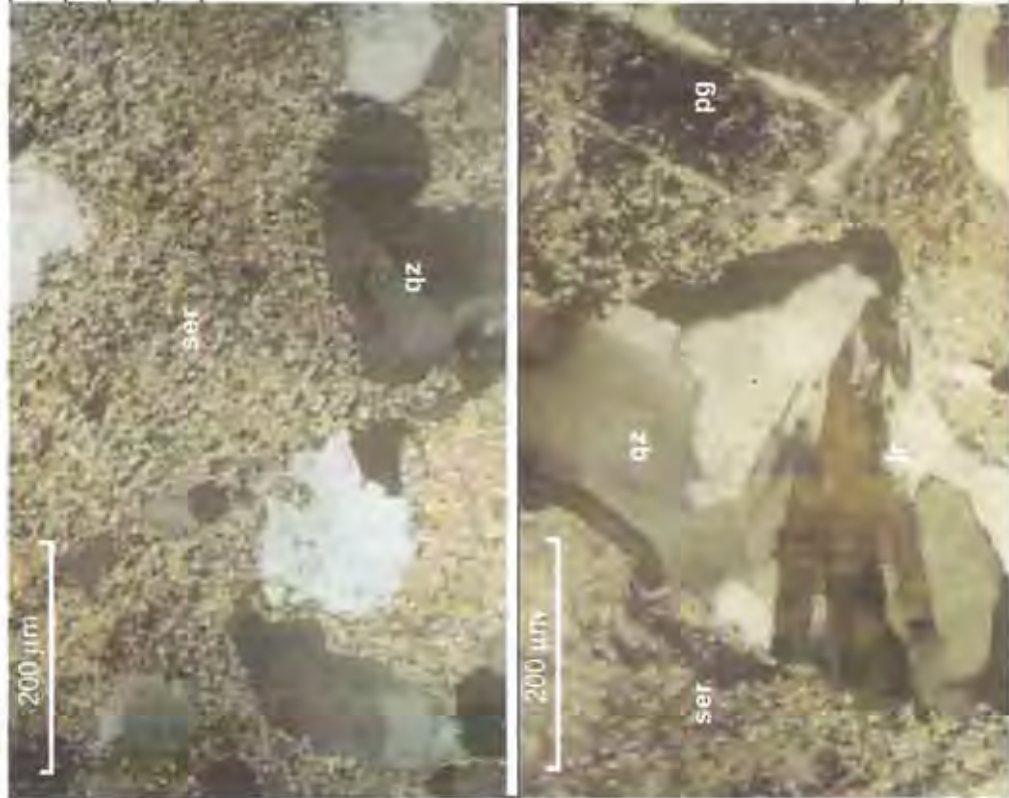


|   |  |   |                                |
|---|--|---|--------------------------------|
| MUESTRA 727   |  |   |                                |
| CLASIFICACION Metagranodiorita  |  |   |                                |
| COMPOSICION   |  | MINERALIZACION Fe, (Ti), débil  |                                |
| Minerales Principales   |  | Accesorios  | Trazas                         |
| <b>Plagioclasa (pg):</b> Cristales desarrollados que han sido totalmente reemplazados por sericita (ser), contienen inclusiones de zircon, apatita y rutilo.                      |  | <b>Muscovita (mus):</b> Las de origen primario, estan en forma de cristales flexionados; las de origen secundario como laminillas agrupadas que reemplazan a pseudomorfos de ferromagnesianos con algo de hematita y rutilo.<br><b>Minerales Opacos (MO):</b> Mineralización débil a muy débil de rutilo (ru) subhedral que se presenta como cristales euhedrales de hábito corto agrupados formando pequeñas manchas finalmente diseminadas. Formas menos desarrolladas de titanomagnetita y rutilo en formas aciculares que se ubican en los planos de clivaje de la muscovita. | Zircon<br>Apatita<br>Leucoxeno |
| <b>Ortoclasa (or):</b> Ocurre en forma anhedral con intercrecimientos peritícticos y subordinada a los pseudomorfos de plagioclasa; la relación entre ambos feldspatos es de 2:1. |  |   | Rutilo<br>Hematita<br>Goethita |
| <b>Cuarzo (qz):</b> Cristales anhedral con bordes de reacción muy desarrollado de marcada extinción ondulante; también es intersticial . Anhedral y subhedral en la venilla.      |  |   |                                |
| TEXTURA Holocristalina, hipidiomórfica.   |  |   |                                |
| ALTERACION Intensa sericitización, marcada silicificación; ligera alteración potásica y oxidación.<br>Minerales de alteración: Sericita, cuarzo, muscovita, rutilo y hematita.    |  |   |                                |

MUESTRA 727



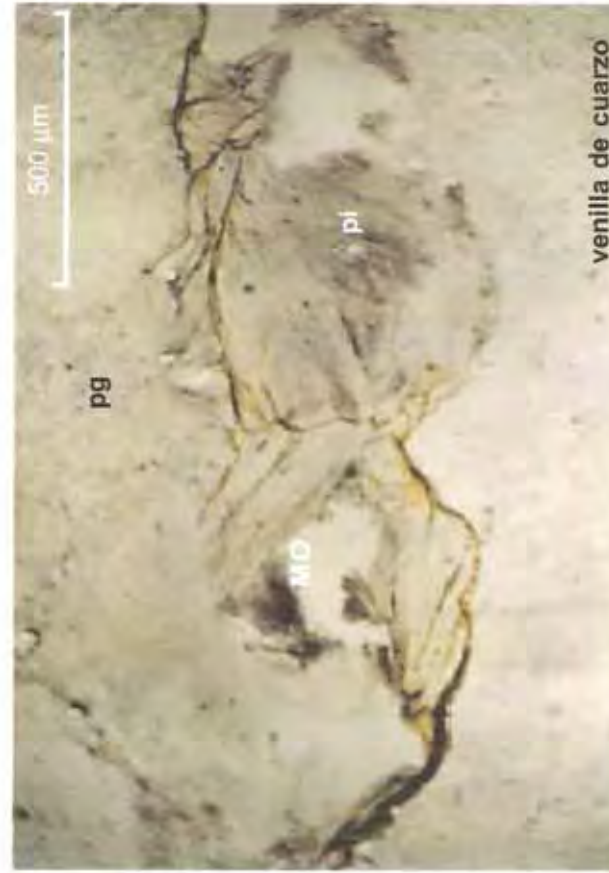
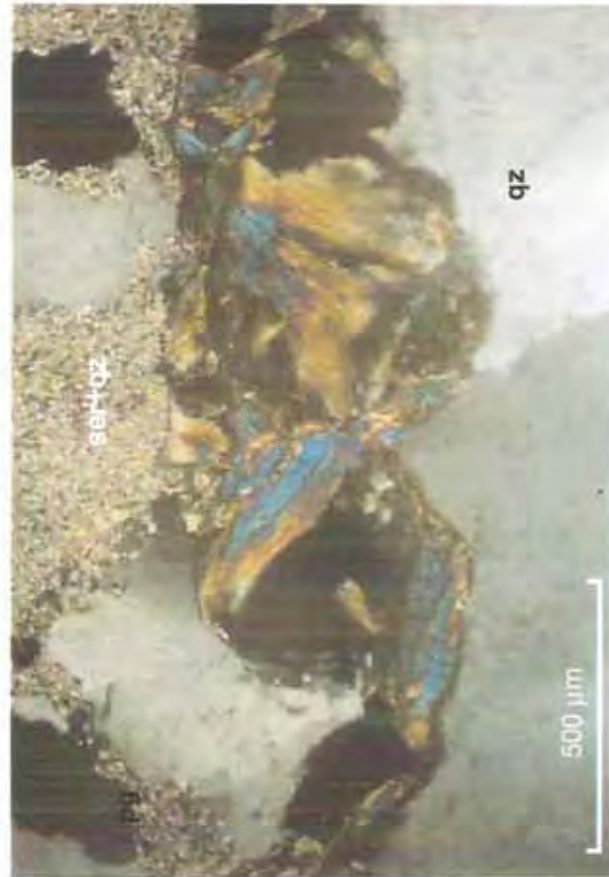


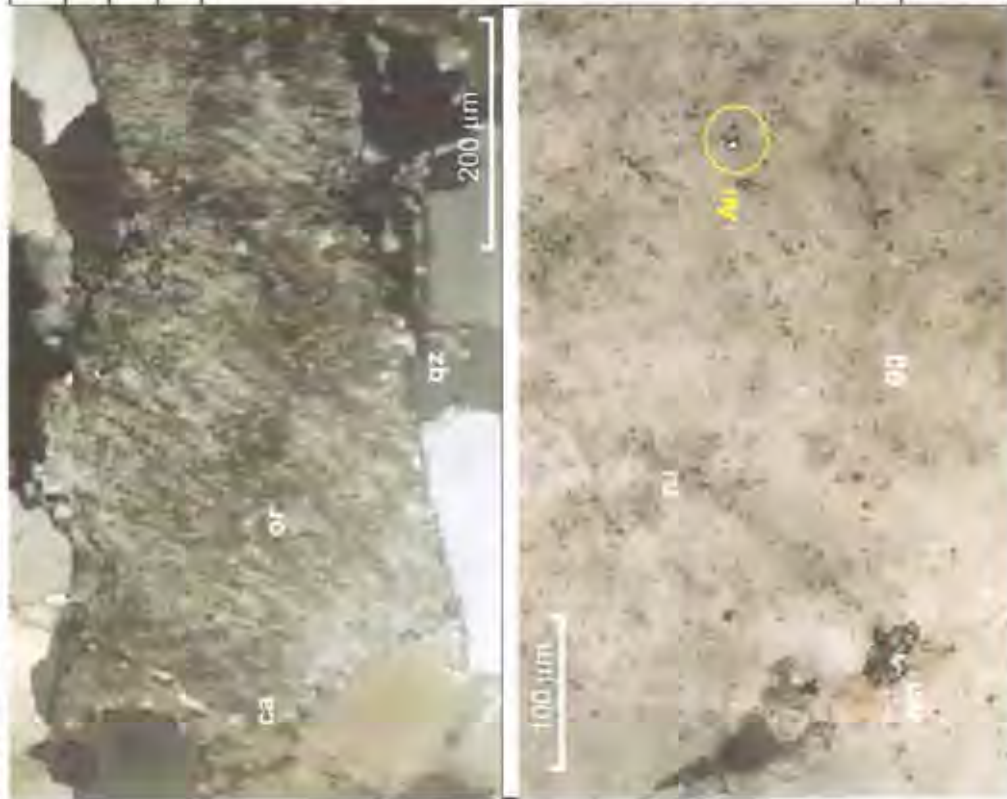


|   |            |  |
|---|------------|--|
| MUESTRA 727A  |            |  |
| CLASIFICACION Metatonalita  |            |  |
| COMPOSICION MINERALIZACION  |            |  |
| Minerales Principales   | Accesorios | Trazas   |
| <b>Plagioclasa (pg):</b> Como pseudomorfos, han sido reemplazados totalmente por sericita (ser) algo de arcilla y otras están reemplazadas selectivamente por pirofilita (que es un producto predominantemente hidrotermal, formada bajo la acción de soluciones ácidas en presencia de sericita a temperaturas superiores a 400°C), que se desarrolla en el contacto del cuarzo con la metatonalita. |            | <b>Minerales Opacos (MO):</b> Estéril a muy escasa mineralización de una fina disseminación de rutilo y hematita.<br><br>Jarosita<br>Pirofilita (pi)<br>Zircon<br>Apatita<br>Rutilo<br>Leucoxeno |
| <b>Cuarzo (qz):</b> Como playas anhedrales con bordes de reacción en el contacto con el enjambre de venillas de cuarzo estéril que le da una apariencia de brechosa.  |            |  |
| TEXTURA Holocristalina, hipidiomórfica, con venillas de cuarzo.   |            |  |
| ALTERACION Intensa sericitización; marcada silicificación; ligera argilitización  |            |  |
| Minerales de alteración: Sericita, cuarzo, arcilla.   |            |  |



MUESTRA 727A

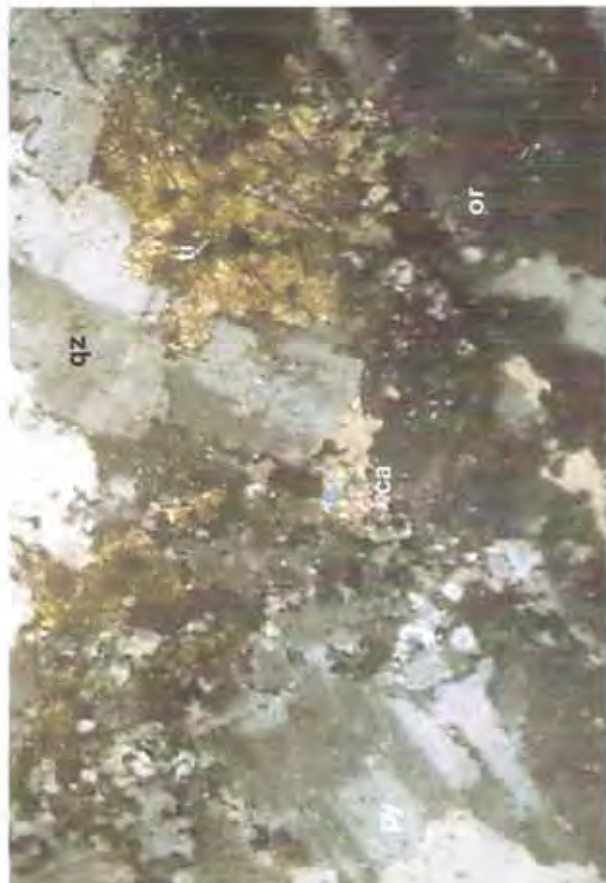




|  |   |
|--|---|
| MUESTRA 777  |   |
| CLASIFICACION Granito  |   |
| COMPOSICION  |   |
| Minerales Principales  | MINERALIZACION Fe, (Ti, Au), muy débil  |
| <p><b>Ortoclasa (or):</b> ~60%, cristales desarrollados perfiticos, diferenciados de otros de menor desarrollo que le dan apariencia porfirica y que se han formado por craquelación de los más desarrollados. Ocurrencia subordinada de microclina.</p> <p><b>Plagioclasa (pg):</b> ~20%, como cristales muy desarrollados, macizados y diferenciados de otros de menor desarrollo que conforman la aparente matriz, ambos están parcialmente sericitizados y argilitizados.</p> <p><b>Cuarzo (qz):</b> ~20%, cristales anhedaes; microcristalino en el contacto del cuarzo de las venillas con la ortoclasa.</p> | <p><b>Accesorios</b></p> <p><b>Minerales Opacos (MO):</b> Muy escasa mineralización en fina dissemination de rutilo, hematita (hm) y goethita que reemplazan a geoformas de magnetita. Trazas de partículas libres de oro nativo (Au) que no superan a las 10 micras; en fina dissemination y asociado con las venillas de cuarzo hidrotermal.</p> <p><b>Trazas</b></p> <p>Zircon<br/>Apatita<br/>Rutilo<br/>Leucoxeno</p> <p>Oro Nativo<br/>Magnetita<br/>Hematita</p> |
| TEXTURA Holocristalina, hipidiomórfica; con venillas de cuarzo y/o calcita   |   |
| ALTERACION Moderada sericitización, silicificación; ligera argilitización y oxidación.   |   |
| Minerales de alteración: Sericita, cuarzo, arcilla, rutilo y hematita  |   |



MUESTRA 777



Lima, 30 de Noviembre de 2006

*Gladys Ocharan*

Dra. Gladys Ocharan Velásquez





**ANEXO N° 4:**  
**DIAGRAMAS DE ROSETAS Y PROYECCION**  
**ESTEREOGRAFICA**



**ANEXO 4.1**

**DIAGRAMAS DE ROSETAS Y PROYECCION  
ESTEREOGRAFICA DE LOS ALREDEDORES DE LA  
ZONA EL CURA**



# MERENDON DE PERU S.A.

## DEPARTAMENTO DE EXPLORACIONES GEOLOGICO MINERAS



### PROYECTO LOS HORNOS

#### II ETAPA

#### PROYECCION ESTEREOGRAFICA DE ALREDEDORES DE LA ZONA EL CURA

#### DATOS DE ESTACIONES

| ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE DE BUZ. | CANTIDAD DE FRACTURAS | ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE DE BUZ. | CANTIDAD DE FRACTURAS |
|------------|-------------|---------|--------|------|-------------------|-----------------------|------------|-------------|---------|--------|------|-------------------|-----------------------|
|            | ESTE        | NORTE   |        |      |                   |                       |            | ESTE        | NORTE   |        |      |                   |                       |
| E-1        | 238403      | 9100825 | 80     | 24   | SE                | 6                     | E-11       | 238560      | 9100631 | 315    | 90   |                   | 1                     |
|            |             |         | 75     | 20   | SE                | 1                     |            |             |         | 310    | 88   | SW                | 1                     |
|            |             |         | 37     | 20   | SE                | 1                     |            |             |         | 316    | 78   | SW                | 1                     |
|            |             |         | 50     | 17   | SE                | 1                     |            |             |         | 318    | 80   | SW                | 1                     |
|            |             |         | 308    | 78   | SW                | 1                     |            |             |         | 35     | 24   | SE                | 1                     |
| E-2        | 238485      | 9100774 | 240    | 79   | SE                | 1                     |            |             |         | 43     | 23   | SE                | 1                     |
|            |             |         | 235    | 78   | SE                | 1                     |            |             |         | 302    | 70   | SW                | 1                     |
|            |             |         | 223    | 74   | SE                | 1                     |            |             |         | 310    | 79   | SW                | 1                     |
|            |             |         | 228    | 78   | SE                | 1                     |            |             |         | 285    | 85   | NE                | 1                     |
|            |             |         | 248    | 83   | NW                | 1                     |            |             |         | 270    | 78   | S                 | 1                     |
| E-3        | 238493      | 9100771 | 240    | 58   | SE                | 1                     |            |             |         | 282    | 78   | SW                | 1                     |
|            |             |         | 215    | 51   | SE                | 1                     |            |             |         | 286    | 80   | SW                | 1                     |
|            |             |         | 255    | 64   | SE                | 1                     |            |             |         | 295    | 77   | SW                | 1                     |
|            |             |         | 258    | 64   | SE                | 1                     |            |             |         | 33     | 5    | SE                | 3                     |
|            |             |         | 265    | 57   | SE                | 1                     | E-12       | 238561      | 9100617 | 325    | 78   | SW                | 1                     |
|            |             |         | 272    | 50   | SW                | 1                     |            |             |         | 330    | 70   | SW                | 1                     |
|            |             |         | 265    | 45   | SE                | 1                     |            |             |         | 330    | 68   | SW                | 1                     |
|            |             |         | 270    | 48   | S                 | 1                     |            |             |         | 335    | 78   | SW                | 1                     |
| E-4        | 238477      | 9100728 | 5      | 34   | SE                | 1                     |            |             |         | 326    | 78   | SW                | 1                     |
|            |             |         | 42     | 75   | NW                | 1                     |            |             |         | 340    | 74   | SW                | 1                     |
|            |             |         | 30     | 64   | NW                | 1                     |            |             |         | 330    | 81   | SW                | 1                     |
|            |             |         | 15     | 58   | NW                | 1                     |            |             |         | 332    | 84   | SW                | 1                     |
|            |             |         | 23     | 24   | SE                | 1                     |            |             |         | 335    | 90   | SW                | 1                     |
| E-5        | 238519      | 9100674 | 217    | 77   | SE                | 8                     |            |             |         | 354    | 90   | SW                | 1                     |
|            |             |         | 228    | 74   | SE                | 2                     |            |             |         | 340    | 90   | SW                | 1                     |
|            |             |         | 240    | 80   | SE                | 15                    | E-13       | 238536      | 9100624 | 25     | 50   | NW                | 1                     |
|            |             |         | 238    | 85   | NW                | 2                     |            |             |         | 35     | 88   | NW                | 1                     |
|            |             |         | 238    | 82   | SE                | 3                     |            |             |         | 28     | 90   |                   | 1                     |
|            |             |         | 236    | 78   | SE                | 1                     |            |             |         | 30     | 80   | NW                | 1                     |
|            |             |         | 253    | 64   | SE                | 1                     |            |             |         | 26     | 78   | NW                | 1                     |
|            |             |         | 270    | 75   | SE                | 2                     |            |             |         | 30     | 84   | NW                | 1                     |
|            |             |         | 86     | 80   | NW                | 1                     |            |             |         | 15     | 27   | SE                | 3                     |
|            |             |         | 84     | 90   |                   | 1                     |            |             |         | 21     | 28   | SE                | 3                     |
|            |             |         | 90     | 88   | SE                | 5                     |            |             |         | 5      | 32   | SE                | 1                     |
|            |             |         | 35     | 85   | SE                | 7                     |            |             |         | 325    | 78   | SW                | 1                     |
|            |             |         | 14     | 55   | NW                | 7                     |            |             |         | 340    | 80   |                   | 1                     |
|            |             |         | 285    | 85   | NW                | 9                     |            |             |         | 10     | 30   | SE                | 2                     |
| E-6        | 238526      | 9100810 | 115    | 24   | NE                | 1                     |            |             |         | 5      | 18   | SE                | 1                     |
|            |             |         | 126    | 85   | SW                | 1                     |            |             |         | 22     | 17   | SE                | 1                     |
|            |             |         | 128    | 84   | SW                | 1                     |            |             |         | 20     | 31   | SE                | 1                     |
|            |             |         | 335    | 20   | NE                | 1                     |            |             |         | 24     | 26   | SE                | 1                     |
|            |             |         | 132    | 85   | SW                | 1                     | E-14       | 238540      | 9100633 | 14     | 20   | SE                | 1                     |
| E-7        | 238505      | 9100813 | 320    | 15   | NE                | 1                     |            |             |         | 5      | 18   | SE                | 1                     |
|            |             |         | 341    | 12   | NE                | 3                     |            |             |         | 355    | 31   | NE                | 5                     |
|            |             |         | 340    | 20   | NE                | 3                     |            |             |         | 52     | 34   | NW                | 1                     |
|            |             |         | 165    | 85   | NE                | 2                     |            |             |         | 25     | 36   | SE                | 1                     |
| E-8        | 238483      | 9100808 | 168    | 86   | NE                | 2                     |            |             |         | 23     | 22   | SE                | 1                     |
|            |             |         | 165    | 24   | NE                | 1                     |            |             |         | 27     | 30   | SE                | 1                     |
|            |             |         | 125    | 68   | SW                | 1                     |            |             |         | 20     | 26   | SE                | 1                     |
|            |             |         | 136    | 77   | SW                | 1                     |            |             |         | 19     | 36   | SE                | 1                     |
|            |             |         | 230    | 86   | NW                | 1                     |            |             |         | 14     | 32   | SE                | 1                     |
|            |             |         | 70     | 80   | SE                | 1                     |            |             |         | 310    | 66   | SW                | 1                     |
|            |             |         | 66     | 84   | SE                | 1                     |            |             |         | 306    | 79   | SW                | 1                     |
|            |             |         | 118    | 25   | NE                | 1                     |            |             |         | 328    | 57   | SW                | 1                     |
|            |             |         | 340    | 22   | NE                | 1                     |            |             |         | 309    | 68   | SW                | 1                     |
|            |             |         | 150    | 21   | NE                | 1                     |            |             |         | 15     | 33   | SE                | 1                     |
| E-9        | 238468      | 9100810 | 170    | 20   | NE                | 1                     |            |             |         | 30     | 30   | SE                | 1                     |
|            |             |         | 320    | 20   | NE                | 1                     |            |             |         | 30     | 44   | SE                | 1                     |
|            |             |         | 295    | 75   | SW                | 1                     |            |             |         | 31     | 36   | SE                | 1                     |
|            |             |         | 296    | 76   | SW                | 1                     |            |             |         | 10     | 27   | SE                | 1                     |
|            |             |         | 322    | 84   | SW                | 1                     | E-16       | 238474      | 9100701 | 330    | 58   | SW                | 1                     |
| E-10       | 238434      | 9100830 | 324    | 19   | NE                | 1                     |            |             |         | 322    | 60   | SW                | 1                     |
|            |             |         | 306    | 80   | SW                | 1                     |            |             |         | 330    | 65   | SW                | 1                     |
|            |             |         | 325    | 25   | NE                | 1                     |            |             |         | 315    | 60   | SW                | 1                     |
|            |             |         | 145    | 34   | NE                | 2                     |            |             |         | 317    | 70   | SW                | 1                     |
|            |             |         | 180    | 24   | NW                | 1                     |            |             |         | 30     | 85   | SE                | 1                     |
|            |             |         | 185    | 38   | NW                | 3                     |            |             |         | 50     | 83   | SE                | 3                     |





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### PROYECTO LOS HORNOS

#### II ETAPA

#### PROYECCION ESTEREOGRAFICA DE ALREDEDORES DE LA ZONA EL CURA

#### DATOS DE ESTACIONES

| ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE<br>DE BUZ. | CANTIDAD DE<br>FRACTURAS | ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE<br>DE BUZ. | CANTIDAD DE<br>FRACTURAS |
|------------|-------------|---------|--------|------|----------------------|--------------------------|------------|-------------|---------|--------|------|----------------------|--------------------------|
|            | ESTE        | NORTE   |        |      |                      |                          |            | ESTE        | NORTE   |        |      |                      |                          |
| E-16       | 238474      | 9100701 | 55     | 90   |                      | 1                        | E-21       | 238432      | 9100766 | 38     | 33   | SE                   | 1                        |
|            |             |         | 95     | 90   |                      | 1                        |            |             |         | 40     | 34   | SE                   | 1                        |
|            |             |         | 97     | 90   |                      | 1                        |            |             |         | 50     | 90   |                      | 2                        |
|            |             |         | 95     | 86   | SW                   | 2                        |            |             |         | 52     | 90   |                      | 1                        |
|            |             |         | 29     | 84   | NW                   | 1                        |            |             |         | 64     | 78   | NW                   | 1                        |
|            |             |         | 30     | 84   | NW                   | 1                        |            |             |         | 45     | 80   | NW                   | 1                        |
|            |             |         | 38     | 73   | NW                   | 1                        |            |             |         | 54     | 62   | NW                   | 1                        |
|            |             |         | 32     | 90   |                      | 2                        |            |             |         | 60     | 45   | SE                   | 1                        |
|            |             |         | 28     | 85   | SE                   | 1                        |            |             |         | 62     | 41   | SE                   | 1                        |
|            |             |         | 24     | 80   | SE                   | 4                        |            |             |         | 58     | 42   | SE                   | 2                        |
|            |             |         | 35     | 72   | NW                   | 1                        | E-22       | 238391      | 9100778 | 355    | 25   | NE                   | 2                        |
|            |             |         | 56     | 86   | NW                   | 1                        |            |             |         | 14     | 28   | SE                   | 2                        |
|            |             |         | 55     | 88   | NW                   | 8                        |            |             |         | 10     | 24   | SE                   | 1                        |
| E-17       | 238453      | 9100733 | 180    | 86   | W                    | 1                        |            |             |         | 15     | 28   | SE                   | 3                        |
|            |             |         | 85     | 82   | NW                   | 1                        |            |             |         | 24     | 25   | SE                   | 1                        |
|            |             |         | 120    | 86   | NE                   | 1                        |            |             |         | 15     | 28   | SE                   | 1                        |
|            |             |         | 112    | 84   | SW                   | 3                        |            |             |         | 14     | 28   | SE                   | 1                        |
|            |             |         | 187    | 70   | NW                   | 2                        |            |             |         | 35     | 20   | SE                   | 1                        |
|            |             |         | 125    | 27   | SW                   | 1                        |            |             |         | 74     | 66   | SE                   | 1                        |
| E-18       | 238430      | 9100736 | 102    | 32   | SW                   | 1                        |            |             |         | 324    | 71   | SW                   | 1                        |
|            |             |         | 15     | 80   | NW                   | 4                        | E-23       | 238363      | 9100813 | 315    | 90   | SW                   | 1                        |
|            |             |         | 3      | 70   | NW                   | 3                        |            |             |         | 75     | 27   | SE                   | 1                        |
|            |             |         | 12     | 66   | SE                   | 1                        |            |             |         | 80     | 20   | SE                   | 1                        |
|            |             |         | 0      | 70   | NW                   | 4                        |            |             |         | 93     | 20   | SW                   | 1                        |
| E-19       | 238512      | 9100701 | 5      | 70   | NW                   | 2                        |            |             |         | 50     | 34   | SE                   | 1                        |
|            |             |         | 32     | 90   |                      | 4                        |            |             |         | 63     | 34   | SE                   | 1                        |
|            |             |         | 238    | 65   | NW                   | 1                        |            |             |         | 90     | 66   | S                    | 1                        |
|            |             |         | 42     | 74   | NW                   | 1                        |            |             |         | 66     | 73   | NW                   | 1                        |
|            |             |         | 40     | 65   | NW                   | 1                        |            |             |         | 67     | 88   | SE                   | 1                        |
|            |             |         | 44     | 65   | NW                   | 1                        |            |             |         | 50     | 58   | NW                   | 1                        |
|            |             |         | 220    | 56   | NW                   | 1                        | E-24       | 238379      | 9100774 | 72     | 88   | SE                   | 1                        |
|            |             |         | 220    | 60   | NW                   | 1                        |            |             |         | 65     | 88   | SE                   | 1                        |
|            |             |         | 222    | 40   | NW                   | 1                        |            |             |         | 65     | 90   |                      | 1                        |
|            |             |         | 225    | 65   | NW                   | 1                        |            |             |         | 74     | 90   |                      | 1                        |
|            |             |         | 238    | 64   | NW                   | 1                        |            |             |         | 77     | 90   |                      | 1                        |
|            |             |         | 224    | 70   | NW                   | 1                        |            |             |         | 87     | 86   | SE                   | 1                        |
|            |             |         | 230    | 61   | NW                   | 1                        |            |             |         | 83     | 90   |                      | 1                        |
|            |             |         | 228    | 57   | NW                   | 1                        |            |             |         | 81     | 86   | SE                   | 1                        |
|            |             |         | 37     | 25   | SE                   | 1                        |            |             |         | 40     | 22   | SE                   | 3                        |
|            |             |         | 205    | 45   | SE                   | 1                        |            |             |         | 50     | 20   | SE                   | 1                        |
|            |             |         | 28     | 38   | SE                   | 1                        |            |             |         | 62     | 24   | SE                   | 1                        |
|            |             |         | 24     | 47   | SE                   | 1                        |            |             |         | 104    | 11   | SW                   | 1                        |
| E-20       | 238509      | 9100727 | 240    | 78   | SE                   | 1                        |            |             |         | 70     | 77   | SE                   | 1                        |
|            |             |         | 228    | 77   | NW                   | 1                        |            |             |         | 70     | 86   | SE                   | 1                        |
|            |             |         | 232    | 84   | NW                   | 1                        |            |             |         | 77     | 90   |                      | 1                        |
|            |             |         | 237    | 84   | SE                   | 1                        |            |             |         | 78     | 88   | SE                   | 1                        |
|            |             |         | 232    | 84   | NW                   | 1                        | E-25       | 238358      | 9100776 | 32     | 47   | SE                   | 1                        |
|            |             |         | 224    | 77   | NW                   | 1                        |            |             |         | 32     | 52   | SE                   | 3                        |
|            |             |         | 224    | 77   | NW                   | 1                        |            |             |         | 23     | 45   | SE                   | 1                        |
|            |             |         | 226    | 66   | NW                   | 1                        |            |             |         | 21     | 51   | SE                   | 1                        |
|            |             |         | 228    | 65   | NW                   | 1                        |            |             |         | 23     | 42   | SE                   | 2                        |
|            |             |         | 232    | 73   | NW                   | 1                        |            |             |         | 34     | 37   | SE                   | 1                        |
|            |             |         | 234    | 81   | NW                   | 1                        |            |             |         | 25     | 35   | SE                   | 3                        |
|            |             |         | 237    | 66   | NW                   | 1                        |            |             |         | 296    | 84   | NE                   | 1                        |
|            |             |         | 235    | 61   | NW                   | 1                        |            |             |         | 22     | 44   | SE                   | 1                        |
|            |             |         | 224    | 80   | NW                   | 1                        |            |             |         | 23     | 38   | SE                   | 1                        |
|            |             |         | 260    | 72   | NW                   | 1                        |            |             |         | 20     | 37   | SE                   | 1                        |
|            |             |         | 248    | 62   | NW                   | 1                        |            |             |         | 25     | 40   | SE                   | 1                        |
|            |             |         | 325    | 32   | NE                   | 2                        |            |             |         | 300    | 90   |                      | 1                        |
|            |             |         | 327    | 25   | NE                   | 2                        |            |             |         | 296    | 90   |                      | 1                        |
| E-21       | 238432      | 9100766 | 42     | 24   | SE                   | 1                        |            |             |         | 300    | 90   |                      | 2                        |
|            |             |         | 45     | 88   | SE                   | 1                        |            |             |         | 300    | 90   |                      | 1                        |
|            |             |         | 37     | 40   | NW                   | 1                        |            |             |         | 314    | 70   | NE                   | 1                        |



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### PROYECTO LOS HORNOS

#### II ETAPA

#### PROYECCION ESTEREOGRAFICA DE ALREDEDORES DE LA ZONA EL CURA

#### DATOS DE ESTACIONES

| ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE<br>DE BUZ. | CANTIDAD DE<br>FRACTURAS | ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE<br>DE BUZ. | CANTIDAD DE<br>FRACTURAS |
|------------|-------------|---------|--------|------|----------------------|--------------------------|------------|-------------|---------|--------|------|----------------------|--------------------------|
|            | ESTE        | NORTE   |        |      |                      |                          |            | ESTE        | NORTE   |        |      |                      |                          |
| E-26       | 238315      | 9100797 | 105    | 90   |                      | 2                        | E-29       | 238365      | 9100794 | 86     | 80   | SW                   | 1                        |
|            |             |         | 110    | 84   | NE                   | 1                        |            |             |         | 94     | 80   | SW                   | 1                        |
|            |             |         | 104    | 86   | NE                   | 1                        |            |             |         | 83     | 84   | SW                   | 1                        |
|            |             |         | 107    | 83   | NE                   | 1                        | E-30       | 238379      | 9100774 | 100    | 21   | NE                   | 1                        |
|            |             |         | 100    | 84   | NE                   | 1                        |            |             |         | 164    | 18   | NE                   | 1                        |
|            |             |         | 200    | 32   | NW                   | 1                        |            |             |         | 165    | 24   | NE                   | 2                        |
|            |             |         | 0      | 30   | NW                   | 1                        |            |             |         | 195    | 23   | NW                   | 3                        |
|            |             |         | 102    | 90   |                      | 1                        |            |             |         | 85     | 85   | SE                   | 1                        |
|            |             |         | 128    | 64   | NE                   | 1                        |            |             |         | 88     | 82   | SE                   | 1                        |
|            |             |         | 120    | 64   | NE                   | 1                        |            |             |         | 80     | 88   | SE                   | 1                        |
|            |             |         | 117    | 68   | NE                   | 3                        |            |             |         | 75     | 82   | NW                   | 1                        |
|            |             |         | 125    | 80   | NE                   | 2                        |            |             |         | 58     | 87   | SE                   | 1                        |
|            |             |         | 115    | 62   | NE                   | 1                        |            |             |         | 74     | 86   | SE                   | 1                        |
|            |             |         | 122    | 62   | NE                   | 1                        |            |             |         | 66     | 90   |                      | 1                        |
|            |             |         | 0      | 29   | NW                   | 1                        |            |             |         | 70     | 87   | SE                   | 1                        |
|            |             |         | 0      | 23   | NW                   | 1                        |            |             |         | 75     | 85   | SE                   | 1                        |
|            |             |         |        |      |                      |                          |            |             |         | 75     | 85   | SE                   | 1                        |
| E-27       | 238338      | 9100825 | 110    | 70   | SW                   | 2                        |            |             |         | 70     | 85   | SE                   | 1                        |
|            |             |         | 108    | 57   | SW                   | 1                        |            |             |         | 70     | 80   | SE                   | 1                        |
|            |             |         | 94     | 35   | NE                   | 1                        |            |             |         | 68     | 77   | SE                   | 1                        |
|            |             |         | 97     | 28   | NE                   | 1                        |            |             |         | 70     | 77   | SE                   | 1                        |
|            |             |         | 102    | 30   | NE                   | 1                        |            |             |         | 67     | 82   | SE                   | 1                        |
|            |             |         | 104    | 25   | NE                   | 1                        | E-31       | 238348      | 9100791 | 30     | 37   | SE                   | 1                        |
|            |             |         | 94     | 30   | NE                   | 1                        |            |             |         | 14     | 32   | SE                   | 1                        |
|            |             |         | 97     | 36   | NE                   | 2                        |            |             |         | 12     | 17   | SE                   | 1                        |
|            |             |         | 26     | 56   | SE                   | 1                        |            |             |         | 18     | 26   | SE                   | 1                        |
|            |             |         | 7      | 48   | SE                   | 1                        |            |             |         | 19     | 30   | SE                   | 1                        |
|            |             |         | 22     | 35   | SE                   | 3                        |            |             |         | 13     | 24   | SE                   | 1                        |
|            |             |         | 25     | 52   | SE                   | 1                        |            |             |         | 15     | 30   | SE                   | 1                        |
|            |             |         | 26     | 50   | SE                   | 1                        |            |             |         | 20     | 46   | NW                   | 1                        |
|            |             |         | 27     | 42   | SE                   | 1                        |            |             |         | 252    | 47   | NW                   | 1                        |
|            |             |         |        |      |                      |                          |            |             |         | 9      | 63   | NW                   | 1                        |
|            |             |         |        |      |                      |                          |            |             |         | 32     | 46   | NW                   | 2                        |
|            |             |         |        |      |                      |                          |            |             |         | 5      | 32   | SE                   | 1                        |
| E-28       | 238337      | 9100836 | 20     | 44   | SE                   | 1                        |            |             |         | 330    | 40   | NE                   | 1                        |
|            |             |         | 20     | 43   | SE                   | 1                        |            |             |         | 150    | 28   | NE                   | 3                        |
|            |             |         | 35     | 45   | SE                   | 1                        | E-32       | 238340      | 9100806 | 110    | 35   | NE                   | 1                        |
|            |             |         | 25     | 40   | SE                   | 1                        |            |             |         | 112    | 38   | NE                   | 1                        |
|            |             |         | 35     | 55   | SE                   | 1                        |            |             |         | 107    | 34   | NE                   | 1                        |
|            |             |         | 42     | 52   | SE                   | 1                        |            |             |         | 110    | 36   | NE                   | 1                        |
|            |             |         | 50     | 47   | SE                   | 1                        |            |             |         | 112    | 39   | NE                   | 1                        |
|            |             |         | 38     | 46   | SE                   | 1                        |            |             |         | 120    | 27   | NE                   | 1                        |
|            |             |         | 34     | 50   | NW                   | 1                        |            |             |         | 118    | 39   | NE                   | 1                        |
|            |             |         | 20     | 40   | SE                   | 1                        |            |             |         | 110    | 53   | SW                   | 1                        |
|            |             |         | 36     | 70   | SE                   | 1                        |            |             |         | 120    | 54   | SW                   | 1                        |
|            |             |         | 51     | 55   | SE                   | 1                        |            |             |         | 118    | 50   | SW                   | 1                        |
|            |             |         | 40     | 72   | SE                   | 1                        |            |             |         | 107    | 26   | NE                   | 1                        |
|            |             |         | 45     | 61   | SE                   | 1                        | E-33       | 238324      | 9100805 | 165    | 25   | SW                   | 1                        |
|            |             |         | 45     | 74   | SE                   | 1                        |            |             |         | 167    | 23   | SW                   | 1                        |
|            |             |         | 37     | 55   | SE                   | 1                        |            |             |         | 155    | 28   | SW                   | 1                        |
| E-29       | 238365      | 9100794 | 35     | 76   | SE                   | 1                        |            |             |         | 232    | 75   | SE                   | 1                        |
|            |             |         | 340    | 17   | NE                   | 1                        |            |             |         | 230    | 75   | SE                   | 1                        |
|            |             |         | 346    | 20   | NE                   | 2                        |            |             |         | 50     | 77   | SE                   | 1                        |
|            |             |         | 336    | 27   | NE                   | 2                        | E-34       | 238315      | 9100824 | 10     | 45   | SE                   | 1                        |
|            |             |         | 342    | 20   | NE                   | 1                        |            |             |         | 20     | 46   | SE                   | 1                        |
|            |             |         | 0      | 78   | E                    | 1                        |            |             |         | 18     | 57   | SE                   | 1                        |
|            |             |         | 36     | 66   | SE                   | 1                        |            |             |         | 15     | 58   | SE                   | 1                        |
|            |             |         | 42     | 64   | SE                   | 1                        |            |             |         | 17     | 56   | SE                   | 1                        |
|            |             |         | 30     | 65   | SE                   | 1                        |            |             |         | 17     | 60   | SE                   | 1                        |
|            |             |         | 45     | 70   | SE                   | 1                        |            |             |         | 17     | 54   | SE                   | 1                        |
|            |             |         | 17     | 20   | SE                   | 1                        |            |             |         | 8      | 35   | SE                   | 1                        |
|            |             |         | 20     | 18   | SE                   | 1                        |            |             |         | 20     | 38   | SE                   | 1                        |
|            |             |         | 25     | 20   | SE                   | 1                        |            |             |         | 18     | 27   | SE                   | 1                        |
|            |             |         | 25     | 26   | SE                   | 1                        |            |             |         | 20     | 28   | SE                   | 1                        |
|            |             |         | 82     | 90   |                      | 1                        |            |             |         | 22     | 31   | SE                   | 2                        |
|            |             |         | 00     | 80   | N                    | 1                        |            |             |         |        |      |                      |                          |
|            |             |         | 94     | 80   | SW                   | 1                        |            |             |         |        |      |                      |                          |
|            |             |         | 30     | 30   | SE                   | 1                        |            |             |         |        |      |                      |                          |
|            |             |         | 37     | 30   | SE                   | 2                        |            |             |         |        |      |                      |                          |





**MERENDON DE PERU S.A.**  
DEPARTAMENTO DE EXPLORACIONES GEOLOGICO MINERAS



**PROYECTO LOS HORNOS**

**II ETAPA**

**PROYECCION ESTEREOGRAFICA DE ALREDEDORES DE LA ZONA EL CURA**

**DATOS DE ESTACIONES**

| ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE DE BUZ. | CANTIDAD DE FRACTURAS | ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE DE BUZ. | CANTIDAD DE FRACTURAS |
|------------|-------------|---------|--------|------|-------------------|-----------------------|------------|-------------|---------|--------|------|-------------------|-----------------------|
|            | ESTE        | NORTE   |        |      |                   |                       |            | ESTE        | NORTE   |        |      |                   |                       |
| E-34       | 238315      | 9100824 | 185    | 40   | SE                | 1                     | E-41       | 238341      | 9100872 | 10     | 65   | NW                | 1                     |
|            |             |         | 7      | 37   | SE                | 1                     |            |             |         | 27     | 74   | NW                | 1                     |
|            |             |         | 165    | 32   | SE                | 1                     |            |             |         | 32     | 70   | NW                |                       |
|            |             |         | 186    | 34   | SE                | 1                     |            |             |         | 20     | 65   | NW                | 1                     |
|            |             |         | 16     | 35   | SE                | 1                     |            |             |         | 20     | 60   | NW                | 1                     |
|            |             |         | 14     | 36   | SE                | 1                     |            |             |         | 36     | 85   | NW                | 1                     |
|            |             |         | 17     | 45   | SE                | 2                     |            |             |         | 35     | 84   | NW                | 1                     |
|            |             |         | 53     | 78   | SE                | 1                     |            |             |         | 80     | 15   | SE                | 1                     |
|            |             |         | 32     | 66   | SE                | 1                     |            |             |         | 47     | 21   | SE                | 2                     |
|            |             |         | 30     | 60   | NW                | 1                     |            |             |         | 36     | 30   | SE                | 1                     |
| E-35       | 238322      | 9100637 | 115    | 53   | SW                | 3                     | E-42       | 238349      | 9100847 | 90     | 68   | SE                | 1                     |
|            |             |         | 127    | 20   | SW                | 1                     |            |             |         | 42     | 90   |                   | 1                     |
|            |             |         | 130    | 40   | SW                | 3                     |            |             |         | 65     | 90   |                   | 1                     |
|            |             |         | 355    | 55   | NE                | 1                     |            |             |         | 335    | 36   | NW                | 2                     |
|            |             |         | 0      | 50   | E                 | 1                     |            |             |         | 144    | 43   | NE                | 3                     |
|            |             |         | 140    | 44   | NE                | 2                     |            |             |         | 235    | 50   | NE                | 2                     |
|            |             |         | 120    | 62   | NE                | 1                     |            |             |         | 175    | 65   | SW                | 2                     |
|            |             |         | 126    | 42   | NE                | 1                     |            |             |         | 8      | 75   | SE                | 3                     |
|            |             |         | 124    | 40   | NE                | 2                     | E-43       | 238354      | 9100842 | 210    | 7    | SE                | 1                     |
|            |             |         | 112    | 43   | SW                | 2                     |            |             |         | 212    | 24   | SE                | 2                     |
| E-36       | 238313      | 9100864 | 166    | 40   | NE                | 1                     |            |             |         | 218    | 16   | SE                | 2                     |
|            |             |         | 164    | 48   | NE                | 1                     |            |             |         | 202    | 34   | SE                | 1                     |
|            |             |         | 165    | 40   | NE                | 1                     |            |             |         | 198    | 32   | SE                | 1                     |
|            |             |         | 177    | 47   | NE                | 1                     | E-44       | 238326      | 9100933 | 165    | 74   | NW                | 1                     |
|            |             |         | 170    | 42   | NE                | 1                     |            |             |         | 168    | 72   | NE                | 1                     |
|            |             |         | 180    | 45   |                   | 1                     |            |             |         | 170    | 67   | NE                | 1                     |
|            |             |         | 170    | 37   | NE                | 1                     |            |             |         | 160    | 62   | NE                | 1                     |
|            |             |         | 65     | 90   |                   | 1                     |            |             |         | 162    | 62   | NE                | 1                     |
|            |             |         | 76     | 75   | NW                | 1                     |            |             |         | 173    | 62   | NE                | 1                     |
|            |             |         | 93     | 88   | NE                | 1                     |            |             |         | 132    | 52   | SW                | 1                     |
|            |             |         | 75     | 80   | NW                | 1                     |            |             |         | 295    | 50   | SW                | 1                     |
|            |             |         | 7      | 38   | NW                | 1                     |            |             |         | 195    | 65   | SE                | 1                     |
|            |             |         | 0      | 32   | NW                | 2                     |            |             |         | 205    | 55   | SE                | 1                     |
|            |             |         | 345    | 40   | NE                | 1                     |            |             |         | 185    | 50   | SE                | 1                     |
|            |             |         | 20     | 50   | NW                | 1                     |            |             |         | 350    | 48   | SW                | 1                     |
|            |             |         | 345    | 45   | NE                | 2                     |            |             |         | 3      | 50   | SE                | 3                     |
| E-37       | 238316      | 9100876 | 163    | 37   | NE                | 1                     |            |             |         | 185    | 60   | SE                | 1                     |
|            |             |         | 155    | 28   | NE                | 1                     |            |             |         | 194    | 60   | SE                | 1                     |
|            |             |         | 160    | 27   | NE                | 1                     |            |             |         | 204    | 42   | SE                | 1                     |
|            |             |         | 20     | 25   | SE                | 3                     |            |             |         | 205    | 44   | SE                | 2                     |
|            |             |         | 18     | 5    | SE                | 2                     |            |             |         | 175    | 58   | SW                | 1                     |
| E-38       | 238323      | 9100904 | 232    | 5    | SE                | 1                     | E-45       | 238389      | 9100905 | 172    | 66   | SW                | 1                     |
|            |             |         | 234    | 12   | SE                | 1                     |            |             |         | 175    | 62   | SW                | 1                     |
|            |             |         | 233    | 17   | SE                | 1                     |            |             |         | 350    | 45   | NE                | 1                     |
|            |             |         | 40     | 15   | SE                | 1                     |            |             |         | 0      | 37   | E                 | 1                     |
|            |             |         | 64     | 17   | SE                | 1                     |            |             |         | 18     | 64   | SE                | 1                     |
|            |             |         | 57     | 16   | SE                | 1                     |            |             |         | 20     | 64   | NW                | 1                     |
|            |             |         | 74     | 6    | SE                | 1                     |            |             |         | 20     | 74   | NW                | 1                     |
|            |             |         | 75     | 30   | SE                | 1                     |            |             |         | 20     | 63   | NW                | 1                     |
| E-39       | 238329      | 9100920 | 40     | 10   | SE                | 3                     |            |             |         | 21     | 70   | NW                | 1                     |
|            |             |         | 42     | 44   | SE                | 1                     |            |             |         | 25     | 60   | NW                | 2                     |
|            |             |         | 37     | 27   | SE                | 1                     |            |             |         | 326    | 60   | NE                | 1                     |
|            |             |         | 58     | 36   | SE                | 1                     |            |             |         | 17     | 60   | SE                | 1                     |
|            |             |         | 187    | 30   | SE                | 1                     | E-46       | 238399      | 9100908 | 12     | 65   | SE                | 1                     |
|            |             |         | 40     | 60   | NW                | 1                     |            |             |         | 7      | 70   | SE                | 1                     |
| E-40       | 238326      | 9100876 | 45     | 65   | NW                | 1                     |            |             |         | 12     | 65   | SE                | 1                     |
|            |             |         | 34     | 70   | NW                | 1                     |            |             |         | 5      | 70   | SE                | 1                     |
|            |             |         | 42     | 70   | NW                | 1                     |            |             |         | 12     | 60   | SE                | 2                     |
|            |             |         | 15     | 60   | NW                | 1                     |            |             |         | 7      | 53   | SE                | 1                     |
|            |             |         | 190    | 70   | NW                | 1                     | E-47       | 238406      | 9100908 | 80     | 74   | SE                | 1                     |
|            |             |         | 185    | 58   | NW                | 1                     |            |             |         | 84     | 74   | SE                | 1                     |
|            |             |         | 195    | 75   | NW                | 1                     |            |             |         | 65     | 75   | SE                | 1                     |
|            |             |         | 197    | 72   | NW                | 1                     |            |             |         | 80     | 76   | SE                | 1                     |





**PROYECTO LOS HORNOS**

**II ETAPA**

**PROYECCION ESTEREOGRAFICA DE ALREDEDORES DE LA ZONA EL CURA**

**DATOS DE ESTACIONES**

| ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE<br>DE BUZ. | CANTIDAD DE<br>FRACTURAS | ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE<br>DE BUZ. | CANTIDAD DE<br>FRACTURAS |
|------------|-------------|---------|--------|------|----------------------|--------------------------|------------|-------------|---------|--------|------|----------------------|--------------------------|
|            | ESTE        | NORTE   |        |      |                      |                          |            | ESTE        | NORTE   |        |      |                      |                          |
| E-47       | 238406      | 9100906 | 316    | 66   | NE                   | 1                        | E-52       | 238405      | 9100968 | 320    | 30   | NE                   | 1                        |
|            |             |         | 140    | 64   | NE                   | 1                        |            |             |         | 330    | 30   | NE                   | 1                        |
|            |             |         | 326    | 76   | NE                   | 1                        |            |             |         | 323    | 18   | NE                   | 1                        |
|            |             |         | 62     | 54   | SE                   | 1                        |            |             |         | 224    | 60   | NW                   | 1                        |
|            |             |         | 70     | 64   | SE                   | 1                        |            |             |         | 225    | 70   | NW                   | 1                        |
|            |             |         | 327    | 66   | NE                   | 1                        |            |             |         | 245    | 67   | NW                   | 1                        |
|            |             |         | 57     | 52   | SE                   | 1                        |            |             |         | 335    | 33   | NE                   | 1                        |
|            |             |         | 70     | 55   | SE                   | 1                        |            |             |         | 260    | 90   |                      | 1                        |
|            |             |         | 180    | 58   | W                    | 1                        | E-53       | 238397      | 9101025 | 275    | 30   | SW                   | 1                        |
|            |             |         | 188    | 52   | NW                   | 1                        |            |             |         | 260    | 32   | SE                   | 1                        |
|            |             |         | 18     | 28   | NW                   | 1                        |            |             |         | 234    | 34   | SE                   | 1                        |
|            |             |         | 10     | 40   | NW                   | 1                        |            |             |         | 248    | 30   | SE                   | 1                        |
|            |             |         | 170    | 28   | SW                   | 1                        |            |             |         | 210    | 40   | SE                   | 1                        |
|            |             |         | 173    | 42   | SW                   | 1                        |            |             |         | 224    | 35   | SE                   | 3                        |
|            |             |         | 170    | 42   | SW                   | 1                        |            |             |         | 240    | 24   | SE                   | 1                        |
|            |             |         | 35     | 62   | SE                   | 1                        |            |             |         | 230    | 28   | SE                   | 1                        |
| E-48       | 238411      | 9100902 | 55     | 57   | SE                   | 1                        |            |             |         | 233    | 25   | SE                   | 1                        |
|            |             |         | 30     | 60   | SE                   | 1                        |            |             |         | 234    | 37   | SE                   | 1                        |
|            |             |         | 30     | 55   | SE                   | 1                        |            |             |         | 270    | 42   | S                    | 1                        |
|            |             |         | 32     | 60   | SE                   | 1                        |            |             |         | 296    | 32   | SW                   | 1                        |
|            |             |         | 30     | 60   | SE                   | 1                        |            |             |         | 294    | 45   | SW                   | 1                        |
|            |             |         | 20     | 66   | SE                   | 1                        |            |             |         | 292    | 48   | SW                   | 1                        |
|            |             |         | 356    | 54   | NE                   | 1                        |            |             |         | 287    | 29   | SW                   | 1                        |
|            |             |         | 350    | 44   | NE                   | 1                        |            |             |         | 285    | 30   | SW                   | 1                        |
| E-49       | 238384      | 9100880 | 167    | 5    | SW                   | 1                        |            |             |         | 280    | 35   | SW                   | 1                        |
|            |             |         | 170    | 10   | SW                   | 2                        |            |             |         | 284    | 46   | SW                   | 1                        |
|            |             |         | 165    | 12   | SW                   | 3                        |            |             |         | 266    | 36   | SW                   | 3                        |
|            |             |         | 175    | 10   | SW                   | 1                        |            |             |         | 274    | 38   | SW                   | 1                        |
|            |             |         | 157    | 4    | SW                   | 3                        | E-54       | 238380      | 9101023 | 324    | 16   | NE                   | 1                        |
|            |             |         | 155    | 5    | SW                   | 1                        |            |             |         | 340    | 19   | NE                   | 1                        |
|            |             |         | 345    | 43   | SW                   | 3                        |            |             |         | 350    | 12   | NE                   | 2                        |
|            |             |         | 333    | 6    | SW                   | 1                        |            |             |         | 334    | 20   | NE                   | 1                        |
|            |             |         | 15     | 16   | SE                   | 1                        |            |             |         | 330    | 15   | NE                   | 2                        |
| E-50       | 238383      | 9100860 | 20     | 10   | SE                   | 1                        |            |             |         | 342    | 13   | NE                   | 1                        |
|            |             |         | 244    | 28   | SE                   | 1                        | E-55       | 238378      | 9101002 | 308    | 70   | SW                   | 1                        |
|            |             |         | 45     | 20   | SE                   | 1                        |            |             |         | 231    | 74   | SE                   | 1                        |
|            |             |         | 54     | 2    | SE                   | 2                        |            |             |         | 232    | 84   | SE                   | 1                        |
|            |             |         | 27     | 25   | SE                   | 1                        |            |             |         | 314    | 32   | SW                   | 1                        |
|            |             |         | 14     | 24   | SE                   | 1                        |            |             |         | 310    | 22   | SW                   | 1                        |
|            |             |         | 17     | 20   | SE                   | 1                        |            |             |         | 307    | 25   | SW                   | 3                        |
|            |             |         | 12     | 15   | SE                   | 1                        |            |             |         | 290    | 26   | SW                   | 1                        |
|            |             |         | 20     | 18   | SE                   | 1                        |            |             |         | 234    | 87   | SE                   | 1                        |
|            |             |         | 35     | 80   |                      | 1                        |            |             |         | 225    | 72   | SE                   | 1                        |
|            |             |         | 52     | 78   | NW                   | 1                        | E-56       | 238362      | 9100982 | 218    | 77   | SE                   | 1                        |
|            |             |         | 25     | 25   | SE                   | 1                        |            |             |         | 308    | 7    | SW                   | 1                        |
|            |             |         | 240    | 85   | SE                   | 1                        |            |             |         | 330    | 17   | SW                   | 3                        |
|            |             |         | 210    | 22   | SE                   | 1                        |            |             |         | 324    | 22   | SW                   | 1                        |
| E-51       | 238398      | 9100967 | 28     | 30   | SE                   | 3                        | E-57       | 238356      | 9101014 | 230    | 90   |                      | 1                        |
|            |             |         | 50     | 75   | NW                   | 1                        |            |             |         | 226    | 76   | NW                   | 1                        |
|            |             |         | 350    | 26   | NE                   | 1                        |            |             |         | 294    | 42   | SW                   | 1                        |
|            |             |         | 342    | 36   | NE                   | 1                        |            |             |         | 40     | 42   | SE                   | 3                        |
|            |             |         | 337    | 30   | NE                   | 1                        | E-58       | 238360      | 9100931 | 35     | 20   | SE                   | 2                        |
|            |             |         | 320    | 43   | NE                   | 1                        |            |             |         | 46     | 28   | SE                   | 1                        |
|            |             |         | 247    | 84   | SE                   | 1                        |            |             |         | 305    | 67   | SW                   | 1                        |
|            |             |         | 247    | 83   | SE                   | 1                        |            |             |         | 212    | 70   | SE                   | 1                        |
|            |             |         | 254    | 80   | SE                   | 1                        |            |             |         | 210    | 75   | SE                   | 1                        |
|            |             |         | 260    | 80   | SE                   | 1                        |            |             |         | 210    | 68   | SE                   | 1                        |
|            |             |         | 240    | 85   | SE                   | 1                        |            |             |         | 116    | 82   | SW                   | 1                        |
|            |             |         | 340    | 17   | NE                   | 1                        |            |             |         | 206    | 78   | SE                   | 1                        |
|            |             |         | 340    | 27   | NE                   | 1                        |            |             |         | 208    | 75   | SE                   | 3                        |
|            |             |         | 235    | 90   |                      | 1                        |            |             |         | 210    | 65   | SE                   | 1                        |
|            |             |         | 236    | 90   |                      | 1                        |            |             |         | 305    | 67   | SW                   | 1                        |
|            |             |         | 240    | 90   |                      | 1                        | E-59       | 238358      | 9101044 | 64     | 67   | NW                   | 1                        |
|            |             |         | 236    | 90   |                      | 1                        |            |             |         | 275    | 82   | NE                   | 1                        |
|            |             |         | 345    | 10   | NE                   | 2                        |            |             |         | 250    | 83   | NW                   | 1                        |
|            |             |         | 250    | 80   | SE                   | 1                        |            |             |         | 263    | 90   |                      | 1                        |



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**PROYECTO LOS HORNOS**

**II ETAPA**

**PROYECCION ESTEREOGRAFICA DE ALREDEDORES DE LA ZONA EL CURA**

**DATOS DE ESTACIONES**

| ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE<br>DE BUZ. | CANTIDAD DE<br>FRACTURAS | ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE<br>DE BUZ. | CANTIDAD DE<br>FRACTURAS |
|------------|-------------|---------|--------|------|----------------------|--------------------------|------------|-------------|---------|--------|------|----------------------|--------------------------|
|            | ESTE        | NORTE   |        |      |                      |                          |            | ESTE        | NORTE   |        |      |                      |                          |
| E-59       | 238358      | 9101044 | 258    | 85   | SE                   | 1                        | E-63       | 238170      | 9101144 | 188    | 52   | NW                   | 1                        |
|            |             |         | 260    | 54   | NW                   | 1                        |            |             |         | 215    | 45   | NW                   | 1                        |
|            |             |         | 236    | 85   | SE                   | 3                        |            |             |         | 210    | 37   | NW                   | 1                        |
|            |             |         | 238    | 76   | NW                   | 2                        |            |             |         | 170    | 37   | SW                   | 1                        |
|            |             |         | 274    | 62   | SW                   | 1                        |            |             |         | 170    | 20   | SW                   | 2                        |
|            |             |         | 274    | 72   | SW                   | 2                        |            |             |         | 165    | 15   | SW                   | 3                        |
|            |             |         | 265    | 90   |                      | 1                        |            |             |         | 0      | 85   | E                    | 1                        |
|            |             |         | 242    | 76   | NW                   | 1                        |            |             |         | 0      | 50   | E                    | 1                        |
|            |             |         | 144    | 68   | SW                   | 1                        |            |             |         | 5      | 57   | SE                   | 1                        |
|            |             |         | 150    | 78   | SW                   | 1                        |            |             |         | 0      | 57   | E                    | 1                        |
|            |             |         | 222    | 80   | NW                   | 1                        |            |             |         | 0      | 60   | E                    | 1                        |
|            |             |         | 278    | 61   | SW                   | 2                        |            |             |         | 355    | 47   | NE                   | 1                        |
|            |             |         | 310    | 86   | NE                   | 2                        |            |             |         | 5      | 60   | SE                   | 1                        |
|            |             |         | 235    | 84   | SE                   | 2                        |            |             |         | 3      | 48   | SE                   | 2                        |
|            |             |         | 235    | 87   | SE                   | 2                        | E-64       | 238179      | 9101129 | 42     | 65   | NW                   | 1                        |
|            |             |         | 68     | 80   | SE                   | 2                        |            |             |         | 40     | 75   | NW                   | 1                        |
|            |             |         | 235    | 54   | SE                   | 2                        |            |             |         | 42     | 72   | NW                   | 1                        |
|            |             |         | 270    | 57   | S                    | 2                        |            |             |         | 24     | 64   | NW                   | 1                        |
|            |             |         | 247    | 90   |                      | 2                        |            |             |         | 30     | 66   | NW                   | 1                        |
|            |             |         | 254    | 37   | SE                   | 2                        |            |             |         | 33     | 64   | NW                   | 1                        |
|            |             |         | 240    | 57   | SE                   | 2                        |            |             |         | 15     | 60   | NW                   | 1                        |
|            |             |         | 212    | 70   | NW                   | 2                        |            |             |         | 40     | 48   | NW                   | 1                        |
|            |             |         | 236    | 52   | SE                   | 1                        |            |             |         | 47     | 85   | NW                   | 1                        |
|            |             |         | 170    | 75   | SW                   | 1                        |            |             |         | 37     | 72   | NW                   | 1                        |
|            |             |         | 78     | 75   | NW                   | 1                        |            |             |         | 30     | 72   | NW                   | 1                        |
|            |             |         | 170    | 28   | SW                   | 3                        |            |             |         | 22     | 75   | NW                   | 1                        |
| E-60       | 238356      | 9101067 | 283    | 58   | SW                   | 1                        |            |             |         | 47     | 78   | NW                   | 1                        |
|            |             |         | 295    | 56   | SW                   | 1                        |            |             |         | 42     | 75   | NW                   | 3                        |
|            |             |         | 300    | 48   | SW                   | 1                        |            |             |         | 22     | 64   | NW                   | 1                        |
|            |             |         | 296    | 47   | SW                   | 1                        |            |             |         | 20     | 67   | NW                   | 1                        |
|            |             |         | 286    | 56   | SW                   | 3                        |            |             |         | 40     | 75   | SE                   | 1                        |
|            |             |         | 275    | 60   | SW                   | 1                        |            |             |         | 34     | 75   | NW                   | 1                        |
|            |             |         | 200    | 20   | SE                   | 1                        |            |             |         | 52     | 80   | NW                   | 1                        |
|            |             |         | 3      | 15   | SE                   | 3                        |            |             |         | 340    | 50   | NE                   | 1                        |
|            |             |         | 237    | 90   |                      | 1                        |            |             |         | 0      | 46   | E                    | 1                        |
|            |             |         | 255    | 68   | SE                   | 1                        |            |             |         | 0      | 47   | E                    | 1                        |
|            |             |         | 342    | 14   | NE                   | 1                        |            |             |         | 0      | 60   | E                    | 1                        |
|            |             |         | 116    | 80   | SW                   | 1                        |            |             |         | 0      | 52   | E                    | 1                        |
|            |             |         | 265    | 88   | NE                   | 1                        |            |             |         | 355    | 42   | NE                   | 1                        |
|            |             |         | 345    | 22   | SW                   | 2                        |            |             |         | 10     | 45   | SE                   | 1                        |
|            |             |         | 274    | 85   | SW                   | 1                        |            |             |         | 10     | 44   | SE                   | 1                        |
|            |             |         | 270    | 82   | S                    | 2                        |            |             |         | 348    | 60   | NE                   | 1                        |
|            |             |         | 290    | 86   | SW                   | 1                        |            |             |         | 3      | 55   | SE                   | 1                        |
|            |             |         | 295    | 60   | SW                   | 1                        |            |             |         | 0      | 44   | SE                   | 1                        |
|            |             |         | 347    | 22   | NE                   | 1                        |            |             |         | 332    | 53   | NE                   | 1                        |
|            |             |         | 345    | 16   | NE                   | 2                        |            |             |         | 340    | 60   | NE                   | 1                        |
| E-61       | 238398      | 9100853 | 120    | 70   | SW                   | 1                        |            |             |         | 337    | 50   | NE                   | 3                        |
|            |             |         | 234    | 74   | SE                   | 1                        | E-65       | 238094      | 9101226 | 122    | 18   | NE                   | 1                        |
|            |             |         | 350    | 24   | NE                   | 2                        |            |             |         | 121    | 16   | NE                   | 3                        |
|            |             |         | 0      | 35   | NW                   | 1                        |            |             |         | 120    | 15   | NE                   | 2                        |
|            |             |         | 117    | 75   | SW                   | 1                        |            |             |         | 137    | 35   | NE                   | 1                        |
|            |             |         | 102    | 67   | SW                   | 1                        |            |             |         | 46     | 76   | NW                   | 1                        |
| E-62       | 238170      | 9101150 | 17     | 30   | SE                   | 2                        |            |             |         | 48     | 70   | NW                   | 1                        |
|            |             |         | 115    | 75   | SW                   | 1                        |            |             |         | 35     | 75   | SE                   | 1                        |
|            |             |         | 320    | 12   | NE                   | 1                        |            |             |         | 43     | 80   | SE                   | 1                        |
|            |             |         | 143    | 24   | NE                   | 2                        | E-66       | 238076      | 9101243 | 100    | 52   | NE                   | 1                        |
| E-63       | 238170      | 9101144 | 352    | 74   | NE                   | 1                        |            |             |         | 112    | 45   | NE                   | 1                        |
|            |             |         | 352    | 72   | NE                   | 1                        |            |             |         | 112    | 47   | NE                   | 1                        |
|            |             |         | 110    | 75   | SW                   | 1                        |            |             |         | 105    | 18   | NE                   | 1                        |
|            |             |         | 167    | 14   | NE                   | 2                        |            |             |         | 115    | 47   | SW                   | 1                        |
|            |             |         | 160    | 30   | NE                   | 1                        |            |             |         | 120    | 50   | SW                   | 1                        |
|            |             |         | 160    | 20   | NE                   | 1                        |            |             |         | 0      | 73   | SE                   | 1                        |
|            |             |         | 183    | 8    | SE                   | 1                        |            |             |         | 104    | 20   | SW                   | 1                        |
|            |             |         | 203    | 16   | SE                   | 3                        |            |             |         | 270    | 30   | S                    | 1                        |
|            |             |         | 205    | 15   | SE                   | 3                        |            |             |         | 105    | 50   | NE                   | 1                        |
|            |             |         | 192    | 50   | NW                   | 1                        |            |             |         | 102    | 60   | NE                   | 1                        |
|            |             |         | 298    | 57   | NW                   | 3                        |            |             |         | 102    | 32   | NE                   | 1                        |





# MERENDON DE PERU S.A.

## DEPARTAMENTO DE EXPLORACIONES GEOLOGICO MINERAS



### PROYECTO LOS HORNOS

#### II ETAPA

#### PROYECCION ESTEREOGRAFICA DE ALREDEDORES DE LA ZONA EL CURA

#### DATOS DE ESTACIONES

| ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE DE BUZ. | CANTIDAD DE FRACTURAS |
|------------|-------------|---------|--------|------|-------------------|-----------------------|
|            | ESTE        | NORTE   |        |      |                   |                       |
| E-66       | 238076      | 9101243 | 102    | 38   | NE                | 1                     |
|            |             |         | 05     | 30   | NE                | 1                     |
|            |             |         | 117    | 42   | NE                | 1                     |
|            |             |         | 47     | 65   | SE                | 1                     |
|            |             |         | 45     | 58   | SE                | 2                     |
|            |             |         | 25     | 82   | SE                | 1                     |
|            |             |         | 20     | 65   | SE                | 1                     |
|            |             |         | 27     | 67   | SE                | 1                     |
|            |             |         | 25     | 57   | SE                | 1                     |
|            |             |         | 12     | 85   | SE                | 1                     |
|            |             |         | 25     | 65   | SE                | 2                     |
|            |             |         | 78     | 23   | SE                | 1                     |
|            |             |         | 77     | 5    | NW                | 2                     |
|            |             |         | 115    | 27   | NE                | 1                     |
| E-67       | 238065      | 9101251 | 117    | 29   | NE                | 1                     |
|            |             |         | 122    | 34   | NE                | 1                     |
|            |             |         | 118    | 34   | NE                | 1                     |
|            |             |         | 115    | 42   | NE                | 1                     |
|            |             |         | 122    | 35   | NE                | 1                     |
|            |             |         | 125    | 35   | NE                | 1                     |
|            |             |         | 130    | 40   | NE                | 1                     |
|            |             |         | 120    | 32   | NE                | 1                     |
|            |             |         | 115    | 38   | NE                | 1                     |
|            |             |         | 115    | 33   | NE                | 1                     |
|            |             |         | 120    | 46   | NE                | 1                     |
|            |             |         | 121    | 43   | NE                | 1                     |
|            |             |         | 42     | 90   |                   | 1                     |
|            |             |         | 44     | 76   | NW                | 1                     |
|            |             |         | 40     | 86   | NW                | 1                     |
|            |             |         | 39     | 58   | SE                | 2                     |
|            |             |         | 42     | 87   | SE                | 1                     |
|            |             |         | 42     | 88   | NW                | 1                     |
| E-68       | 238395      | 9101114 | 32     | 75   | SE                | 5                     |
|            |             |         | 26     | 22   | SE                | 1                     |
|            |             |         | 199    | 20   | SE                | 2                     |
|            |             |         | 156    | 45   | SW                | 1                     |
|            |             |         | 5      | 64   | NW                | 1                     |
|            |             |         | 355    | 32   | NE                | 1                     |
|            |             |         | 0      | 27   | E                 | 1                     |
|            |             |         | 0      | 38   | E                 | 1                     |
|            |             |         | 0      | 77   | E                 | 1                     |
|            |             |         | 190    | 67   | NW                | 2                     |
|            |             |         | 195    | 66   | NW                | 1                     |
|            |             |         | 194    | 70   | NW                | 1                     |
|            |             |         | 195    | 82   | NW                | 1                     |
|            |             |         | 5      | 31   | SE                | 2                     |
|            |             |         | 174    | 76   | SW                | 1                     |
|            |             |         | 352    | 18   | NE                | 1                     |
|            |             |         | 280    | 72   | SW                | 1                     |
|            |             |         | 265    | 74   | SW                | 1                     |
|            |             |         | 292    | 81   | SW                | 1                     |
|            |             |         | 286    | 78   | SW                | 1                     |
|            |             |         | 280    | 76   | SW                | 1                     |
| E-69       | 238396      | 9101119 | 325    | 26   | NE                | 1                     |
|            |             |         | 330    | 16   | NE                | 1                     |
|            |             |         | 337    | 32   | NE                | 1                     |
|            |             |         | 330    | 31   | NE                | 1                     |
|            |             |         | 335    | 14   | NE                | 1                     |
|            |             |         | 330    | 17   | NE                | 1                     |
|            |             |         | 320    | 22   | NE                | 2                     |
|            |             |         | 247    | 84   | SE                | 1                     |
|            |             |         | 240    | 90   |                   | 1                     |
|            |             |         | 240    | 87   | SE                | 1                     |
|            |             |         | 238    | 90   |                   | 1                     |
|            |             |         | 332    | 62   | SW                | 1                     |
|            |             |         | 334    | 78   | SW                | 1                     |
|            |             |         | 200    | 58   | NW                | 1                     |
| E-68       | 238396      | 9101119 | 188    | 72   | NW                | 1                     |
|            |             |         | 337    | 74   | SW                | 1                     |
|            |             |         | 345    | 18   | NE                | 2                     |
|            |             |         | 310    | 32   | NE                | 1                     |
|            |             |         | 284    | 77   | SW                | 1                     |
|            |             |         | 296    | 88   | SW                | 1                     |
|            |             |         | 295    | 88   | SW                | 1                     |
|            |             |         | 292    | 72   | SW                | 1                     |
|            |             |         | 34     | 17   | SE                | 1                     |
|            |             |         | 22     | 0    | SE                | 1                     |
|            |             |         | 350    | 28   | NE                | 1                     |
|            |             |         | 193    | 65   | NW                | 1                     |
|            |             |         | 234    | 87   | SE                | 1                     |
|            |             |         | 355    | 30   | NE                | 1                     |
| E-70       | 238391      | 9101123 | 347    | 84   | NE                | 1                     |
|            |             |         | 344    | 57   | SW                | 1                     |
|            |             |         | 175    | 58   | SW                | 1                     |
|            |             |         | 140    | 65   | SW                | 1                     |
|            |             |         | 234    | 90   |                   | 1                     |
|            |             |         | 310    | 16   | NE                | 1                     |
|            |             |         | 320    | 17   | NE                | 1                     |
|            |             |         | 320    | 18   | NE                | 1                     |
|            |             |         | 232    | 90   |                   | 1                     |
|            |             |         | 327    | 32   | NE                | 1                     |
|            |             |         | 224    | 88   | NW                | 1                     |
|            |             |         | 220    | 78   | NW                | 1                     |
|            |             |         | 232    | 68   | NW                | 1                     |
|            |             |         | 318    | 38   | NE                | 1                     |
| E-71       | 238417      | 9101167 | 308    | 25   | NE                | 1                     |
|            |             |         | 307    | 12   | NE                | 1                     |
|            |             |         | 308    | 24   | NE                | 1                     |
|            |             |         | 315    | 26   | NE                | 1                     |
|            |             |         | 318    | 16   | NE                | 1                     |
|            |             |         | 73     | 84   | SE                | 1                     |
|            |             |         | 235    | 80   | SE                | 2                     |
|            |             |         | 237    | 84   | SE                | 1                     |
|            |             |         | 258    | 76   | SE                | 1                     |
|            |             |         | 205    | 75   | SE                | 1                     |
|            |             |         | 215    | 84   | NW                | 1                     |
|            |             |         | 230    | 78   | NW                | 1                     |
|            |             |         | 295    | 58   | SW                | 1                     |
|            |             |         | 300    | 62   | SW                | 1                     |
|            |             |         | 256    | 80   | SE                | 1                     |
|            |             |         | 275    | 73   | SW                | 1                     |
|            |             |         | 316    | 25   | NE                | 3                     |
|            |             |         | 350    | 20   | NE                | 2                     |
| E-72       | 238412      | 9101148 | 12     | 81   | SE                | 1                     |
|            |             |         | 225    | 90   |                   | 1                     |
|            |             |         | 240    | 87   | SE                | 1                     |
|            |             |         | 238    | 87   | SE                | 1                     |
|            |             |         | 225    | 90   |                   | 1                     |
|            |             |         | 226    | 85   | NW                | 1                     |
|            |             |         | 322    | 88   | SW                | 1                     |
|            |             |         | 320    | 65   | SW                | 1                     |
|            |             |         | 324    | 80   | SW                | 1                     |
|            |             |         | 272    | 8    | NE                | 1                     |
|            |             |         | 310    | 15   | NE                | 1                     |
|            |             |         | 327    | 25   | NE                | 3                     |
|            |             |         | 297    | 16   | NE                | 1                     |
|            |             |         | 194    | 86   | SE                | 1                     |
|            |             |         | 210    | 77   | NW                | 2                     |
|            |             |         | 325    | 80   | NE                | 2                     |
|            |             |         | 214    | 75   | NW                | 1                     |
|            |             |         | 216    | 75   | NW                | 1                     |
|            |             |         | 207    | 77   | NW                | 1                     |
|            |             |         | 315    | 77   | NW                | 1                     |
|            |             |         | 216    | 78   | NW                | 1                     |





**MERENDON DE PERU S.A.**  
DEPARTAMENTO DE EXPLORACIONES GEOLOGICO MINERAS



**PROYECTO LOS HORNOS**

**II ETAPA**

**PROYECCION ESTEREOGRAFICA DE ALREDEDORES DE LA ZONA EL CURA**

**DATOS DE ESTACIONES**

| ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE DE BUZ. | CANTIDAD DE FRACTURAS | ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE DE BUZ. | CANTIDAD DE FRACTURAS |
|------------|-------------|---------|--------|------|-------------------|-----------------------|------------|-------------|---------|--------|------|-------------------|-----------------------|
|            | ESTE        | NORTE   |        |      |                   |                       |            | ESTE        | NORTE   |        |      |                   |                       |
| E-72       | 238412      | 9101146 | 215    | 82   | NW                | 2                     | E-77       | 238404      | 9101182 | 322    | 13   | NE                | 1                     |
|            |             |         | 228    | 84   | NW                | 3                     |            |             |         | 323    | 18   | NE                | 1                     |
|            |             |         | 45     | 80   | NW                | 1                     |            |             |         | 38     | 88   | SE                | 1                     |
| E-73       | 238399      | 9101144 | 24     | 32   | SE                | 3                     | E-78       | 238391      | 9101194 | 340    | 23   | NE                | 1                     |
|            |             |         | 146    | 10   | NE                | 2                     |            |             |         | 318    | 21   | NE                | 1                     |
|            |             |         | 50     | 85   | NW                | 1                     |            |             |         | 316    | 16   | NE                | 3                     |
|            |             |         | 55     | 83   | NW                | 1                     |            |             |         | 305    | 26   | NE                | 1                     |
|            |             |         | 245    | 38   | SE                | 1                     |            |             |         | 306    | 17   | NE                | 1                     |
| E-74       | 238385      | 9101141 | 295    | 48   | SW                | 2                     |            |             |         | 227    | 85   | SE                | 1                     |
|            |             |         | 325    | 90   | SW                | 1                     |            |             |         | 314    | 30   | NE                | 1                     |
|            |             |         | 305    | 77   | SW                | 1                     |            |             |         | 340    | 73   | SW                | 1                     |
|            |             |         | 327    | 76   | SW                | 2                     |            |             |         | 232    | 61   | SE                | 1                     |
|            |             |         | 327    | 70   | SW                | 1                     |            |             |         | 234    | 83   | SE                | 1                     |
|            |             |         | 345    | 82   | SW                | 1                     |            |             |         | 236    | 68   | SE                | 1                     |
|            |             |         | 310    | 74   | SW                | 1                     |            |             |         | 234    | 74   | SE                | 1                     |
|            |             |         | 292    | 60   | SW                | 1                     |            |             |         | 252    | 73   | SE                | 1                     |
|            |             |         | 280    | 61   | SW                | 2                     |            |             |         | 253    | 61   | SE                | 1                     |
|            |             |         | 290    | 53   | SW                | 1                     |            |             |         | 246    | 72   | SE                | 1                     |
|            |             |         | 285    | 45   | SW                | 1                     |            |             |         | 252    | 68   | SE                | 3                     |
|            |             |         | 297    | 35   | SW                | 1                     |            |             |         | 295    | 14   | NE                | 3                     |
|            |             |         | 14     | 34   | SE                | 1                     |            |             |         | 36     | 12   | SE                | 1                     |
|            |             |         | 212    | 30   | SE                | 1                     |            |             |         | 40     | 20   | SE                | 1                     |
|            |             |         | 200    | 28   | SE                | 1                     |            |             |         | 42     | 11   | SE                | 1                     |
|            |             |         | 347    | 86   | SW                | 1                     |            |             |         | 40     | 18   | SE                | 1                     |
|            |             |         | 240    | 71   | SE                | 1                     |            |             |         | 40     | 11   | SE                | 1                     |
|            |             |         | 20     | 30   | SE                | 1                     |            |             |         | 40     | 8    | SE                | 1                     |
|            |             |         | 25     | 27   | SE                | 1                     |            |             |         | 40     | 8    | SE                | 1                     |
|            |             |         | 5      | 30   | SE                | 1                     |            |             |         | 260    | 6    | SE                | 3                     |
|            |             |         | 336    | 80   | SW                | 1                     |            |             |         | 325    | 12   | NE                | 2                     |
|            |             |         | 325    | 70   | SW                | 1                     |            |             |         | 330    | 75   | SW                | 1                     |
|            |             |         | 330    | 67   | SW                | 1                     |            |             |         | 327    | 7    | NE                | 1                     |
|            |             |         | 340    | 20   | NE                | 4                     |            |             |         | 314    | 80   | SW                | 1                     |
|            |             |         | 12     | 22   | SE                | 6                     |            |             |         | 320    | 65   | SW                | 1                     |
|            |             |         | 105    | 25   | NE                | 8                     |            |             |         | 325    | 61   | SW                | 1                     |
| E-75       | 238379      | 9101037 | 180    | 87   | E                 | 1                     | E-79       | 238483      | 9101332 | 322    | 80   | SW                | 1                     |
|            |             |         | 315    | 20   | NE                | 1                     |            |             |         | 337    | 12   | SW                | 5                     |
|            |             |         | 330    | 24   | NE                | 3                     |            |             |         | 340    | 18   | SW                | 5                     |
|            |             |         | 320    | 60   | SW                | 1                     |            |             |         | 330    | 18   | SW                | 5                     |
|            |             |         | 310    | 60   | SW                | 1                     |            |             |         | 325    | 14   | SW                | 5                     |
|            |             |         | 180    | 67   | NW                | 1                     |            |             |         | 330    | 75   | SW                | 1                     |
|            |             |         | 190    | 74   | NW                | 1                     |            |             |         | 320    | 25   | SW                | 5                     |
|            |             |         | 195    | 68   | NW                | 1                     |            |             |         | 320    | 16   | SW                | 5                     |
|            |             |         | 180    | 64   | W                 | 1                     |            |             |         | 236    | 75   | SE                | 2                     |
|            |             |         | 224    | 90   |                   | 1                     |            |             |         | 305    | 38   | SW                | 1                     |
| E-76       | 238391      | 9101183 | 284    | 60   | SW                | 1                     | E-80       | 238467      | 9101308 | 305    | 25   | SW                | 2                     |
|            |             |         | 142    | 65   | SW                | 1                     |            |             |         | 304    | 22   | SW                | 1                     |
|            |             |         | 150    | 63   | SW                | 1                     |            |             |         | 305    | 10   | SW                | 3                     |
|            |             |         | 180    | 58   | S                 | 1                     |            |             |         | 312    | 24   | SW                | 1                     |
|            |             |         | 182    | 62   | NW                | 1                     |            |             |         | 315    | 30   | SW                | 3                     |
|            |             |         | 290    | 52   | SW                | 1                     |            |             |         | 50     | 80   | SE                | 1                     |
|            |             |         | 305    | 28   | SW                | 1                     |            |             |         | 326    | 34   | SW                | 3                     |
|            |             |         | 288    | 55   | SW                | 1                     |            |             |         | 325    | 24   | SW                | 2                     |
|            |             |         | 290    | 48   | SW                | 1                     |            |             |         | 325    | 32   | SW                | 2                     |
|            |             |         | 284    | 30   | NE                | 1                     |            |             |         | 325    | 25   | SW                | 1                     |
|            |             |         | 286    | 32   | NE                | 1                     |            |             |         | 46     | 87   | NW                | 1                     |
|            |             |         | 305    | 44   | NE                | 3                     |            |             |         | 325    | 73   | NE                | 3                     |
|            |             |         | 285    | 28   | NE                | 1                     | E-81       | 238466      | 9101316 | 236    | 82   | SE                | 1                     |
|            |             |         | 297    | 30   | NE                | 1                     |            |             |         | 238    | 86   | SE                | 1                     |
|            |             |         | 320    | 70   | SW                | 1                     |            |             |         | 272    | 76   | SW                | 2                     |
|            |             |         | 324    | 63   | SW                | 1                     |            |             |         | 334    | 76   | SW                | 1                     |
|            |             |         | 310    | 54   | SW                | 1                     |            |             |         | 241    | 78   | SE                | 2                     |
|            |             |         | 306    | 73   | SW                | 1                     |            |             |         | 220    | 58   | SE                | 1                     |
|            |             |         | 215    | 75   | SE                | 1                     |            |             |         | 238    | 90   | SE                | 2                     |
|            |             |         | 314    | 75   | SW                | 1                     |            |             |         | 10     | 40   | SE                | 4                     |
|            |             |         | 265    | 22   | NW                | 1                     |            |             |         | 13     | 31   | SE                | 2                     |
|            |             |         | 260    | 17   | NE                | 1                     |            |             |         | 332    | 79   | SW                | 2                     |
| E-77       | 238404      | 9101182 | 42     | 84   | NW                | 1                     |            |             |         | 330    | 80   | SW                | 2                     |



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### PROYECTO LOS HORNOS

#### II ETAPA

#### PROYECCION ESTEREOGRAFICA DE ALREDEDORES DE LA ZONA EL CURA

#### DATOS DE ESTACIONES

| ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE DE BUZ. | CANTIDAD DE FRACTURAS | ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE DE BUZ. | CANTIDAD DE FRACTURAS |
|------------|-------------|---------|--------|------|-------------------|-----------------------|------------|-------------|---------|--------|------|-------------------|-----------------------|
|            | ESTE        | NORTE   |        |      |                   |                       |            | ESTE        | NORTE   |        |      |                   |                       |
| E-82       | 238457      | 9101303 | 273    | 70   | SW                | 1                     | E-87       | 238307      | 9101303 | 109    | 37   | NE                | 1                     |
|            |             |         | 276    | 74   | SW                | 2                     |            |             |         | 103    | 21   | NE                | 2                     |
|            |             |         | 292    | 70   | NE                | 1                     |            |             |         | 107    | 21   | NE                | 1                     |
|            |             |         | 288    | 74   | NE                | 1                     |            |             |         | 120    | 20   | NE                | 1                     |
|            |             |         | 334    | 86   | SW                | 3                     |            |             |         | 115    | 18   | NE                | 1                     |
|            |             |         | 315    | 80   | SW                | 2                     |            |             |         | 117    | 21   | NE                | 3                     |
|            |             |         | 315    | 78   | SW                | 1                     |            |             |         | 176    | 47   | SW                | 1                     |
|            |             |         | 316    | 72   | SW                | 2                     | E-88       | 238541      | 9101488 | 295    | 30   | NE                | 2                     |
|            |             |         | 320    | 73   | SW                | 1                     |            |             |         | 304    | 26   | NE                | 1                     |
|            |             |         | 288    | 46   | SW                | 1                     |            |             |         | 303    | 25   | NE                | 2                     |
|            |             |         | 315    | 65   | SW                | 3                     |            |             |         | 303    | 24   | NE                | 1                     |
|            |             |         | 282    | 60   | SW                | 2                     |            |             |         | 300    | 22   | NE                | 2                     |
|            |             |         | 333    | 10   | NE                | 2                     |            |             |         | 300    | 30   | NE                | 2                     |
|            |             |         | 340    | 15   | NE                | 2                     |            |             |         | 326    | 66   | SW                | 1                     |
|            |             |         | 300    | 76   | SW                | 1                     |            |             |         | 322    | 86   | NE                | 1                     |
|            |             |         | 300    | 74   | SW                | 1                     |            |             |         | 336    | 86   | NE                | 1                     |
|            |             |         | 915    | 75   | SW                | 1                     |            |             |         | 337    | 90   |                   | 1                     |
|            |             |         | 315    | 74   | SW                | 1                     |            |             |         | 350    | 87   | NE                | 5                     |
|            |             |         | 16     | 24   | SE                | 2                     |            |             |         | 350    | 82   | NE                | 1                     |
|            |             |         | 272    | 80   | SW                | 1                     |            |             |         | 342    | 74   | NE                | 1                     |
|            |             |         | 250    | 85   | SE                | 1                     |            |             |         | 332    | 80   | NE                | 1                     |
| E-83       | 238442      | 9101293 | 250    | 80   | SE                | 1                     |            |             |         | 226    | 66   | SE                | 1                     |
|            |             |         | 280    | 80   | SW                | 1                     |            |             |         | 351    | 81   | NE                | 2                     |
|            |             |         | 275    | 82   | SW                | 1                     |            |             |         | 230    | 71   | NW                | 2                     |
|            |             |         | 22     | 83   | SE                | 1                     |            |             |         | 350    | 90   |                   | 1                     |
|            |             |         | 318    | 20   | NE                | 2                     |            |             |         | 54     | 84   | SE                | 1                     |
|            |             |         | 40     | 86   | SE                | 1                     |            |             |         | 45     | 84   | SE                | 1                     |
|            |             |         | 224    | 46   | NW                | 1                     |            |             |         | 40     | 80   | NW                | 1                     |
|            |             |         | 220    | 80   | NW                | 2                     | E-89       | 238529      | 9101453 | 320    | 60   | NE                | 1                     |
|            |             |         | 214    | 50   | NW                | 2                     |            |             |         | 314    | 89   | NE                | 1                     |
|            |             |         | 214    | 55   | NW                | 1                     |            |             |         | 320    | 75   | NE                | 1                     |
|            |             |         | 215    | 50   | NW                | 1                     |            |             |         | 326    | 74   | NE                | 1                     |
|            |             |         | 204    | 68   | NW                | 3                     |            |             |         | 326    | 71   | NE                | 1                     |
|            |             |         | 325    | 86   | SW                | 1                     |            |             |         | 321    | 76   | NE                | 1                     |
|            |             |         | 352    | 78   | NE                | 3                     |            |             |         | 331    | 80   | NE                | 1                     |
|            |             |         | 32     | 13   | SE                | 1                     |            |             |         | 327    | 81   | NE                | 1                     |
|            |             |         | 40     | 15   | SE                | 8                     |            |             |         | 156    | 42   | NE                | 1                     |
|            |             |         | 26     | 72   | NW                | 2                     |            |             |         | 160    | 22   | NE                | 1                     |
|            |             |         | 30     | 16   | SE                | 8                     |            |             |         | 150    | 22   | NE                | 1                     |
|            |             |         | 297    | 90   |                   | 3                     |            |             |         | 170    | 35   | NE                | 1                     |
|            |             |         | 270    | 84   | N                 | 4                     |            |             |         | 154    | 20   | NE                | 1                     |
|            |             |         | 282    | 84   | SW                | 3                     |            |             |         | 155    | 21   | NE                | 1                     |
| E-85       | 238425      | 9101308 | 283    | 84   | SW                | 2                     |            |             |         | 220    | 80   | NW                | 1                     |
|            |             |         | 313    | 5    | NE                | 3                     |            |             |         | 232    | 80   | NW                | 3                     |
|            |             |         | 240    | 88   | SE                | 1                     |            |             |         | 232    | 78   | NW                | 1                     |
|            |             |         | 242    | 90   |                   | 1                     |            |             |         | 222    | 90   |                   | 1                     |
|            |             |         | 214    | 8    | SE                | 2                     | E-90       | 238525      | 9101429 | 232    | 84   | NW                | 1                     |
| E-86       | 238422      | 9101288 | 290    | 62   | SW                | 8                     |            |             |         | 232    | 76   | NW                | 1                     |
|            |             |         | 275    | 85   | NE                | 3                     |            |             |         | 226    | 90   |                   | 1                     |
|            |             |         | 310    | 32   | SW                | 3                     |            |             |         | 236    | 65   | NW                | 1                     |
|            |             |         | 270    | 34   | S                 | 5                     |            |             |         | 230    | 71   | NW                | 1                     |
|            |             |         | 272    | 88   | SW                | 5                     |            |             |         | 226    | 84   | SE                | 3                     |
|            |             |         | 297    | 45   | SW                | 5                     |            |             |         | 240    | 85   | SE                | 1                     |
|            |             |         | 330    | 43   | SW                | 10                    |            |             |         | 236    | 86   | NW                | 1                     |
|            |             |         | 15     | 77   | SE                | 1                     |            |             |         | 230    | 86   | SE                | 1                     |
|            |             |         | 16     | 79   | SE                | 1                     |            |             |         | 244    | 85   | NW                | 1                     |
|            |             |         | 2      | 76   | SE                | 1                     |            |             |         | 240    | 86   | NW                | 1                     |
| E-87       | 238307      | 9101303 | 40     | 74   | SE                | 1                     |            |             |         | 235    | 81   | NW                | 1                     |
|            |             |         | 350    | 82   | NE                | 1                     |            |             |         | 309    | 87   | SW                | 1                     |
|            |             |         | 354    | 90   |                   | 1                     |            |             |         | 310    | 90   | NE                | 1                     |
|            |             |         | 357    | 85   | SW                | 1                     |            |             |         | 318    | 82   | NE                | 1                     |
|            |             |         | 142    | 27   | NE                | 1                     |            |             |         | 315    | 82   | NE                | 1                     |
|            |             |         | 135    | 9    | NE                | 1                     |            |             |         | 315    | 72   | NE                | 4                     |
|            |             |         | 143    | 22   | NE                | 1                     |            |             |         | 5      | 70   | SE                | 6                     |
|            |             |         | 135    | 33   | NE                | 1                     |            |             |         | * 327  | 26   | NE                | 1                     |
|            |             |         | 142    | 17   | NE                | 1                     |            |             |         | 330    | 32   | NE                | 5                     |
|            |             |         | 110    | 28   | NE                | 1                     |            |             |         | 328    | 36   | NE                | 2                     |





# MERENDON DE PERU S.A.

## DEPARTAMENTO DE EXPLORACIONES GEOLOGICO MINERAS



### PROYECTO LOS HORNOS

#### II ETAPA

#### PROYECCION ESTEREOGRAFICA DE ALREDEDORES DE LA ZONA EL CURA

#### DATOS DE ESTACIONES

| ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE DE BUZ. | CANTIDAD DE FRACTURAS | ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE DE BUZ. | CANTIDAD DE FRACTURAS |
|------------|-------------|---------|--------|------|-------------------|-----------------------|------------|-------------|---------|--------|------|-------------------|-----------------------|
|            | ESTE        | NORTE   |        |      |                   |                       |            | ESTE        | NORTE   |        |      |                   |                       |
| E-91       | 238523      | 9101418 | 155    | 34   | NE                | 1                     | E-94       | 238495      | 9101415 | 255    | 85   | SE                | 2                     |
|            |             |         | 10     | 46   | SE                | 1                     |            |             |         | 248    | 84   | SE                | 1                     |
|            |             |         | 10     | 22   | SE                | 3                     |            |             |         | 250    | 82   | SE                | 1                     |
|            |             |         | 165    | 36   | NE                | 1                     |            |             |         | 262    | 84   | NW                | 3                     |
|            |             |         | 167    | 30   | NE                | 1                     |            |             |         | 255    | 88   | SE                | 3                     |
|            |             |         | 335    | 24   | NE                | 2                     |            |             |         | 254    | 80   | SE                | 1                     |
|            |             |         | 296    | 30   | NE                | 2                     |            |             |         | 244    | 80   | SE                | 1                     |
|            |             |         | 152    | 36   | NE                | 1                     |            |             |         | 0      | 8    | SE                | 3                     |
|            |             |         | 157    | 32   | NE                | 5                     |            |             |         | 320    | 22   | NE                | 2                     |
|            |             |         | 0      | 36   | NW                | 1                     |            |             |         | 330    | 24   | NE                | 3                     |
|            |             |         | 152    | 76   | NE                | 1                     |            |             |         | 250    | 82   | SE                | 1                     |
|            |             |         | 14     | 85   | NW                | 1                     |            |             |         | 217    | 85   | NW                | 1                     |
|            |             |         | 10     | 82   | SE                | 10                    |            |             |         | 214    | 78   | NW                | 1                     |
|            |             |         | 6      | 80   | SE                | 4                     |            |             |         | 230    | 88   | NW                | 1                     |
|            |             |         | 357    | 77   | NE                | 7                     |            |             |         | 234    | 86   | NW                | 1                     |
|            |             |         | 104    | 84   | SW                | 1                     |            |             |         | 255    | 75   | NW                | 1                     |
|            |             |         | 107    | 82   | SW                | 2                     |            |             |         | 330    | 16   | SW                | 2                     |
| E-92       | 238510      | 9101420 | 168    | 22   | NE                | 1                     | E-95       | 238473      | 9101340 | 325    | 30   | SW                | 2                     |
|            |             |         | 161    | 28   | NE                | 1                     |            |             |         | 322    | 12   | SW                | 1                     |
|            |             |         | 152    | 32   | NE                | 1                     |            |             |         | 220    | 85   | SE                | 1                     |
|            |             |         | 154    | 40   | NE                | 1                     |            |             |         | 225    | 90   |                   | 1                     |
|            |             |         | 150    | 34   | NE                | 1                     |            |             |         | 222    | 96   | NW                | 1                     |
|            |             |         | 137    | 40   | NE                | 1                     |            |             |         | 180    | 75   | W                 | 1                     |
|            |             |         | 152    | 28   | NE                | 1                     |            |             |         | 310    | 4    | SW                | 5                     |
|            |             |         | 132    | 37   | NE                | 1                     |            |             |         | 222    | 85   | SE                | 1                     |
|            |             |         | 144    | 22   | NE                | 1                     |            |             |         | 224    | 90   |                   | 1                     |
|            |             |         | 60     | 90   |                   | 1                     |            |             |         | 328    | 12   | SW                | 1                     |
|            |             |         | 40     | 90   |                   | 1                     |            |             |         | 355    | 55   | SW                | 3                     |
|            |             |         | 40     | 85   | SE                | 1                     |            |             |         | 252    | 80   | SE                | 1                     |
|            |             |         | 40     | 90   |                   | 1                     |            |             |         | 280    | 84   | SW                | 1                     |
|            |             |         | 40     | 90   |                   | 1                     |            |             |         | 350    | 47   | NE                | 2                     |
|            |             |         | 46     | 90   |                   | 1                     |            |             |         | 5      | 25   | NW                | 1                     |
|            |             |         | 52     | 85   | SE                | 1                     |            |             |         | 5      | 30   | NW                | 5                     |
|            |             |         | 34     | 90   |                   | 1                     |            |             |         | 40     | 84   | SE                | 3                     |
|            |             |         | 32     | 85   | SE                | 1                     | E-96       | 238467      | 9101355 | 65     | 70   | SE                | 4                     |
|            |             |         | 32     | 74   | NW                | 3                     |            |             |         | 330    | 75   | NE                | 4                     |
| E-93       | 238504      | 9101422 | 10     | 25   | SE                | 1                     |            |             |         | 334    | 42   | NE                | 10                    |
|            |             |         | 7      | 6    | SE                | 3                     |            |             |         | 357    | 65   | SE                | 3                     |
|            |             |         | 5      | 17   | SE                | 1                     |            |             |         | 256    | 70   | SE                | 2                     |
|            |             |         | 145    | 23   | NE                | 7                     |            |             |         | 275    | 70   | NE                | 1                     |
|            |             |         | 156    | 27   | NE                | 3                     |            |             |         | 264    | 62   | NW                | 1                     |
|            |             |         | 142    | 72   | NE                | 1                     |            |             |         | 265    | 75   | NE                | 1                     |
|            |             |         | 146    | 16   | NE                | 5                     |            |             |         | 275    | 84   | NE                | 1                     |
|            |             |         | 33     | 62   | NW                | 2                     |            |             |         | 265    | 86   | NW                | 1                     |
|            |             |         | 146    | 12   | NE                | 1                     |            |             |         | 310    | 76   | SW                | 1                     |
|            |             |         | 146    | 16   | NE                | 1                     |            |             |         | 280    | 82   | SW                | 1                     |
|            |             |         | 145    | 20   | NE                | 1                     |            |             |         | 294    | 73   | NE                | 1                     |
|            |             |         | 8      | 90   |                   | 1                     |            |             |         | 275    | 70   | NE                | 1                     |
|            |             |         | 32     | 63   | NW                | 1                     |            |             |         | 356    | 67   | SW                | 1                     |
|            |             |         | 30     | 62   | NW                | 2                     |            |             |         | 286    | 76   | NE                | 1                     |
|            |             |         | 302    | 90   |                   | 1                     |            |             |         | 290    | 80   | NE                | 1                     |
|            |             |         | 52     | 78   | NW                | 1                     |            |             |         | 297    | 80   | NW                | 2                     |
|            |             |         | 42     | 78   | NW                | 1                     |            |             |         | 355    | 36   | NE                | 4                     |
| E-94       | 238495      | 9101415 | 45     | 84   | NW                | 1                     | E-97       | 238382      | 9101223 | 338    | 32   | NE                | 1                     |
|            |             |         | 46     | 86   | NW                | 1                     |            |             |         | 46     | 67   | NW                | 1                     |
|            |             |         | 46     | 88   | SE                | 1                     |            |             |         | 45     | 45   | NW                | 1                     |
|            |             |         | 47     | 82   | NW                | 3                     |            |             |         | 64     | 43   | NW                | 2                     |
|            |             |         | 80     | 86   | NW                | 2                     |            |             |         | 338    | 34   | NE                | 2                     |
|            |             |         | 42     | 78   | NW                | 1                     |            |             |         | 12     | 45   | NW                | 1                     |
|            |             |         | 285    | 90   |                   | 1                     |            |             |         | 25     | 54   | NW                | 1                     |
|            |             |         | 274    | 90   |                   | 1                     |            |             |         | 25     | 54   | NW                | 1                     |
|            |             |         | 276    | 83   | SW                | 1                     |            |             |         | 25     | 54   | NW                | 1                     |
|            |             |         | 264    | 80   | SE                | 4                     |            |             |         | 6      | 58   | NW                | 1                     |
|            |             |         | 265    | 78   | SE                | 5                     |            |             |         | 20     | 48   | NW                | 1                     |
|            |             |         | 266    | 84   | SE                | 3                     |            |             |         | 10     | 55   | NW                | 1                     |
|            |             |         | 266    | 80   | SE                | 1                     |            |             |         | 16     | 56   | NW                | 1                     |
|            |             |         | 262    | 80   | SE                | 1                     |            |             |         | 10     | 57   | NW                | 1                     |
|            |             |         |        |      |                   |                       |            |             |         |        |      |                   |                       |
|            |             |         |        |      |                   |                       |            |             |         |        |      |                   |                       |





# MERENDON DE PERU S.A.

## DEPARTAMENTO DE EXPLORACIONES GEOLOGICO MINERAS



### PROYECTO LOS HORNOS

#### II ETAPA

#### PROYECCION ESTEREOGRAFICA DE ALREDEDORES DE LA ZONA EL CURA

#### DATOS DE ESTACIONES

| ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE DE BUZ. | CANTIDAD DE FRACTURAS | ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE DE BUZ. | CANTIDAD DE FRACTURAS |
|------------|-------------|---------|--------|------|-------------------|-----------------------|------------|-------------|---------|--------|------|-------------------|-----------------------|
|            | ESTE        | NORTE   |        |      |                   |                       |            | ESTE        | NORTE   |        |      |                   |                       |
| E-99       | 238592      | 9101509 | 11     | 58   | NW                | 1                     | E-101      | 238624      | 9101546 | 288    | 69   | NE                | 1                     |
|            |             |         | 13     | 54   | NW                | 1                     |            |             |         | 336    | 30   | SW                | 1                     |
|            |             |         | 356    | 53   | SW                | 1                     |            |             |         | 335    | 26   | SW                | 1                     |
|            |             |         | 0      | 52   | NW                | 3                     |            |             |         | 346    | 42   | SW                | 3                     |
|            |             |         | 7      | 64   | NW                | 1                     |            |             |         | 15     | 78   | NW                | 1                     |
|            |             |         | 6      | 58   | NW                | 1                     |            |             |         | 298    | 35   | SW                | 5                     |
|            |             |         | 12     | 60   | NW                | 1                     |            |             |         | 325    | 60   | SW                | 6                     |
|            |             |         | 295    | 80   |                   | 1                     |            |             |         | 346    | 36   | SW                | 1                     |
|            |             |         | 296    | 85   | NE                | 1                     |            |             |         | 330    | 35   | SW                | 1                     |
|            |             |         | 312    | 88   | NE                | 1                     |            |             |         | 327    | 25   | SW                | 2                     |
|            |             |         | 280    | 88   | NE                | 1                     |            |             |         | 356    | 80   | NE                | 1                     |
|            |             |         | 280    | 87   | NE                | 1                     |            |             |         | 342    | 31   | SW                | 1                     |
|            |             |         | 285    | 85   | SW                | 1                     |            |             |         | 350    | 35   | SW                | 3                     |
|            |             |         | 300    | 82   | NE                | 1                     |            |             |         | 340    | 33   | SW                | 2                     |
|            |             |         | 248    | 72   | NW                | 1                     |            |             |         | 345    | 42   | SW                | 1                     |
|            |             |         | 285    | 82   | NE                | 1                     |            |             |         | 334    | 33   | SW                | 2                     |
|            |             |         | 296    | 84   | NE                | 1                     |            |             |         | 82     | 90   |                   | 1                     |
|            |             |         | 307    | 84   | NE                | 1                     | E-102      | 238597      | 9101525 | 325    | 16   | SW                | 1                     |
|            |             |         | 292    | 70   | NE                | 4                     |            |             |         | 330    | 14   | SW                | 1                     |
|            |             |         | 0      | 35   | SE                | 1                     |            |             |         | 330    | 6    | SW                | 2                     |
|            |             |         | 12     | 46   | SE                | 3                     |            |             |         | 118    | 50   | SW                | 1                     |
|            |             |         | 0      | 33   | SE                | 1                     |            |             |         | 0      | 52   | W                 | 1                     |
|            |             |         | 0      | 40   | SE                | 3                     |            |             |         | 355    | 50   | SW                | 3                     |
| E-100      | 238627      | 9101554 | 314    | 68   | SW                | 1                     |            |             |         | 355    | 55   | SW                | 3                     |
|            |             |         | 214    | 80   | NW                | 1                     | E-103      | 238599      | 9101547 | 175    | 80   | SW                | 1                     |
|            |             |         | 310    | 75   | NE                | 5                     |            |             |         | 222    | 90   |                   | 1                     |
|            |             |         | 335    | 77   | NE                | 1                     |            |             |         | 227    | 90   |                   | 1                     |
|            |             |         | 330    | 73   | NE                | 1                     |            |             |         | 230    | 85   | NW                | 1                     |
|            |             |         | 336    | 82   | NE                | 1                     |            |             |         | 235    | 84   | NW                | 1                     |
|            |             |         | 330    | 82   | NE                | 1                     |            |             |         | 238    | 66   | NW                | 1                     |
|            |             |         | 295    | 87   | NE                | 1                     |            |             |         | 330    | 76   | NE                | 1                     |
|            |             |         | 5      | 80   | NW                | 1                     |            |             |         | 240    | 88   | NW                | 1                     |
|            |             |         | 300    | 82   | NE                | 5                     |            |             |         | 254    | 88   | NW                | 2                     |
|            |             |         | 15     | 18   | SE                | 1                     |            |             |         | 332    | 20   | SW                | 3                     |
|            |             |         | 25     | 25   | SE                | 3                     |            |             |         | 346    | 19   | SW                | 6                     |
|            |             |         | 28     | 27   | SE                | 2                     |            |             |         | 332    | 25   | SW                | 1                     |
|            |             |         | 5      | 24   | SE                | 2                     |            |             |         | 334    | 15   | SW                | 6                     |
|            |             |         | 245    | 85   | NW                | 1                     |            |             |         | 322    | 25   | SW                | 3                     |
|            |             |         | 240    | 90   |                   | 1                     | E-104      | 238520      | 9101485 | 13     | 23   | SE                | 3                     |
|            |             |         | 357    | 18   | NE                | 3                     |            |             |         | 10     | 32   | SE                | 1                     |
|            |             |         | 345    | 12   | NE                | 3                     |            |             |         | 15     | 33   | SE                | 2                     |
|            |             |         | 344    | 14   | NE                | 2                     |            |             |         | 15     | 24   | SE                | 1                     |
|            |             |         | 340    | 22   | NE                | 2                     |            |             |         | 346    | 90   |                   | 1                     |
|            |             |         | 230    | 84   | SE                | 1                     |            |             |         | 4      | 84   | SE                | 1                     |
|            |             |         | 235    | 85   | SE                | 1                     |            |             |         | 0      | 85   | SE                | 1                     |
|            |             |         | 235    | 83   | SE                | 2                     |            |             |         | 0      | 82   | SE                | 2                     |
|            |             |         | 287    | 75   | NE                | 1                     |            |             |         | 12     | 85   | SE                | 3                     |
|            |             |         |        |      |                   |                       |            |             |         | 342    | 75   | NE                | 5                     |
| E-101      | 238624      | 9101546 | 305    | 75   | NE                | 1                     |            |             |         | 14     | 7    | SE                | 8                     |
|            |             |         | 297    | 77   | NE                | 1                     | E-105      | 238539      | 9101531 | 176    | 36   | SW                | 6                     |
|            |             |         | 255    | 70   | NW                | 1                     |            |             |         | 176    | 25   | SW                | 4                     |
|            |             |         | 254    | 90   |                   | 1                     |            |             |         | 166    | 34   | SW                | 3                     |
|            |             |         | 254    | 80   | NW                | 1                     |            |             |         | 162    | 33   | SW                | 3                     |
|            |             |         | 355    | 78   | SW                | 3                     |            |             |         | 171    | 36   | SW                | 3                     |
|            |             |         | 354    | 76   | SW                | 2                     |            |             |         | 242    | 75   | SE                | 3                     |
|            |             |         | 156    | 18   | NE                | 1                     |            |             |         | 282    | 85   | SE                | 3                     |
|            |             |         | 256    | 12   | SE                | 3                     |            |             |         | 246    | 74   | SE                | 3                     |
|            |             |         | 320    | 53   | NE                | 1                     |            |             |         | 257    | 78   | SE                | 4                     |
|            |             |         | 281    | 88   | NE                | 3                     |            |             |         | 254    | 88   | SE                | 4                     |
|            |             |         | 282    | 78   | NE                | 1                     |            |             |         | 278    | 78   | SW                | 2                     |
|            |             |         | 256    | 76   | NW                | 1                     |            |             |         | 242    | 76   | SE                | 2                     |
|            |             |         | 265    | 90   |                   | 1                     |            |             |         | 242    | 78   | SE                | 1                     |
|            |             |         | 314    | 50   | NE                | 1                     |            |             |         | 308    | 70   | SW                | 3                     |
|            |             |         | 307    | 60   | NE                | 1                     | E-106      | 238541      | 9101522 | 246    | 22   | SE                | 2                     |
|            |             |         | 297    | 60   | NE                | 1                     |            |             |         | 230    | 28   | SE                | 3                     |
|            |             |         | 297    | 60   | NE                | 1                     |            |             |         | 234    | 26   | SE                | 3                     |
|            |             |         | 302    | 57   | NE                | 1                     |            |             |         | 256    | 77   | SE                | 2                     |
|            |             |         | 254    | 68   | NW                | 1                     |            |             |         |        |      |                   |                       |



**PROYECTO LOS HORNOS**

**II ETAPA**

**PROYECCION ESTEREOGRAFICA DE ALREDEDORES DE LA ZONA EL CURA**

**DATOS DE ESTACIONES**

| ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE<br>DE BUZ. | CANTIDAD DE<br>FRACTURAS | ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE<br>DE BUZ. | CANTIDAD DE<br>FRACTURAS |
|------------|-------------|---------|--------|------|----------------------|--------------------------|------------|-------------|---------|--------|------|----------------------|--------------------------|
|            | ESTE        | NORTE   |        |      |                      |                          |            | ESTE        | NORTE   |        |      |                      |                          |
| E-106      | 238541      | 9101522 | 230    | 90   |                      | 1                        | E-110      | 238432      | 9101523 | 70     | 30   | SE                   | 1                        |
|            |             |         | 242    | 86   | SE                   | 3                        |            |             |         | 168    | 42   | SW                   | 3                        |
|            |             |         | 222    | 90   |                      | 2                        |            |             |         | 162    | 17   | SW                   | 3                        |
|            |             |         | 220    | 80   | NW                   | 2                        |            |             |         | 180    | 42   | W                    | 1                        |
|            |             |         | 215    | 78   | NW                   | 4                        |            |             |         | 174    | 47   | SW                   | 6                        |
|            |             |         | 296    | 74   | SW                   | 10                       |            |             |         | 168    | 37   | SW                   | 11                       |
|            |             |         | 312    | 72   | SW                   | 15                       |            |             |         | 285    | 82   | NE                   | 1                        |
|            |             |         | 320    | 77   | SW                   | 8                        |            |             |         | 202    | 83   | NW                   | 1                        |
|            |             |         | 325    | 75   | SW                   | 4                        |            |             |         | 180    | 56   | W                    | 1                        |
|            |             |         | 292    | 75   | SW                   | 2                        |            |             |         | 278    | 80   | NE                   | 1                        |
|            |             |         | 344    | 72   | SW                   | 7                        |            |             |         | 156    | 40   | SW                   | 3                        |
|            |             |         | 312    | 75   | SW                   | 8                        |            |             |         | 158    | 42   | SW                   | 3                        |
|            |             |         | 202    | 58   | NW                   | 3                        |            |             |         | 185    | 46   | SW                   | 1                        |
|            |             |         | 25     | 85   | NW                   | 3                        |            |             |         | 186    | 40   | NW                   | 2                        |
| E-107      | 238491      | 9101532 | 300    | 18   | NE                   | 2                        | E-111      | 238444      | 9101512 | 164    | 47   | SW                   | 1                        |
|            |             |         | 297    | 17   | NE                   | 4                        |            |             |         | 170    | 35   | SW                   | 1                        |
|            |             |         | 305    | 18   | NE                   | 4                        |            |             |         | 175    | 36   | SW                   | 1                        |
|            |             |         | 309    | 15   | NE                   | 5                        |            |             |         | 182    | 54   | SW                   | 1                        |
|            |             |         | 324    | 88   | NE                   | 4                        |            |             |         | 170    | 56   | SW                   | 2                        |
|            |             |         | 340    | 75   | NE                   | 4                        |            |             |         | 152    | 46   | SW                   | 1                        |
|            |             |         | 322    | 87   | NE                   | 4                        |            |             |         | 227    | 60   | SE                   | 1                        |
|            |             |         | 300    | 90   |                      | 2                        |            |             |         | 225    | 75   | SE                   | 2                        |
| E-108      | 238406      | 9101404 | 242    | 84   | SE                   | 1                        |            |             |         | 205    | 77   | SE                   | 1                        |
|            |             |         | 238    | 80   | SE                   | 1                        |            |             |         | 200    | 72   | SE                   | 2                        |
|            |             |         | 246    | 87   | SE                   | 1                        |            |             |         | 210    | 64   | SE                   | 1                        |
|            |             |         | 205    | 90   |                      | 1                        |            |             |         | 210    | 55   | SE                   | 4                        |
|            |             |         | 202    | 76   | SE                   | 3                        |            |             |         | 243    | 85   | SE                   | 1                        |
|            |             |         | 302    | 80   |                      | 1                        |            |             |         | 142    | 22   | SW                   | 2                        |
|            |             |         | 167    | 82   | SW                   | 1                        |            |             |         | 143    | 25   | SW                   | 4                        |
|            |             |         | 160    | 90   |                      | 1                        |            |             |         | 117    | 34   | SW                   | 2                        |
|            |             |         | 150    | 88   | NE                   | 2                        |            |             |         | 208    | 75   | SE                   | 2                        |
|            |             |         | 120    | 80   | NE                   | 1                        |            |             |         | 170    | 90   | SW                   | 3                        |
|            |             |         | 134    | 90   |                      | 1                        |            |             |         | 177    | 60   | SW                   | 4                        |
|            |             |         | 245    | 90   |                      | 2                        |            |             |         | 166    | 75   | SW                   | 5                        |
|            |             |         | 150    | 84   | SW                   | 1                        |            |             |         | 165    | 85   | SW                   | 3                        |
|            |             |         | 160    | 80   | NE                   | 2                        |            |             |         | 172    | 76   | SW                   | 2                        |
|            |             |         | 162    | 90   |                      | 1                        |            |             |         | 171    | 78   | SW                   | 2                        |
|            |             |         | 144    | 90   |                      | 1                        |            |             |         | 170    | 80   | SW                   | 2                        |
|            |             |         | 175    | 90   |                      | 1                        |            |             |         | 133    | 90   |                      | 1                        |
|            |             |         | 162    | 90   |                      | 1                        |            |             |         | 235    | 90   |                      | 2                        |
|            |             |         | 180    | 80   | E                    | 1                        |            |             |         | 238    | 90   |                      | 2                        |
|            |             |         | 196    | 90   |                      | 1                        |            |             |         | 240    | 90   |                      | 2                        |
|            |             |         | 276    | 75   | SW                   | 1                        |            |             |         | 237    | 90   |                      | 4                        |
|            |             |         | 178    | 90   |                      | 3                        |            |             |         | 165    | 73   | SW                   | 2                        |
|            |             |         | 160    | 90   |                      | 1                        |            |             |         | 288    | 65   | NE                   | 3                        |
|            |             |         | 275    | 85   | SW                   | 1                        |            |             |         | 292    | 80   | NE                   | 2                        |
|            |             |         | 275    | 85   | SW                   | 6                        |            |             |         | 180    | 80   | W                    | 1                        |
|            |             |         | 230    | 90   |                      | 2                        |            |             |         | 180    | 63   | E                    | 3                        |
|            |             |         | 290    | 90   |                      | 3                        |            |             |         | 285    | 72   | NE                   | 3                        |
|            |             |         | 350    | 90   |                      | 6                        |            |             |         | 285    | 70   | NE                   | 1                        |
| E-109      | 238400      | 9101427 | 322    | 87   | NE                   | 4                        | E-112      | 238380      | 9101408 | 305    | 82   | SW                   | 3                        |
|            |             |         | 335    | 82   | NE                   | 1                        |            |             |         | 250    | 74   | SE                   | 4                        |
|            |             |         | 282    | 85   | NE                   | 2                        |            |             |         | 270    | 48   | N                    | 1                        |
|            |             |         | 132    | 40   | SW                   | 1                        |            |             |         | 280    | 47   | NE                   | 1                        |
|            |             |         | 316    | 22   | SW                   | 3                        |            |             |         | 290    | 47   | NE                   | 1                        |
|            |             |         | 308    | 26   | SW                   | 1                        |            |             |         | 290    | 55   | NE                   | 1                        |
|            |             |         | 305    | 86   | SW                   | 3                        |            |             |         | 270    | 60   | N                    | 2                        |
|            |             |         | 293    | 76   | SW                   | 1                        |            |             |         | 276    | 92   | NE                   | 1                        |
|            |             |         | 290    | 53   | NE                   | 1                        |            |             |         | 290    | 78   | NE                   | 1                        |
|            |             |         | 0      | 74   | W                    | 3                        |            |             |         | 255    | 54   | NW                   | 3                        |
|            |             |         | 345    | 67   | SW                   | 3                        |            |             |         | 302    | 60   | NE                   | 2                        |
|            |             |         | 262    | 58   | NW                   | 1                        |            |             |         | 290    | 74   | NE                   | 2                        |
|            |             |         | 244    | 75   | NW                   | 1                        |            |             |         | 286    | 68   | NE                   | 1                        |
|            |             |         | 264    | 65   | NW                   | 3                        |            |             |         | 270    | 82   | N                    | 1                        |
|            |             |         | 250    | 70   | NW                   | 1                        |            |             |         | 235    | 32   | NW                   | 1                        |
|            |             |         | 306    | 32   | SW                   | 1                        |            |             |         | 242    | 53   | NW                   | 1                        |
|            |             |         | 314    | 28   | SW                   | 2                        |            |             |         | 240    | 42   | NW                   | 1                        |
| E-113      | 238701      | 9101839 |        |      |                      |                          |            |             |         |        |      |                      |                          |
|            |             |         |        |      |                      |                          |            |             |         |        |      |                      |                          |
|            |             |         |        |      |                      |                          |            |             |         |        |      |                      |                          |
|            |             |         |        |      |                      |                          |            |             |         |        |      |                      |                          |
|            |             |         |        |      |                      |                          |            |             |         |        |      |                      |                          |
|            |             |         |        |      |                      |                          |            |             |         |        |      |                      |                          |
|            |             |         |        |      |                      |                          |            |             |         |        |      |                      |                          |
|            |             |         |        |      |                      |                          |            |             |         |        |      |                      |                          |
|            |             |         |        |      |                      |                          |            |             |         |        |      |                      |                          |
|            |             |         |        |      |                      |                          |            |             |         |        |      |                      |                          |
|            |             |         |        |      |                      |                          |            |             |         |        |      |                      |                          |
|            |             |         |        |      |                      |                          |            |             |         |        |      |                      |                          |
|            |             |         |        |      |                      |                          |            |             |         |        |      |                      |                          |
|            |             |         |        |      |                      |                          |            |             |         |        |      |                      |                          |
|            |             |         |        |      |                      |                          |            |             |         |        |      |                      |                          |
|            |             |         |        |      |                      |                          |            |             |         |        |      |                      |                          |





# MERENDON DE PERU S.A.

## DEPARTAMENTO DE EXPLORACIONES GEOLOGICO MINERAS



### PROYECTO LOS HORNOS

#### II ETAPA

#### PROYECCION ESTEREOGRAFICA DE ALREDEDORES DE LA ZONA EL CURA

#### DATOS DE ESTACIONES

| ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE DE BUZ. | CANTIDAD DE FRACTURAS | ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE DE BUZ. | CANTIDAD DE FRACTURAS |
|------------|-------------|---------|--------|------|-------------------|-----------------------|------------|-------------|---------|--------|------|-------------------|-----------------------|
|            | ESTE        | NORTE   |        |      |                   |                       |            | ESTE        | NORTE   |        |      |                   |                       |
| E-113      | 238701      | 9101539 | 202    | 45   | NW                | 1                     | E-117      | 238457      | 9101401 | 34     | 84   | SE                | 1                     |
| E-114      | 238712      | 9101668 | 342    | 88   | SW                | 1                     |            |             |         | 20     | 67   | NW                | 1                     |
|            |             |         | 346    | 88   | SW                | 3                     |            |             |         | 42     | 85   | SE                | 3                     |
|            |             |         | 344    | 85   | SW                | 2                     |            |             |         | 12     | 16   | SE                | 3                     |
|            |             |         | 342    | 90   |                   | 3                     |            |             |         | 171    | 22   | NE                | 1                     |
|            |             |         | 347    | 84   | SW                | 2                     |            |             |         | 165    | 25   | NE                | 3                     |
|            |             |         | 346    | 85   | SW                | 3                     |            |             |         | 55     | 87   | SE                | 2                     |
|            |             |         | 346    | 88   | SW                | 4                     |            |             |         | 47     | 85   | SE                | 3                     |
|            |             |         | 347    | 82   | SW                | 5                     |            |             |         | 174    | 44   | NE                | 1                     |
|            |             |         | 348    | 88   | SW                | 4                     | E-118      | 238264      | 9101746 | 196    | 85   | SE                | 1                     |
|            |             |         | 350    | 86   | SW                | 3                     |            |             |         | 178    | 58   | NE                | 1                     |
|            |             |         | 356    | 90   |                   | 4                     |            |             |         | 245    | 78   | SE                | 1                     |
|            |             |         | 315    | 90   |                   | 2                     |            |             |         | 237    | 81   | SE                | 1                     |
|            |             |         | 22     | 20   | NW                | 5                     |            |             |         | 205    | 72   | SE                | 1                     |
|            |             |         | 20     | 14   | NW                | 6                     |            |             |         | 206    | 68   | NW                | 1                     |
|            |             |         | 30     | 16   | NW                | 6                     |            |             |         | 218    | 38   | SE                | 1                     |
|            |             |         | 25     | 16   | NW                | 8                     |            |             |         | 247    | 77   | SE                | 1                     |
|            |             |         | 25     | 22   | NW                | 4                     |            |             |         | 265    | 75   | SE                | 1                     |
|            |             |         | 20     | 20   | NW                | 4                     |            |             |         | 273    | 76   | SW                | 1                     |
| E-115      | 238723      | 9101678 | 22     | 25   | NW                | 3                     |            |             |         | 273    | 76   | SW                | 3                     |
|            |             |         | 336    | 86   | SW                | 1                     |            |             |         | 255    | 70   | SE                | 1                     |
|            |             |         | 322    | 84   | NE                | 1                     |            |             |         | 240    | 84   | SE                | 1                     |
|            |             |         | 341    | 84   | SW                | 2                     |            |             |         | 234    | 77   | SE                | 1                     |
|            |             |         | 346    | 85   | SW                | 1                     |            |             |         | 224    | 76   | SE                | 1                     |
|            |             |         | 344    | 84   | SW                | 1                     |            |             |         | 245    | 80   | SE                | 1                     |
|            |             |         | 340    | 82   | SW                | 2                     |            |             |         | 116    | 86   | SW                | 1                     |
|            |             |         | 347    | 85   | NE                | 1                     |            |             |         | 118    | 72   | SW                | 1                     |
|            |             |         | 340    | 90   |                   | 1                     |            |             |         | 134    | 73   | SW                | 1                     |
|            |             |         | 346    | 80   | SW                | 1                     |            |             |         | 137    | 80   | NE                | 1                     |
| E-116      | 238738      | 9101691 | 330    | 88   | SW                | 2                     | E-119      | 238207      | 9101739 | 130    | 85   | NE                | 1                     |
|            |             |         | 350    | 88   | SW                | 1                     |            |             |         | 125    | 50   | SW                | 1                     |
|            |             |         | 346    | 82   | SW                | 3                     |            |             |         | 125    | 60   | SW                | 1                     |
|            |             |         | 35     | 10   | NW                | 5                     |            |             |         | 130    | 63   | SW                | 2                     |
|            |             |         | 40     | 5    | NW                | 7                     |            |             |         | 137    | 56   | SW                | 3                     |
|            |             |         | 37     | 10   | NW                | 4                     |            |             |         | 146    | 60   | SW                | 3                     |
|            |             |         | 42     | 13   | NW                | 6                     |            |             |         | 135    | 54   | SW                | 1                     |
|            |             |         | 40     | 24   | NW                | 6                     |            |             |         | 145    | 45   | SW                | 1                     |
|            |             |         | 42     | 20   | NW                | 5                     |            |             |         | 142    | 52   | SW                | 1                     |
|            |             |         | 260    | 66   | SW                | 1                     |            |             |         | 156    | 54   | SW                | 1                     |
| E-117      | 238457      | 9101401 | 295    | 82   | NE                | 1                     |            |             |         | 237    | 80   | NW                | 3                     |
|            |             |         | 290    | 84   | NE                | 1                     |            |             |         | 230    | 78   | NW                | 1                     |
|            |             |         | 278    | 81   | NE                | 1                     |            |             |         | 222    | 72   | NW                | 1                     |
|            |             |         | 275    | 88   | NE                | 1                     |            |             |         | 223    | 54   | NW                | 2                     |
|            |             |         | 292    | 87   | NE                | 1                     |            |             |         | 222    | 40   | NW                | 1                     |
|            |             |         | 297    | 85   | NE                | 1                     |            |             |         | 235    | 72   | NW                | 1                     |
|            |             |         | 305    | 85   | NE                | 1                     |            |             |         | 232    | 77   | NW                | 1                     |
|            |             |         | 295    | 86   | NE                | 3                     |            |             |         | 235    | 86   | NW                | 1                     |
|            |             |         | 272    | 83   | NE                | 1                     |            |             |         | 240    | 75   | NW                | 2                     |
|            |             |         | 282    | 86   | NE                | 1                     |            |             |         | 226    | 86   | SE                | 1                     |
| E-118      | 238738      | 9101691 | 293    | 80   |                   | 1                     |            |             |         | 225    | 84   | SE                | 1                     |
|            |             |         | 290    | 80   | NE                | 1                     |            |             |         | 234    | 72   | SE                | 2                     |
|            |             |         | 287    | 90   |                   | 1                     |            |             |         | 140    | 78   | SW                | 1                     |
|            |             |         | 292    | 86   | NE                | 1                     |            |             |         | 145    | 82   | SW                | 2                     |
|            |             |         | 292    | 82   | NE                | 1                     |            |             |         | 140    | 54   | SW                | 2                     |
|            |             |         | 302    | 72   | NE                | 1                     |            |             |         | 142    | 72   | SW                | 2                     |
|            |             |         | 300    | 76   | NE                | 1                     |            |             |         | 130    | 76   | SW                | 3                     |
|            |             |         | 297    | 85   | NE                | 1                     |            |             |         | 228    | 86   | NW                | 1                     |
|            |             |         | 302    | 68   | NE                | 1                     |            |             |         | 232    | 76   | NW                | 1                     |
|            |             |         | 10     | 34   | SE                | 3                     |            |             |         | 266    | 34   | SE                | 7                     |
| E-119      | 238457      | 9101401 | 20     | 40   | SE                | 3                     |            |             |         | 263    | 32   | SE                | 4                     |
|            |             |         | 20     | 42   | SE                | 3                     |            |             |         | 256    | 35   | SE                | 3                     |
|            |             |         | 14     | 35   | SE                | 3                     |            |             |         | 230    | 63   | SE                | 1                     |
|            |             |         | 20     | 30   | SE                | 3                     |            |             |         | 218    | 45   | SE                | 3                     |
|            |             |         | 35     | 65   | SE                | 1                     |            |             |         | 217    | 46   | SE                | 1                     |
|            |             |         | 36     | 85   | SE                | 1                     |            |             |         | 210    | 35   | SE                | 3                     |
|            |             |         | 18     | 74   | SE                | 1                     |            |             |         | 242    | 73   | NW                | 1                     |
|            |             |         | 18     | 76   | SE                | 1                     |            |             |         | 237    | 75   | NW                | 3                     |
|            |             |         |        |      |                   |                       |            |             |         |        |      |                   |                       |
|            |             |         |        |      |                   |                       |            |             |         |        |      |                   |                       |





# MERENDON DE PERU S.A.

## DEPARTAMENTO DE EXPLORACIONES GEOLOGICO MINERAS



### PROYECTO LOS HORNOS

#### II ETAPA

#### PROYECCION ESTEREOGRAFICA DE ALREDEDORES DE LA ZONA EL CURA

#### DATOS DE ESTACIONES

| ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE<br>DE BUZ. | CANTIDAD DE<br>FRACTURAS | ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE<br>DE BUZ. | CANTIDAD DE<br>FRACTURAS |
|------------|-------------|---------|--------|------|----------------------|--------------------------|------------|-------------|---------|--------|------|----------------------|--------------------------|
|            | ESTE        | NORTE   |        |      |                      |                          |            | ESTE        | NORTE   |        |      |                      |                          |
| E-119      | 238207      | 9101739 | 230    | 77   | NW                   | 4                        | E-122      | 238203      | 9101824 | 175    | 20   |                      | 2                        |
|            |             |         | 242    | 18   | SE                   | 5                        |            |             |         | 185    | 90   | SW                   | 3                        |
|            |             |         | 246    | 34   | SE                   | 5                        |            |             |         | 195    | 82   | SE                   | 1                        |
|            |             |         | 235    | 33   | SE                   | 5                        |            |             |         | 184    | 90   |                      | 1                        |
| E-120      | 238193      | 9101734 | 242    | 90   |                      | 1                        |            |             |         | 182    | 84   | NE                   | 1                        |
|            |             |         | 240    | 00   |                      | 3                        |            |             |         | 163    | 82   | NE                   | 1                        |
|            |             |         | 274    | 60   | NE                   | 1                        |            |             |         | 164    | 70   | SW                   | 3                        |
|            |             |         | 244    | 90   |                      | 2                        |            |             |         | 255    | 90   |                      | 1                        |
|            |             |         | 252    | 90   |                      | 1                        |            |             |         | 252    | 90   |                      | 1                        |
|            |             |         | 245    | 77   | NW                   | 3                        |            |             |         | 257    | 82   | NW                   | 1                        |
|            |             |         | 237    | 90   |                      | 1                        |            |             |         | 243    | 90   |                      | 3                        |
|            |             |         | 262    | 80   | NW                   | 1                        |            |             |         | 250    | 90   |                      | 1                        |
|            |             |         | 183    | 32   | NW                   | 1                        |            |             |         | 248    | 82   | SE                   | 1                        |
|            |             |         | 160    | 44   | SW                   | 2                        |            |             |         | 236    | 74   | SE                   | 1                        |
|            |             |         | 166    | 26   | SW                   | 3                        |            |             |         | 242    | 78   | SE                   | 1                        |
|            |             |         | 147    | 42   | SW                   | 2                        |            |             |         | 245    | 78   | SE                   | 4                        |
|            |             |         | 173    | 39   | SW                   | 1                        |            |             |         | 236    | 88   | SE                   | 1                        |
|            |             |         | 172    | 32   | SW                   | 1                        |            |             |         | 232    | 78   | SE                   | 1                        |
|            |             |         | 153    | 42   | SW                   | 3                        |            |             |         | 232    | 90   |                      | 2                        |
| E-121      | 238138      | 9101828 | 148    | 37   | SW                   | 3                        | E-123      | 238159      | 9101827 | 162    | 16   | NE                   | 5                        |
|            |             |         | 147    | 35   | SW                   | 3                        |            |             |         | 154    | 40   | NE                   | 2                        |
|            |             |         | 197    | 84   | NW                   | 2                        |            |             |         | 160    | 34   | NE                   | 5                        |
|            |             |         | 166    | 78   | SE                   | 1                        |            |             |         | 160    | 22   | E                    | 8                        |
|            |             |         | 190    | 90   |                      | 2                        |            |             |         | 15     | 42   | SE                   | 1                        |
|            |             |         | 215    | 90   |                      | 2                        |            |             |         | 26     | 37   | NW                   | 3                        |
|            |             |         | 200    | 77   | SE                   | 2                        |            |             |         | 18     | 57   | NW                   | 10                       |
|            |             |         | 184    | 87   | SE                   | 1                        |            |             |         | 22     | 68   | NW                   | 6                        |
|            |             |         | 192    | 82   | SE                   | 1                        |            |             |         | 36     | 58   | NW                   | 4                        |
|            |             |         | 198    | 85   | NW                   | 6                        |            |             |         | 12     | 44   | SE                   | 3                        |
|            |             |         | 184    | 74   | SE                   | 1                        | E-124      | 238123      | 9101885 | 356    | 40   | NE                   | 1                        |
|            |             |         | 180    | 84   | E                    | 1                        |            |             |         | 344    | 56   | NE                   | 1                        |
|            |             |         | 149    | 90   | SW                   | 1                        |            |             |         | 347    | 47   | NE                   | 1                        |
|            |             |         | 182    | 75   | SW                   | 2                        |            |             |         | 336    | 72   | NE                   | 6                        |
|            |             |         | 197    | 43   | SW                   | 1                        |            |             |         | 327    | 75   | NE                   | 4                        |
|            |             |         | 158    | 80   | NE                   | 1                        |            |             |         | 327    | 67   | NE                   | 4                        |
|            |             |         | 217    | 76   | NW                   | 1                        |            |             |         | 335    | 55   | NE                   | 8                        |
|            |             |         | 220    | 83   | NW                   | 3                        |            |             |         | 340    | 70   | NE                   | 4                        |
|            |             |         | 207    | 78   | SE                   | 1                        |            |             |         | 10     | 52   | SE                   | 3                        |
|            |             |         | 155    | 70   | SW                   | 2                        |            |             |         | 255    | 84   | SE                   | 1                        |
| E-122      | 238203      | 9101824 | 147    | 70   | SW                   | 3                        |            |             |         | 256    | 76   | SE                   | 1                        |
|            |             |         | 228    | 35   | SE                   | 8                        |            |             |         | 265    | 70   | SW                   | 3                        |
|            |             |         | 223    | 26   | SE                   | 4                        |            |             |         | 12     | 30   | NW                   | 3                        |
|            |             |         | 225    | 24   | SE                   | 4                        |            |             |         | 25     | 63   | NW                   | 1                        |
|            |             |         | 250    | 13   | SE                   | 3                        |            |             |         | 35     | 53   | NW                   | 1                        |
|            |             |         | 162    | 15   | SW                   | 2                        |            |             |         | 34     | 56   | NW                   | 1                        |
|            |             |         | 208    | 34   | SE                   | 3                        |            |             |         | 15     | 38   | NW                   | 3                        |
|            |             |         | 315    | 32   | SW                   | 2                        |            |             |         | 15     | 34   | NW                   | 3                        |
|            |             |         | 325    | 60   | SW                   | 2                        | E-125      | 238157      | 9101873 | 248    | 78   | NW                   | 1                        |
|            |             |         | 325    | 40   | SW                   | 2                        |            |             |         | 258    | 83   | NW                   | 1                        |
|            |             |         | 190    | 83   | SE                   | 1                        |            |             |         | 257    | 77   | NW                   | 1                        |
|            |             |         | 192    | 74   | SE                   | 3                        |            |             |         | 260    | 88   | SW                   | 2                        |
|            |             |         | 177    | 87   | SW                   | 1                        |            |             |         | 250    | 88   | SE                   | 1                        |
|            |             |         | 160    | 90   |                      | 1                        |            |             |         | 250    | 82   | NW                   | 1                        |
|            |             |         | 132    | 6    | SW                   | 4                        |            |             |         | 241    | 82   | NW                   | 1                        |
|            |             |         | 196    | 90   |                      | 3                        |            |             |         | 290    | 90   |                      | 1                        |
|            |             |         | 185    | 90   |                      | 6                        |            |             |         | 300    | 90   |                      | 3                        |
|            |             |         | 175    | 85   | NE                   | 1                        |            |             |         | 350    | 35   | SW                   | 4                        |
| E-126      | 238142      | 9101884 | 185    | 90   |                      | 4                        |            |             |         | 12     | 40   | NW                   | 1                        |
|            |             |         | 280    | 90   |                      | 4                        |            |             |         | 353    | 48   | SW                   | 6                        |
|            |             |         | 285    | 80   | SW                   | 3                        |            |             |         | 340    | 27   | SW                   | 6                        |
|            |             |         | 147    | 3    | SW                   | 6                        |            |             |         | 346    | 47   | SW                   | 5                        |
|            |             |         | 295    | 20   | NE                   | 6                        |            |             |         | 332    | 22   | SW                   | 7                        |
|            |             |         | 297    | 4    | NE                   | 7                        |            |             |         | 341    | 34   | SW                   | 4                        |
|            |             |         | 165    | 30   | SW                   | 1                        |            |             |         | 345    | 35   | SW                   | 4                        |
|            |             |         | 186    | 44   | NW                   | 1                        |            |             |         | 273    | 87   | SW                   | 1                        |
|            |             |         | 170    | 37   | SW                   | 3                        |            |             |         | 290    | 83   | SW                   | 1                        |
|            |             |         | 168    | 3    | SW                   | 3                        |            |             |         | 295    | 68   | SW                   | 1                        |



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### PROYECTO LOS HORNOS

#### II ETAPA

#### PROYECCION ESTEREOGRAFICA DE ALREDEDORES DE LA ZONA EL CURA

#### DATOS DE ESTACIONES

| ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE<br>DE BUZ. | CANTIDAD DE<br>FRACTURAS | ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE<br>DE BUZ. | CANTIDAD DE<br>FRACTURAS |
|------------|-------------|---------|--------|------|----------------------|--------------------------|------------|-------------|---------|--------|------|----------------------|--------------------------|
|            | ESTE        | NORTE   |        |      |                      |                          |            | ESTE        | NORTE   |        |      |                      |                          |
| E-126      | 238142      | 9101884 | 274    | 78   | SW                   | 1                        | E-128      | 237925      | 9101472 | 0      | 20   | SE                   | 6                        |
|            |             |         | 290    | 72   | SW                   | 3                        |            |             |         | 170    | 30   | NE                   | 4                        |
|            |             |         | 295    | 72   | SW                   | 1                        |            |             |         | 110    | 80   | SW                   | 3                        |
|            |             |         | 296    | 75   | SW                   | 3                        |            |             |         | 116    | 78   | SW                   | 2                        |
|            |             |         | 295    | 68   | SW                   | 2                        |            |             |         | 116    | 87   | SW                   | 2                        |
|            |             |         | 286    | 70   | SW                   | 2                        | E-129      | 237944      | 9101474 | 130    | 78   | NE                   | 1                        |
|            |             |         | 288    | 77   | SW                   | 2                        |            |             |         | 120    | 64   | NE                   | 2                        |
|            |             |         | 272    | 74   | SW                   | 1                        |            |             |         | 113    | 30   | NE                   | 1                        |
|            |             |         | 7      | 33   | NW                   | 8                        |            |             |         | 123    | 34   | NE                   | 4                        |
|            |             |         | 0      | 34   | NW                   | 4                        |            |             |         | 42     | 84   | NW                   | 1                        |
|            |             |         | 6      | 40   | NW                   | 3                        |            |             |         | 56     | 88   | NW                   | 2                        |
|            |             |         | 25     | 62   | NW                   | 3                        |            |             |         | 52     | 80   | SE                   | 3                        |
|            |             |         | 24     | 77   | NW                   | 1                        |            |             |         | 40     | 65   | SE                   | 1                        |
|            |             |         | 15     | 75   | NW                   | 1                        |            |             |         | 38     | 65   | SE                   | 2                        |
|            |             |         | 16     | 78   | NW                   | 3                        |            |             |         | 62     | 68   | SE                   | 1                        |
|            |             |         | 250    | 75   | SE                   | 1                        |            |             |         | 42     | 45   | SE                   | 2                        |
|            |             |         | 320    | 38   | SW                   | 3                        |            |             |         | 40     | 45   | SE                   | 1                        |
|            |             |         | 328    | 22   | SW                   | 4                        |            |             |         | 50     | 48   | SE                   | 3                        |
|            |             |         | 285    | 74   | SW                   | 1                        |            |             |         | 90     | 48   | N                    | 2                        |
|            |             |         | 297    | 74   | SW                   | 3                        |            |             |         | 136    | 55   | NE                   | 1                        |
| E-127      | 237934      | 9101402 | 130    | 85   | SW                   | 1                        |            |             |         | 80     | 85   | SE                   | 1                        |
|            |             |         | 135    | 85   | SW                   | 1                        |            |             |         | 64     | 85   | SE                   | 3                        |
|            |             |         | 95     | 88   | SW                   | 1                        |            |             |         | 30     | 82   | SE                   | 2                        |
|            |             |         | 117    | 85   | NE                   | 1                        |            |             |         | 10     | 80   | SE                   | 1                        |
|            |             |         | 107    | 86   | SW                   | 1                        |            |             |         | 7      | 86   | SE                   | 1                        |
|            |             |         | 120    | 68   | NE                   | 1                        |            |             |         | 10     | 90   | SE                   | 1                        |
|            |             |         | 60     | 80   | NW                   | 1                        |            |             |         | 30     | 90   |                      | 1                        |
|            |             |         | 17     | 36   | SE                   | 4                        |            |             |         | 28     | 84   | NW                   | 1                        |
|            |             |         | 22     | 37   | SE                   | 3                        |            |             |         | 255    | 78   | SE                   | 1                        |
|            |             |         | 27     | 18   | SE                   | 6                        |            |             |         | 290    | 80   | SW                   | 1                        |
|            |             |         | 25     | 27   | SE                   | 3                        | E-130      | 237931      | 9101495 | 125    | 90   |                      | 1                        |
|            |             |         | 225    | 73   | SE                   | 1                        |            |             |         | 335    | 44   | NE                   | 1                        |
|            |             |         | 182    | 80   | SE                   | 1                        |            |             |         | 136    | 47   | NE                   | 1                        |
|            |             |         | 15     | 35   | SE                   | 3                        |            |             |         | 292    | 60   | NE                   | 1                        |
| E-128      | 237925      | 9101472 | 55     | 78   | NW                   | 1                        |            |             |         | 30     | 24   | SE                   | 3                        |
|            |             |         | 45     | 85   | NW                   | 1                        |            |             |         | 17     | 20   | SE                   | 1                        |
|            |             |         | 46     | 65   | SE                   | 2                        |            |             |         | 12     | 38   | SE                   | 10                       |
|            |             |         | 20     | 90   |                      | 1                        |            |             |         | 294    | 67   | NE                   | 1                        |
|            |             |         | 22     | 88   | NW                   | 2                        |            |             |         | 292    | 65   | NE                   | 1                        |
|            |             |         | 2      | 90   |                      | 1                        |            |             |         | 290    | 60   | NE                   | 1                        |
|            |             |         | 50     | 80   | NW                   | 4                        |            |             |         | 302    | 75   | NE                   | 2                        |
|            |             |         | 50     | 82   | NW                   | 3                        |            |             |         | 350    | 22   | NE                   | 2                        |
|            |             |         | 66     | 67   | NW                   | 3                        | E-131      | 237920      | 9101513 | 106    | 90   |                      | 1                        |
|            |             |         | 80     | 86   | NW                   | 3                        |            |             |         | 90     | 83   | S                    | 1                        |
|            |             |         | 5      | 80   | SE                   | 1                        |            |             |         | 47     | 75   | NW                   | 1                        |
|            |             |         | 9      | 85   | SE                   | 2                        |            |             |         | 50     | 78   | NW                   | 1                        |
|            |             |         | 5      | 75   | SE                   | 1                        |            |             |         | 152    | 51   | SW                   | 1                        |
|            |             |         | 62     | 84   | NW                   | 3                        |            |             |         | 44     | 78   | NW                   | 1                        |
|            |             |         | 17     | 83   | SE                   | 1                        |            |             |         | 40     | 90   |                      | 1                        |
|            |             |         | 32     | 76   | SE                   | 1                        |            |             |         | 347    | 20   | NE                   | 2                        |
|            |             |         | 5      | 57   | SE                   | 1                        |            |             |         | 155    | 18   | NE                   | 3                        |
|            |             |         | 4      | 55   | SE                   | 1                        |            |             |         | 155    | 18   | NE                   | 2                        |
|            |             |         | 0      | 84   | SE                   | 1                        |            |             |         | 160    | 22   | NE                   | 2                        |
|            |             |         | 15     | 84   | SE                   | 1                        |            |             |         | 155    | 12   | NE                   | 3                        |
|            |             |         | 2      | 54   | SE                   | 1                        | E-132      | 237931      | 9101537 | 110    | 47   | SW                   | 1                        |
|            |             |         | 350    | 53   | NE                   | 1                        |            |             |         | 120    | 44   | SW                   | 1                        |
|            |             |         | 355    | 83   | NE                   | 1                        |            |             |         | 110    | 50   | SW                   | 4                        |
|            |             |         | 320    | 55   | NE                   | 1                        |            |             |         | 118    | 58   | SW                   | 1                        |
|            |             |         | 90     | 86   | S                    | 1                        |            |             |         | 115    | 40   | SW                   | 1                        |
|            |             |         | 100    | 84   | SW                   | 1                        |            |             |         | 120    | 42   | SW                   | 4                        |
|            |             |         | 95     | 82   | SW                   | 1                        |            |             |         | 116    | 42   | SW                   | 1                        |
|            |             |         | 107    | 88   | SW                   | 1                        |            |             |         | 112    | 28   | SW                   | 1                        |
|            |             |         | 120    | 90   |                      | 1                        |            |             |         | 122    | 40   | SW                   | 5                        |
|            |             |         | 6      | 25   | SE                   | 4                        |            |             |         | 110    | 44   | SW                   | 1                        |
|            |             |         | 7      | 18   | SE                   | 4                        |            |             |         | * 124  | 42   | SW                   | 1                        |
|            |             |         | 120    | 26   | SW                   | 3                        |            |             |         | 85     | 52   | NW                   | 1                        |
|            |             |         | 22     | 32   | SE                   | 2                        |            |             |         | 4      | 70   | SE                   | 3                        |





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### PROYECTO LOS HORNOS

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#### PROYECCION ESTEREOGRAFICA DE ALREDEDORES DE LA ZONA EL CURA

#### DATOS DE ESTACIONES

| ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE DE BUZ. | CANTIDAD DE FRACTURAS | ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE DE BUZ. | CANTIDAD DE FRACTURAS |
|------------|-------------|---------|--------|------|-------------------|-----------------------|------------|-------------|---------|--------|------|-------------------|-----------------------|
|            | ESTE        | NORTE   |        |      |                   |                       |            | ESTE        | NORTE   |        |      |                   |                       |
| E-132      | 237931      | 9101537 | 5      | 65   | SE                | 2                     | E-135      | 237885      | 9101541 | 302    | 72   | SW                | 2                     |
|            |             |         | 0      | 72   | SE                | 1                     |            |             |         | 145    | 44   | NE                | 1                     |
|            |             |         | 352    | 76   | NE                | 1                     |            |             |         | 136    | 40   | NE                | 1                     |
|            |             |         | 0      | 72   | SE                | 1                     |            |             |         | 137    | 22   | NE                | 1                     |
|            |             |         | 2      | 65   | SE                | 1                     |            |             |         | 134    | 4    | SW                | 1                     |
|            |             |         | 347    | 64   | NE                | 2                     |            |             |         | 142    | 34   | NE                | 2                     |
|            |             |         | 350    | 70   | NE                | 8                     |            |             |         | 125    | 23   | NE                | 1                     |
|            |             |         | 125    | 66   | NE                | 1                     |            |             |         | 152    | 23   | NE                | 1                     |
|            |             |         | 117    | 67   | NE                | 1                     |            |             |         | 132    | 26   | NE                | 3                     |
|            |             |         | 120    | 68   | NE                | 3                     |            |             |         | 45     | 65   | SE                | 2                     |
|            |             |         | 126    | 68   | NE                | 1                     |            |             |         | 37     | 75   | SE                | 1                     |
|            |             |         | 116    | 66   | NE                | 3                     |            |             |         | 27     | 50   | SE                | 2                     |
|            |             |         | 135    | 67   | NE                | 1                     |            |             |         | 55     | 82   | SE                | 1                     |
| E-133      | 237941      | 9101554 | 0      | 72   | NW                | 1                     | E-137      | 238044      | 9101736 | 30     | 58   | SE                | 1                     |
|            |             |         | 10     | 74   | NW                | 1                     |            |             |         | 30     | 85   | SE                | 1                     |
|            |             |         | 8      | 70   | NW                | 1                     |            |             |         | 20     | 56   | SE                | 1                     |
|            |             |         | 4      | 70   | NW                | 1                     |            |             |         | 27     | 54   | SE                | 1                     |
|            |             |         | 10     | 70   | NW                | 1                     |            |             |         | 130    | 16   | NE                | 3                     |
|            |             |         | 350    | 10   | NE                | 4                     |            |             |         | 155    | 22   | NE                | 1                     |
|            |             |         | 355    | 22   | NE                | 3                     |            |             |         | 288    | 60   | SW                | 1                     |
|            |             |         | 15     | 18   | SE                | 4                     |            |             |         | 306    | 77   | SW                | 1                     |
|            |             |         | 10     | 30   | SE                | 1                     |            |             |         | 303    | 76   | SW                | 1                     |
|            |             |         | 347    | 20   | NE                | 3                     |            |             |         | 305    | 77   | SW                | 3                     |
|            |             |         | 5      | 75   | NW                | 1                     |            |             |         | 308    | 78   | SW                | 2                     |
|            |             |         | 125    | 70   | SW                | 3                     |            |             |         | 326    | 75   | SW                | 2                     |
|            |             |         | 127    | 68   | NE                | 1                     |            |             |         | 290    | 60   | SW                | 1                     |
| E-134      | 237834      | 9101725 | 127    | 70   | SW                | 3                     | E-136-I    | 238058      | 9101738 | 306    | 79   | SW                | 4                     |
|            |             |         | 122    | 82   | SW                | 1                     |            |             |         | 314    | 76   | SW                | 1                     |
|            |             |         | 54     | 76   | SE                | 1                     |            |             |         | 312    | 80   | NE                | 1                     |
|            |             |         | 48     | 90   |                   | 1                     |            |             |         | 020    | 75   | NE                | 1                     |
|            |             |         | 85     | 47   | SE                | 1                     |            |             |         | 310    | 82   | NE                | 3                     |
|            |             |         | 122    | 50   | SW                | 1                     |            |             |         | 207    | 83   | NW                | 1                     |
|            |             |         | 128    | 72   | SW                | 1                     |            |             |         | 205    | 75   | NW                | 1                     |
|            |             |         | 123    | 72   | SW                | 1                     |            |             |         | 40     | 74   | NW                | 2                     |
|            |             |         | 144    | 82   | SW                | 1                     |            |             |         | 238    | 67   | NW                | 1                     |
|            |             |         | 120    | 88   | SW                | 1                     |            |             |         | 34     | 70   | NW                | 1                     |
|            |             |         | 155    | 16   | NE                | 1                     |            |             |         | 35     | 74   | NW                | 3                     |
|            |             |         | 155    | 17   | NE                | 3                     |            |             |         | 317    | 70   | NE                | 1                     |
|            |             |         | 12     | 88   | SE                | 1                     |            |             |         | 292    | 41   | NE                | 1                     |
| E-135      | 237865      | 9101562 | 60     | 76   | SE                | 1                     | E-137-I    | 238439      | 9102283 | 205    | 26   | SE                | 3                     |
|            |             |         | 47     | 54   | SE                | 3                     |            |             |         | 220    | 37   | SE                | 3                     |
|            |             |         | 40     | 27   | SE                | 4                     |            |             |         | 206    | 42   | SE                | 2                     |
|            |             |         | 38     | 18   | SE                | 8                     |            |             |         | 220    | 18   | SE                | 6                     |
|            |             |         | 37     | 20   | SE                | 6                     |            |             |         | 192    | 60   | SE                | 2                     |
|            |             |         | 66     | 70   | NW                | 4                     |            |             |         | 187    | 60   | SE                | 1                     |
|            |             |         | 45     | 80   | NW                | 3                     |            |             |         | 80     | 60   | NW                | 2                     |
|            |             |         | 50     | 72   | NW                | 2                     |            |             |         | 90     | 86   | S                 | 2                     |
|            |             |         | 120    | 90   |                   | 2                     |            |             |         | 104    | 85   | SW                | 4                     |
|            |             |         | 42     | 72   | NW                | 2                     |            |             |         | 295    | 80   | NE                | 1                     |
|            |             |         | 33     | 12   | SE                | 8                     |            |             |         | 282    | 68   | NE                | 1                     |
|            |             |         | 45     | 22   | SE                | 7                     |            |             |         | 274    | 72   | NE                | 1                     |
|            |             |         | 30     | 32   | SE                | 8                     |            |             |         | 272    | 72   | NE                | 1                     |
| E-136      | 237886      | 9101541 | 37     | 70   | NW                | 2                     | E-138      | 238418      | 9102286 | 270    | 72   | N                 | 1                     |
|            |             |         | 25     | 75   | NW                | 3                     |            |             |         | 300    | 90   |                   | 1                     |
|            |             |         | 90     | 78   | N                 | 1                     |            |             |         | 307    | 78   | NE                | 3                     |
|            |             |         | 45     | 70   | NW                | 4                     |            |             |         | 310    | 80   | NE                | 1                     |
|            |             |         | 8      | 30   | SE                | 8                     |            |             |         | 280    | 87   | NE                | 3                     |
|            |             |         | 23     | 19   | SE                | 6                     |            |             |         | 320    | 58   | NE                | 1                     |
|            |             |         | 26     | 24   | SE                | 10                    |            |             |         | 320    | 60   | NE                | 1                     |
|            |             |         | 32     | 24   | SE                | 6                     |            |             |         | 295    | 56   | SW                | 1                     |
|            |             |         | 42     | 84   | NW                | 3                     |            |             |         | 286    | 60   | NE                | 1                     |
|            |             |         | 14     | 90   |                   | 3                     |            |             |         | 313    | 54   | NE                | 2                     |
|            |             |         | 0      | 80   | SE                | 1                     |            |             |         | 220    | 50   | NW                | 2                     |
|            |             |         | 27     | 78   | SE                | 1                     |            |             |         | 200    | 90   |                   | 1                     |
|            |             |         | 32     | 88   | NW                | 1                     |            |             |         | * 193  | 90   |                   | 1                     |
|            |             |         | 26     | 86   | SE                | 5                     |            |             |         | 195    | 90   |                   | 1                     |
|            |             |         | 57     | 68   | NW                | 2                     | E-139      | 238379      | 9102304 | 218    | 78   | NW                | 1                     |





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### PROYECCION ESTEREOGRAFICA DE ALREDEDORES DE LA ZONA EL CURA

### DATOS DE ESTACIONES

| ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE DE BUZ. | CANTIDAD DE FRACTURAS | ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE DE BUZ. | CANTIDAD DE FRACTURAS |
|------------|-------------|---------|--------|------|-------------------|-----------------------|------------|-------------|---------|--------|------|-------------------|-----------------------|
|            | ESTE        | NORTE   |        |      |                   |                       |            | ESTE        | NORTE   |        |      |                   |                       |
| E-139      | 238379      | 9102304 | 210    | 85   | NW                | 1                     | E-142      | 238063      | 9101680 | 30     | 80   | SE                | 2                     |
|            |             |         | 212    | 90   | NW                | 2                     |            |             |         | 5      | 64   | SE                | 6                     |
|            |             |         | 215    | 80   | NW                | 1                     |            |             |         | 5      | 70   | SE                | 6                     |
|            |             |         | 220    | 75   | NW                | 1                     |            |             |         | 17     | 78   | SE                | 4                     |
|            |             |         | 275    | 65   | SW                | 1                     |            |             |         | 96     | 27   | NE                | 4                     |
|            |             |         | 290    | 78   | SW                | 1                     |            |             |         | 102    | 32   | NE                | 1                     |
|            |             |         | 288    | 72   | NE                | 1                     |            |             |         | 102    | 28   | NE                | 1                     |
|            |             |         | 286    | 90   |                   | 3                     |            |             |         | 107    | 32   | NE                | 1                     |
|            |             |         | 240    | 65   | NW                | 1                     |            |             |         | 100    | 26   | NE                | 1                     |
|            |             |         | 230    | 73   | NW                | 1                     |            |             |         | 100    | 22   | NE                | 6                     |
|            |             |         | 234    | 44   | NW                | 1                     | E-143      | 238031      | 9101680 | 30     | 87   | SE                | 1                     |
|            |             |         | 262    | 65   | SE                | 1                     |            |             |         | 0      | 45   | SE                | 1                     |
|            |             |         | 262    | 77   | NE                | 1                     |            |             |         | 15     | 70   | SE                | 1                     |
|            |             |         | 218    | 72   | NW                | 2                     |            |             |         | 26     | 65   | SE                | 1                     |
|            |             |         | 218    | 65   | NW                | 1                     |            |             |         | 5      | 62   | SE                | 1                     |
|            |             |         | 217    | 82   | NW                | 2                     |            |             |         | 3      | 72   | SE                | 3                     |
|            |             |         | 340    | 48   | SW                | 3                     |            |             |         | 0      | 66   | SE                | 3                     |
|            |             |         | 340    | 55   | NE                | 1                     |            |             |         | 12     | 42   | SE                | 4                     |
|            |             |         | 277    | 44   | SW                | 3                     |            |             |         | 18     | 70   | SE                | 3                     |
|            |             |         | 265    | 58   | SE                | 3                     |            |             |         | 8      | 55   | SE                | 3                     |
| E-140      | 238385      | 9102352 | 225    | 75   | NW                | 4                     |            |             |         | 350    | 58   | NE                | 3                     |
|            |             |         | 5      | 65   | NW                | 1                     |            |             |         | 5      | 60   | SE                | 3                     |
|            |             |         | 12     | 72   | NW                | 1                     |            |             |         | 2      | 45   | SE                | 1                     |
|            |             |         | 358    | 70   | SW                | 1                     |            |             |         | 7      | 36   | SE                | 3                     |
|            |             |         | 2      | 67   | NW                | 1                     |            |             |         | 20     | 38   | SE                | 4                     |
|            |             |         | 7      | 70   | NW                | 1                     |            |             |         | 32     | 40   | SE                | 3                     |
|            |             |         | 8      | 66   | NW                | 2                     |            |             |         | 12     | 40   | SE                | 4                     |
|            |             |         | 14     | 78   | NW                | 1                     | E-144      | 238234      | 9101045 | 18     | 40   | SE                | 4                     |
|            |             |         | 22     | 86   | NW                | 1                     |            |             |         | 18     | 68   | SE                | 1                     |
|            |             |         | 110    | 43   | NE                | 4                     |            |             |         | 15     | 45   | SE                | 3                     |
|            |             |         | 114    | 36   | NE                | 3                     |            |             |         | 38     | 40   | SE                | 4                     |
|            |             |         | 137    | 54   | NE                | 4                     |            |             |         | 26     | 47   | SE                | 3                     |
|            |             |         | 114    | 42   | NE                | 4                     |            |             |         | 57     | 86   | SE                | 3                     |
|            |             |         | 354    | 74   | NE                | 1                     |            |             |         | 74     | 90   |                   | 2                     |
|            |             |         | 354    | 70   | NE                | 1                     |            |             |         | 68     | 86   | NW                | 1                     |
|            |             |         | 340    | 60   | NE                | 4                     |            |             |         | 155    | 22   | NE                | 3                     |
|            |             |         | 118    | 45   | NE                | 3                     | E-145      | 238277      | 9100828 | 150    | 24   | NE                | 4                     |
|            |             |         | 115    | 38   | NE                | 8                     |            |             |         | 144    | 12   | NE                | 3                     |
|            |             |         | 114    | 38   | NE                | 3                     |            |             |         | 157    | 24   | NE                | 3                     |
|            |             |         | 350    | 56   | SW                | 1                     |            |             |         | 165    | 22   | NE                | 2                     |
|            |             |         | 345    | 62   | SW                | 1                     |            |             |         | 168    | 18   | NE                | 4                     |
|            |             |         | 340    | 55   | SW                | 1                     |            |             |         | 167    | 34   | NE                | 3                     |
|            |             |         | 347    | 55   | SW                | 3                     |            |             |         | 180    | 35   | SE                | 4                     |
|            |             |         | 97     | 80   | NE                | 3                     |            |             |         | 157    | 32   | NE                | 2                     |
|            |             |         | 87     | 70   | SE                | 4                     |            |             |         | 165    | 26   | NE                | 1                     |
| E-141      | 238431      | 9102313 | 37     | 72   | NW                | 1                     |            |             |         | 176    | 40   | NE                | 3                     |
|            |             |         | 32     | 70   | NW                | 1                     |            |             |         | 190    | 20   | SE                | 1                     |
|            |             |         | 35     | 60   | NW                | 1                     |            |             |         | 165    | 48   | SE                | 4                     |
|            |             |         | 32     | 60   | NW                | 1                     |            |             |         | 160    | 28   | NE                | 4                     |
|            |             |         | 37     | 68   | NW                | 1                     |            |             |         | 167    | 14   | SE                | 3                     |
|            |             |         | 28     | 60   | NW                | 3                     |            |             |         | 170    | 28   | NE                | 1                     |
|            |             |         | 47     | 60   | NW                | 1                     |            |             |         | 190    | 26   | SE                | 3                     |
|            |             |         | 34     | 65   | NW                | 1                     |            |             |         | 60     | 82   | SE                | 1                     |
|            |             |         | 36     | 62   | NW                | 1                     |            |             |         | 90     | 76   | S                 | 1                     |
|            |             |         | 317    | 56   | SW                | 3                     |            |             |         | 100    | 65   | SW                | 1                     |
|            |             |         | 308    | 72   | SW                | 3                     |            |             |         | 90     | 62   | S                 | 1                     |
|            |             |         | 324    | 45   | NE                | 1                     |            |             |         | 62     | 84   | SE                | 1                     |
|            |             |         | 305    | 55   | SW                | 1                     | E-146      | 238286      | 9100887 | 20     | 34   | SE                | 3                     |
|            |             |         | 300    | 56   | NE                | 1                     |            |             |         | 16     | 33   | SE                | 2                     |
|            |             |         | 294    | 54   | NE                | 3                     |            |             |         | 18     | 32   | SE                | 1                     |
|            |             |         | 310    | 22   | NE                | 3                     |            |             |         | 10     | 36   | SE                | 4                     |
| E-142      | 238063      | 9101680 | 186    | 75   | SE                | 3                     |            |             |         | 0      | 40   | SE                | 3                     |
|            |             |         | 180    | 64   | E                 | 1                     |            |             |         | 354    | 36   | NE                | 3                     |
|            |             |         | 182    | 50   | SE                | 2                     | E-147      | 238304      | 9100745 | 25     | 30   | SE                | 1                     |
|            |             |         | 354    | 77   | NE                | 1                     |            |             |         | 36     | 25   | SE                | 1                     |
|            |             |         | 42     | 64   | SE                | 2                     |            |             |         | 25     | 25   | SE                | 2                     |
|            |             |         | 50     | 60   | SE                | 1                     |            |             |         | 36     | 28   | SE                | 2                     |



**MERENDON DE PERU S.A.**  
**DEPARTAMENTO DE EXPLORACIONES GEOLOGICO MINERAS**



**PROYECTO LOS HORNOS**

**II ETAPA**

**PROYECCION ESTEREOGRAFICA DE ALREDEDORES DE LA ZONA EL CURA**

**DATOS DE ESTACIONES**

| ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE<br>DE BUZ. | CANTIDAD DE<br>FRACTURAS | ESTACIONES | COORDENADAS |         | AZIMUT | BUZ. | CUADRANTE<br>DE BUZ. | CANTIDAD DE<br>FRACTURAS |
|------------|-------------|---------|--------|------|----------------------|--------------------------|------------|-------------|---------|--------|------|----------------------|--------------------------|
|            | ESTE        | NORTE   |        |      |                      |                          |            | ESTE        | NORTE   |        |      |                      |                          |
| E-147      | 238304      | 9100745 | 27     | 32   | SE                   | 3                        | E-149      | 238527      | 9100629 | 26     | 12   | SE                   | 1                        |
|            |             |         | 32     | 30   | SE                   | 3                        |            |             |         | 344    | 72   | NE                   | 1                        |
|            |             |         | 50     | 82   | NW                   | 3                        |            |             |         | 350    | 80   | NE                   | 2                        |
|            |             |         | 12     | 80   | NW                   | 1                        | E-150      | 238482      | 9100617 | 346    | 86   | NE                   | 3                        |
|            |             |         | 12     | 70   | NW                   | 1                        |            |             |         | 347    | 80   | NE                   | 2                        |
|            |             |         | 18     | 66   | NW                   | 1                        |            |             |         | 330    | 70   | SW                   | 1                        |
| E-148      | 238537      | 9100612 | 126    | 90   |                      | 1                        |            |             |         | 334    | 74   | SW                   | 2                        |
|            |             |         | 37     | 32   | SE                   | 2                        |            |             |         | 335    | 73   | SW                   | 3                        |
|            |             |         | 35     | 26   | SE                   | 1                        |            |             |         | 332    | 66   | SW                   | 2                        |
|            |             |         | 48     | 27   | SE                   | 1                        |            |             |         | 336    | 75   | SW                   | 2                        |
|            |             |         | 0      | 27   | SE                   | 2                        |            |             |         | 334    | 72   | SW                   | 2                        |
|            |             |         | 0      | 26   | SE                   | 2                        |            |             |         | 95     | 32   | NE                   | 3                        |
|            |             |         | 20     | 26   | SE                   | 3                        |            |             |         | 80     | 54   | NW                   | 2                        |
|            |             |         | 0      | 36   | SE                   | 3                        |            |             |         | 85     | 50   | NW                   | 3                        |
|            |             |         | 352    | 47   | NE                   | 4                        |            |             |         | 90     | 44   | N                    | 2                        |
|            |             |         | 352    | 45   | NE                   | 6                        |            |             |         | 82     | 54   | NW                   | 3                        |
|            |             |         | 14     | 33   | SE                   | 3                        |            |             |         | 78     | 60   | NW                   | 2                        |
|            |             |         | 16     | 28   | SE                   | 3                        | E-151      | 238510      | 9100608 | 304    | 38   | NE                   | 3                        |
|            |             |         | 355    | 42   | NE                   | 4                        |            |             |         | 300    | 26   | NE                   | 1                        |
|            |             |         | 345    | 55   | NE                   | 2                        |            |             |         | 290    | 42   | NE                   | 2                        |
|            |             |         | 355    | 54   | NE                   | 2                        |            |             |         | 320    | 84   | NE                   | 1                        |
| E-149      | 238527      | 9100629 | 42     | 35   | SE                   | 3                        |            |             |         | 290    | 58   | NE                   | 1                        |
|            |             |         | 25     | 85   | SE                   | 1                        |            |             |         | 285    | 50   | NE                   | 1                        |
|            |             |         | 20     | 60   | SE                   | 1                        |            |             |         | 290    | 36   | NE                   | 2                        |
|            |             |         | 18     | 70   | SE                   | 1                        |            |             |         | 20     | 76   | SE                   | 1                        |
|            |             |         | 26     | 25   | SE                   | 3                        |            |             |         | 10     | 77   | SE                   | 1                        |
|            |             |         | 25     | 18   | SE                   | 3                        |            |             |         | 8      | 80   | SE                   | 1                        |
|            |             |         | 30     | 27   | SE                   | 3                        |            |             |         | 5      | 82   | SE                   | 1                        |
|            |             |         | 37     | 24   | SE                   | 4                        |            |             |         | 14     | 57   | SE                   | 1                        |
|            |             |         | 18     | 20   | SE                   | 3                        |            |             |         | 18     | 80   | SE                   | 1                        |

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-1

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 main strikes / set  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Size Correction

5 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 18 / 152        | 242     |

Equal Angle  
Lower Hemisphere  
5 Poles  
5 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-2

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 main strikes / set  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Size Correction

5 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 77 / 142        | 232     |

Equal Angle  
Lower Hemisphere  
5 Poles  
5 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-3

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 main strikes / set  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Size Correction

5 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 55 / 172        | 262     |

Equal Angle  
Lower Hemisphere  
5 Poles  
5 Entries



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-4

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

5 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 29 / 103        | 193     |
| 2 m          | 61 / 293        | 23      |

Equal Angle  
Lower Hemisphere  
5 Poles  
5 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-5

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

14 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 87 / 356        | 26      |
| 2 m          | 80 / 148        | 238     |

Equal Angle  
Lower Hemisphere  
14 Poles  
14 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-6

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

6 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 85 / 219        | 209     |

Equal Angle  
Lower Hemisphere  
6 Poles  
6 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-7

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 main planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)  
No Bias Correction

4 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 85 / 076        | 166    |
| 2 m          | 16 / 070        | 160    |

Equal Angle  
Lower Hemisphere  
4 Poles  
4 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-8

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 main planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)  
No Bias Correction

11 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 21 / 062        | 152    |

Equal Angle  
Lower Hemisphere  
11 Poles  
11 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-9

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 main planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)  
No Bias Correction

6 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 75 / 306        | 296    |

Equal Angle  
Lower Hemisphere  
6 Poles  
6 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-10

**DIAGRAMA DE ROSETAS**



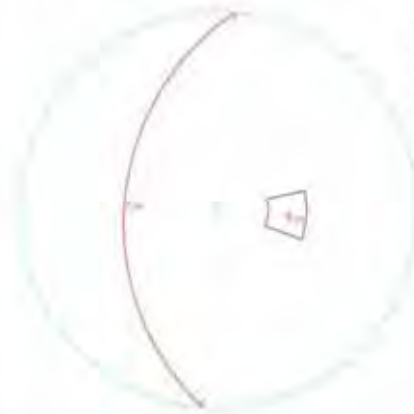
Apparent Strike  
5 max planes / arcs  
on outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

5 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 79 / 275        | 5       |

Equal Angle  
Lower Hemisphere  
6 Poles  
3 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-11

**DIAGRAMA DE ROSETAS**



Apparent Strike  
14 max planes / arcs  
on outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

14 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 83 / 223        | 313     |

Equal Angle  
Lower Hemisphere  
14 Poles  
14 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-12

**DIAGRAMA DE ROSETAS**



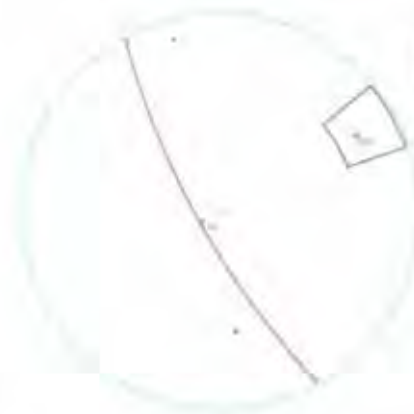
Apparent Strike  
11 max planes / arcs  
on outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

11 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 76 / 341        | 331     |

Equal Angle  
Lower Hemisphere  
11 Poles  
11 Entries



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-13

### DIAGRAMA DE ROSETAS



Apparent Strike  
10 main planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

10 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 24 / 104        | 199     |
| 2 m          | 83 / 299        | 29      |

Equal Angle  
Lower Hemisphere  
10 Poles  
10 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-14

### DIAGRAMA DE ROSETAS



Apparent Strike  
21 main planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

21 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 32 / 112        | 212     |
| 2 m          | 83 / 230        | 520     |

Equal Angle  
Lower Hemisphere  
21 Poles  
21 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-16

### DIAGRAMA DE ROSETAS



Apparent Strike  
31 main planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

31 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 87 / 117        | 207     |
| 2 m          | 90 / 144        | 234     |
| 3 m          | 84 / 185        | 275     |

Equal Angle  
Lower Hemisphere  
31 Poles  
31 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-17

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
on outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

7 Strikes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 89 / 206        | 295     |
| 2 m          | 29 / 333        | 293     |

Equal Angle  
Lower Hemisphere  
7 Poles  
7 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-18

### DIAGRAMA DE ROSETAS



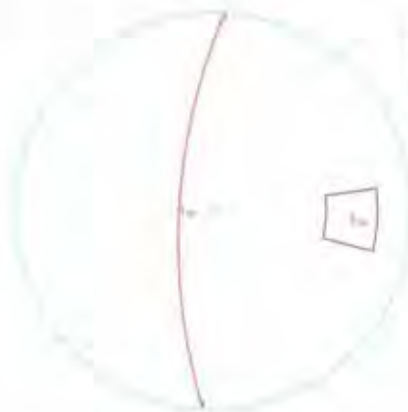
Apparent Strike  
5 max planes / arc  
on outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

6 Strikes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 70 / 273        | 3       |

Equal Angle  
Lower Hemisphere  
6 Poles  
6 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-19

### DIAGRAMA DE ROSETAS



Apparent Strike  
13 max planes / arc  
on outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

16 Strikes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 62 / 334        | 44      |

Equal Angle  
Lower Hemisphere  
16 Poles  
16 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-20

### DIAGRAMA DE ROSETAS



Apparent Strike  
18 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

18 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA

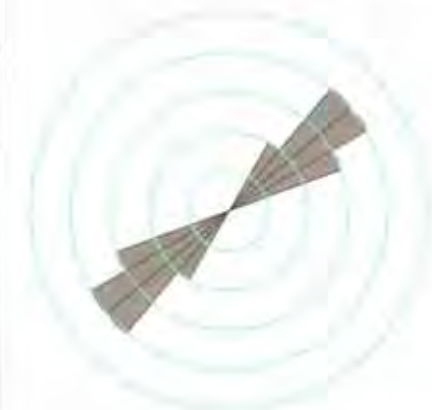


| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 75 / 219        | 49      |

Equal Angle  
Lower Hemisphere  
18 Poles  
18 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-21

### DIAGRAMA DE ROSETAS



Apparent Strike  
13 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

13 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 49 / 176        | 229     |
| 2 m          | 43 / 130        | 240     |

Equal Angle  
Lower Hemisphere  
13 Poles  
13 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-22

### DIAGRAMA DE ROSETAS



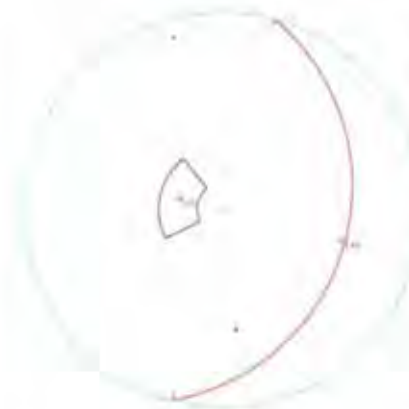
Apparent Strike  
11 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

11 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 30 / 105        | 198     |

Equal Angle  
Lower Hemisphere  
11 Poles  
11 Entries



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-23

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

9 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 26 / 150        | 249     |

Equal Angle  
Lower Hemisphere  
9 Poles  
9 Strikes

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-24

### DIAGRAMA DE ROSETAS



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

16 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 47 / 165        | 255     |

Equal Angle  
Lower Hemisphere  
16 Poles  
16 Strikes

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-25

### DIAGRAMA DE ROSETAS



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

17 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA

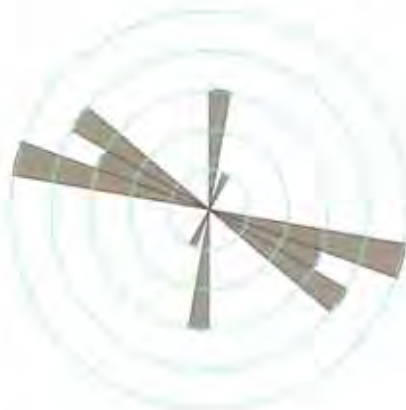


| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 42 / 115        | 206     |
| 2 m          | 80 / 028        | 118     |

Equal Angle  
Lower Hemisphere  
17 Poles  
17 Strikes

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-26

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(plotted away from viewer)

No Bias Correction

16 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**

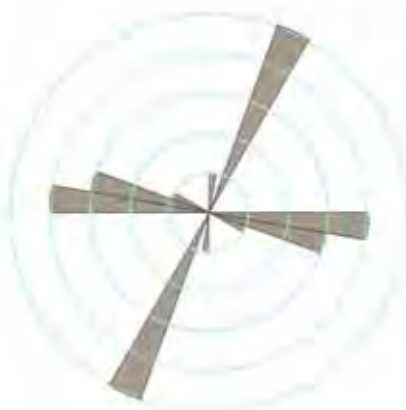


| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 76 / 023        | 113     |
| 2 m          | 26 / 276        | 6       |

Equal Angle  
Lower Hemisphere  
16 Points  
16 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-27

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(plotted away from viewer)

No Bias Correction

14 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 31 / 108        | 98      |
| 2 m          | 47 / 115        | 205     |

Equal Angle  
Lower Hemisphere  
14 Points  
14 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-28

**DIAGRAMA DE ROSETAS**



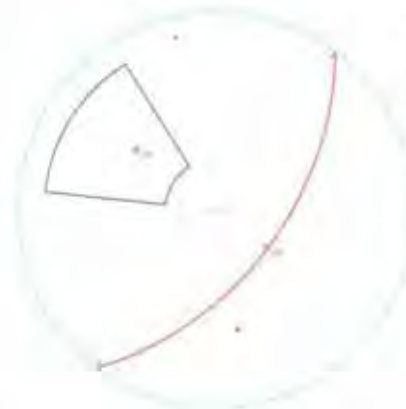
Apparent Strike  
10 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(plotted away from viewer)

No Bias Correction

17 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**

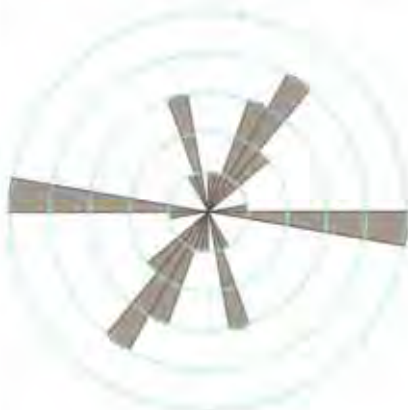


| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 54 / 127        | 217     |

Equal Angle  
Lower Hemisphere  
17 Points  
17 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-29

**DIAGRAMA DE ROSETAS**



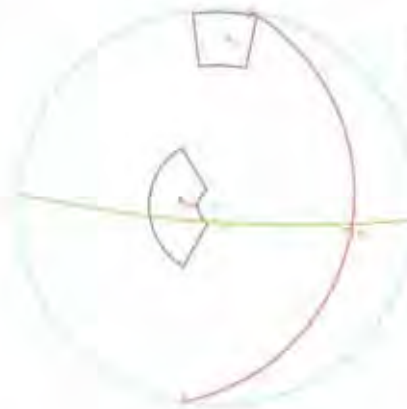
Apparent Stress  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

21 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 21 / 100        | 190     |
| 2 m          | 81 / 184        | 274     |

Equal Angle  
Lower Hemisphere  
21 Poles  
21 Curves

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-30

**DIAGRAMA DE ROSETAS**



Apparent Stress  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

19 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 84 / 160        | 250     |

Equal Angle  
Lower Hemisphere  
19 Poles  
19 Curves

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-31

**DIAGRAMA DE ROSETAS**



Apparent Stress  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

14 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 28 / 106        | 196     |

Equal Angle  
Lower Hemisphere  
14 Poles  
14 Curves



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-32

### DIAGRAMA DE ROSETAS



Apparent Strike  
10 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = (0, 90)  
(directed away from viewer)

No Bias Correction

11 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 34 / 022        | 112     |

Equal Angle  
Lower Hemisphere  
11 Poles  
11 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-33

### DIAGRAMA DE ROSETAS



Apparent Strike  
8 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = (0, 90)  
(directed away from viewer)

No Bias Correction

6 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 76 / 141        | 231     |
| 2 m          | 25 / 352        | 342     |

Equal Angle  
Lower Hemisphere  
6 Poles  
6 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-34

### DIAGRAMA DE ROSETAS



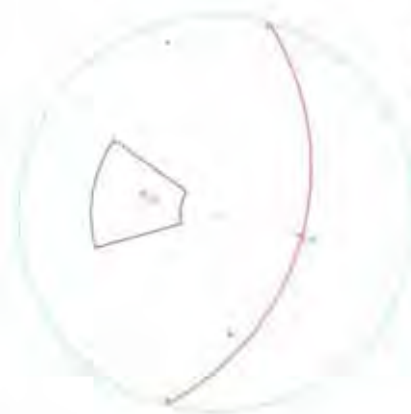
Apparent Strike  
22 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = (0, 90)  
(directed away from viewer)

No Bias Correction

22 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 45 / 100        | 195     |

Equal Angle  
Lower Hemisphere  
22 Poles  
22 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-35

### DIAGRAMA DE ROSETAS



Apparent Strike  
3 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

10 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA

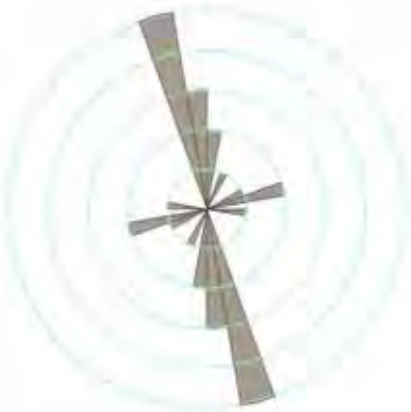


| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 44 / 037        | 127     |
| 2 m          | 52 / 087        | 177     |

Equal Angle  
Lower Hemisphere  
10 Poles  
10 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-36

### DIAGRAMA DE ROSETAS



Apparent Strike  
3 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

15 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 42 / 078        | 168     |

Equal Angle  
Lower Hemisphere  
15 Poles  
15 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-37

### DIAGRAMA DE ROSETAS



Apparent Strike  
3 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

5 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 31 / 070        | 160     |

Equal Angle  
Lower Hemisphere  
5 Poles  
5 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-38

### DIAGRAMA DE ROSETAS



Apparent Strike  
3 main planes / are  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

9 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 12 / 144        | 234     |

Equal Angle  
Lower Hemisphere  
9 Poles  
9 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-39

### DIAGRAMA DE ROSETAS



Apparent Strike  
3 main planes / are  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

8 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 66 / 310        | 40      |

Equal Angle  
Lower Hemisphere  
8 Poles  
8 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-40

### DIAGRAMA DE ROSETAS



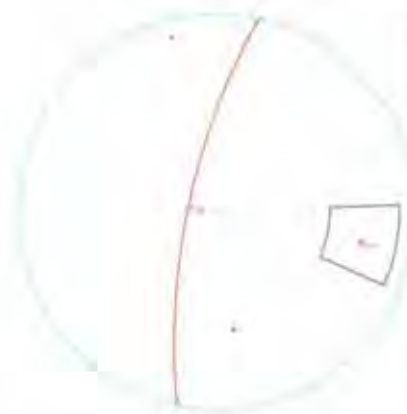
Apparent Strike  
3 main planes / are  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

5 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 75 / 282        | 12      |

Equal Angle  
Lower Hemisphere  
5 Poles  
5 Entries



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-41

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

12 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 to 12      | 74 / 299        | 29      |

Equal Angle  
Lower Hemisphere  
12 Points  
12 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-42

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

5 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 to 5       | 40 / 059        | 149     |
| 2 to 5       | 73 / 098        | 188     |
| 3 to 5       | 55 / 365        | 353     |

Equal Angle  
Lower Hemisphere  
5 Points  
5 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-43

**DIAGRAMA DE ROSETAS**



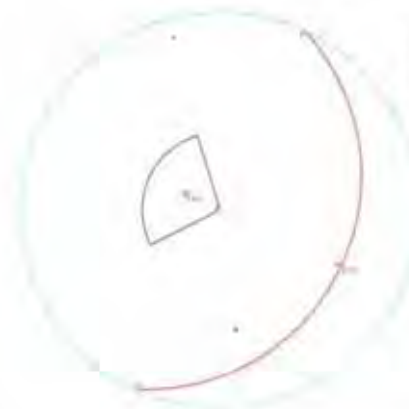
Apparent Strike  
3 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

3 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 to 3       | 32 / 113        | 203     |

Equal Angle  
Lower Hemisphere  
3 Points  
3 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-44

**DIAGRAMA DE ROSETAS**



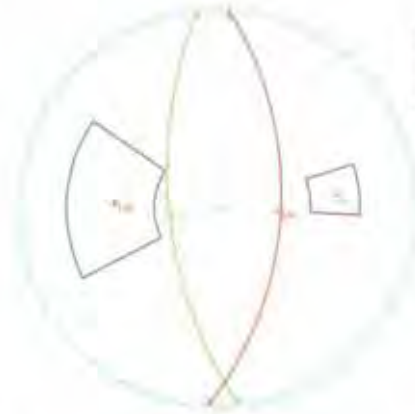
Apparent Stress  
10 rose planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Slip Correction

10 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 55 / 093        | 183    |
| 2 m          | 62 / 384        | 354    |

Equal Angle  
Lower Hemisphere  
20 Planes  
20 Strikes

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-45

**DIAGRAMA DE ROSETAS**



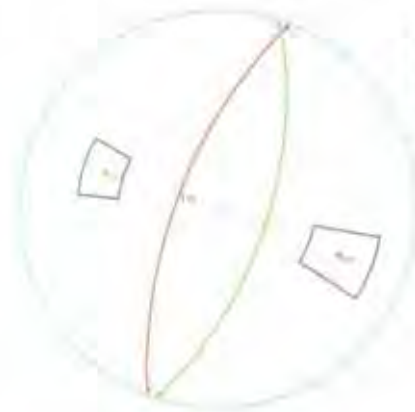
Apparent Stress  
5 rose planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Slip Correction

10 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 66 / 291        | 21     |
| 2 m          | 62 / 108        | 198    |

Equal Angle  
Lower Hemisphere  
10 Planes  
10 Strikes

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-46

**DIAGRAMA DE ROSETAS**



Apparent Stress  
6 rose planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Slip Correction

6 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 64 / 069        | 189    |

Equal Angle  
Lower Hemisphere  
6 Planes  
6 Strikes

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-47

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / sec  
at outer circle

Trend / Thunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

19 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 63 / 133        | 243     |
| 2 m          | 68 / 032        | 142     |
| 3 m          | 43 / 349        | 359     |

Equal Angle  
Lower Hemisphere  
19 Poles  
19 Strikes

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-48

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / sec  
at outer circle

Trend / Thunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

9 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 63 / 119        | 209     |

Equal Angle  
Lower Hemisphere  
9 Poles  
9 Strikes

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-49

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / sec  
at outer circle

Trend / Thunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

10 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 68 / 355        | 345     |

Equal Angle  
Lower Hemisphere  
10 Poles  
10 Strikes



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-50

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / sec  
on outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

15 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 22 / 115        | 205     |

Equal Angle  
Lower Hemisphere  
15 Poles  
15 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-51

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / sec  
on outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

17 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 86 / 151        | 241     |
| 2 m          | 24 / 072        | 162     |

Equal Angle  
Lower Hemisphere  
17 Poles  
17 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-52

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / sec  
on outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

8 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 28 / 038        | 148     |
| 2 m          | 73 / 314        | 44      |

Equal Angle  
Lower Hemisphere  
8 Poles  
8 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-53

### DIAGRAMA DE ROSETAS



Apparent Strike  
3 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

20 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 37 / 192        | 283    |
| 2 m          | 30 / 144        | 234    |

Equal Angle  
Lower Hemispheres  
20 Poles  
20 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-54

### DIAGRAMA DE ROSETAS



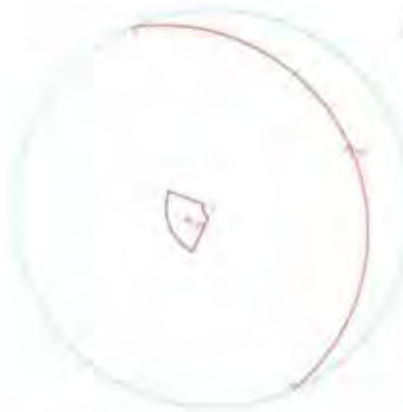
Apparent Strike  
3 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

6 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 16 / 066        | 156    |

Equal Angle  
Lower Hemispheres  
6 Poles  
6 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-55

### DIAGRAMA DE ROSETAS



Apparent Strike  
3 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

10 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 26 / 316        | 309    |
| 2 m          | 79 / 138        | 228    |

Equal Angle  
Lower Hemispheres  
10 Poles  
10 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-56

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

5 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 19 / 237        | 327     |
| 2 m          | 83 / 316        | 48      |

Equal Angle  
Lower Hemisphere  
5 Poles  
5 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-57

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

5 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 24 / 131        | 231     |

Equal Angle  
Lower Hemisphere  
5 Poles  
5 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-58

### DIAGRAMA DE ROSETAS



Apparent Strike  
9 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

9 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 72 / 119        | 209     |

Equal Angle  
Lower Hemisphere  
9 Poles  
9 Entries



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-59

### DIAGRAMA DE ROSETAS



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

30 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA

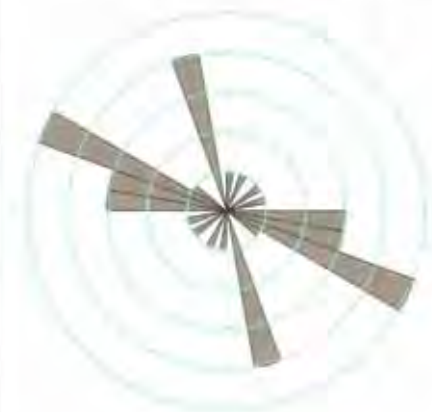


| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 60 / 182        | 272    |
| 2 m          | 85 / 338        | 58     |

Equal Angle  
Lower Hemisphere  
30 Poles  
30 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-60

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

20 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 17 / 086        | 176    |
| 2 m          | 34 / 199        | 280    |

Equal Angle  
Lower Hemisphere  
20 Poles  
20 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-61

### DIAGRAMA DE ROSETAS



Apparent Strike  
8 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

8 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 73 / 307        | 297    |

Equal Angle  
Lower Hemisphere  
8 Poles  
8 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-62

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

5 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 73 / 082        | 172     |
| 2 m          | 18 / 052        | 142     |

Equal Angle  
Lower Hemisphere  
5 Poles  
5 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-63

### DIAGRAMA DE ROSETAS



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

22 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 53 / 091        | 191     |
| 2 m          | 14 / 096        | 196     |

Equal Angle  
Lower Hemisphere  
22 Poles  
22 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-64

### DIAGRAMA DE ROSETAS



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

33 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 71 / 104        | 34      |
| 2 m          | 49 / 096        | 180     |

Equal Angle  
Lower Hemisphere  
33 Poles  
33 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-65

### DIAGRAMA DE ROSETAS



Apparent Strike  
8 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

8 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 16 / 033        | 121     |
| 2 m          | 73 / 337        | 47      |

Equal Angle  
Lower Hemisphere  
8 Poles  
8 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-66

### DIAGRAMA DE ROSETAS



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

24 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 41 / 016        | 106     |
| 2 m          | 64 / 112        | 302     |

Equal Angle  
Lower Hemisphere  
24 Poles  
24 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-67

### DIAGRAMA DE ROSETAS



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

20 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 36 / 030        | 120     |

Equal Angle  
Lower Hemisphere  
20 Poles  
20 Entries



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-68

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

20 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 77 / 195        | 295    |
| 2 m          | 63 / 281        | 11     |
| 3 m          | 27 / 093        | 183    |

Equal Angle  
Lower Hemisphere  
20 Poles  
20 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-69

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

22 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 27 / 058        | 148    |
| 2 m          | 88 / 151        | 241    |

Equal Angle  
Lower Hemisphere  
22 Poles  
22 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-70

**DIAGRAMA DE ROSETAS**



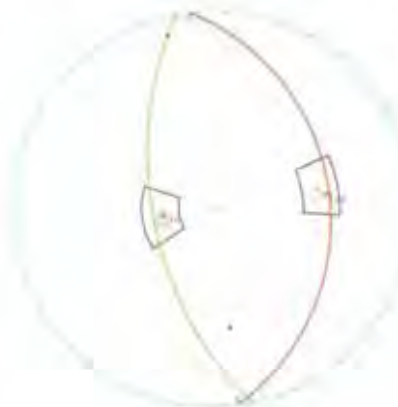
Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

10 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 20 / 082        | 173    |
| 2 m          | 56 / 259        | 348    |

Equal Angle  
Lower Hemisphere  
10 Poles  
10 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-71

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 strike planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

26 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 23 / 046        | 136     |
| 2 m          | 80 / 165        | 255     |

Equal Angle  
Lower Hemisphere  
26 Poles  
26 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-72

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 strike planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

25 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 82 / 309        | 39      |
| 2 m          | 54 / 235        | 322     |

Equal Angle  
Lower Hemisphere  
25 Poles  
25 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-73

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 strike planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

5 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 83 / 320        | 50      |

Equal Angle  
Lower Hemisphere  
5 Poles  
5 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-74

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

27 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 28 / 108        | 198    |
| 2 m          | 68 / 229        | 329    |

Equal Angle  
Lower Hemisphere  
27 Poles  
27 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-75

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

11 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 68 / 279        | 8      |
| 2 m          | 60 / 225        | 315    |

Equal Angle  
Lower Hemisphere  
11 Poles  
11 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-76

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

19 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 68 / 229        | 319    |
| 2 m          | 30 / 618        | 108    |

Equal Angle  
Lower Hemisphere  
19 Poles  
19 Entries



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-77

### DIAGRAMA DE ROSETAS



### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 16 / 024        | 114     |
| 2 m          | 55 / 310        | 40      |

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-78

### DIAGRAMA DE ROSETAS



### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 22 / 047        | 137     |

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-79

### DIAGRAMA DE ROSETAS



### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 08 / 172        | 062     |
| 2 m          | 75 / 152        | 242     |
| 3 m          | 74 / 236        | 326     |

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-80

### DIAGRAMA DE ROSETAS



Apparent Strike  
3 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

3 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 21 / 230        | 326    |
| 2 m          | 73 / 146        | 236    |

Equal Angle  
Lower Hemisphere  
3 Poles  
3 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-81

### DIAGRAMA DE ROSETAS



Apparent Strike  
13 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

13 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 29 / 226        | 316    |

Equal Angle  
Lower Hemisphere  
13 Poles  
13 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-82

### DIAGRAMA DE ROSETAS



Apparent Strike  
23 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

23 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 78 / 335        | 325    |
| 2 m          | 64 / 145        | 236    |
| 3 m          | 73 / 194        | 274    |

Equal Angle  
Lower Hemisphere  
23 Poles  
23 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-83

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

15 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 81 / 186        | 276    |
| 2 m          | 16 / 078        | 165    |
| 3 m          | 75 / 217        | 307    |

Equal Angle  
Lower Hemisphere  
15 Poles  
15 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-84

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

12 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 52 / 307        | 37     |
| 2 m          | 15 / 124        | 214    |

Equal Angle  
Lower Hemisphere  
12 Poles  
12 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-85

**DIAGRAMA DE ROSETAS**



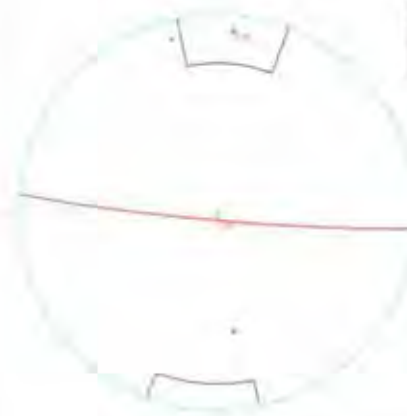
Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

5 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 85 / 165        | 275    |

Equal Angle  
Lower Hemisphere  
5 Poles  
5 Entries



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-86

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 00  
(directed away from viewer)

No Bias Correction

10 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 99 / 151        | 241    |
| 2 m          | 86 / 003        | 81     |
| 3 m          | 46 / 203        | 293    |

Equal Angle  
Lower Hemisphere  
10 Poles  
10 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-87

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 00  
(directed away from viewer)

No Bias Correction

20 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 22 / 032        | 122    |

Equal Angle  
Lower Hemisphere  
20 Poles  
20 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-88

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 00  
(directed away from viewer)

No Bias Correction

21 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 26 / 031        | 121    |
| 2 m          | 84 / 074        | 164    |

Equal Angle  
Lower Hemisphere  
21 Poles  
21 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-89

### DIAGRAMA DE ROSETAS



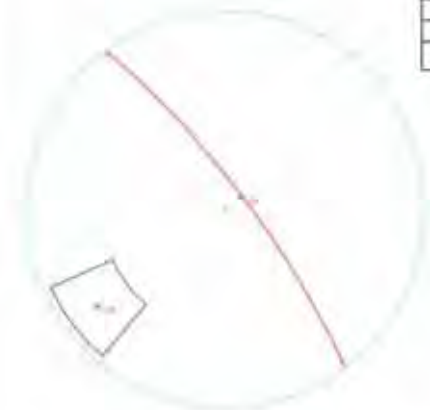
Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

14 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 78 / 053        | 143     |

Equal Angle  
Lower Hemisphere  
14 Poles  
14 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-90

### DIAGRAMA DE ROSETAS



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

25 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 88 / 322        | 52      |

Equal Angle  
Lower Hemisphere  
25 Poles  
25 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-91

### DIAGRAMA DE ROSETAS



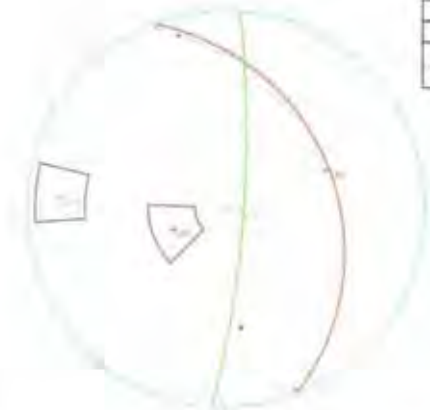
Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

17 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 32 / 069        | 159     |
| 2 m          | 80 / 094        | 184     |

Equal Angle  
Lower Hemisphere  
17 Poles  
17 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-92

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

19 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 88 / 130        | 220    |
| 2 m          | 31 / 059        | 149    |

Equal Angle  
Lower Hemisphere  
19 Poles  
19 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-93

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

26 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 82 / 312        | 42     |
| 2 m          | 18 / 069        | 159    |

Equal Angle  
Lower Hemisphere  
26 Poles  
26 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-94

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

15 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 83 / 168        | 258    |

Equal Angle  
Lower Hemisphere  
15 Poles  
15 Entries



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-95

### DIAGRAMA DE ROSETAS



Apparent Strike  
9 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

9 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 84 / 314        | 88      |
| 2 m          | 90 / 326        | 326     |

Equal Angle  
Lower Hemisphere  
9 Poles  
9 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-96

### DIAGRAMA DE ROSETAS



Apparent Strike  
3 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

12 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 89 / 133        | 323     |

Equal Angle  
Lower Hemisphere  
12 Poles  
12 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-97

### DIAGRAMA DE ROSETAS



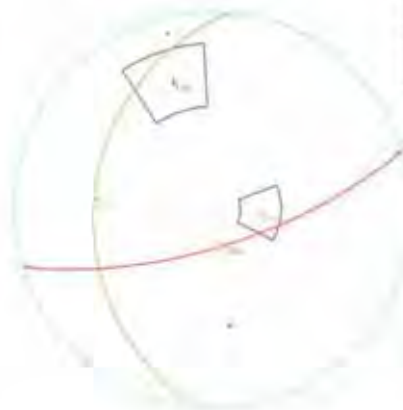
Apparent Strike  
3 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

8 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 68 / 163        | 253     |
| 2 m          | 28 / 275        | 5       |

Equal Angle  
Lower Hemisphere  
8 Poles  
8 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-98

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

19 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 72 / 008        | 98     |
| 2 m          | 34 / 673        | 163    |

Equal Angle  
Lower Hemisphere  
19 Poles  
19 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-99

### DIAGRAMA DE ROSETAS



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

32 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 55 / 282        | 12     |
| 2 m          | 85 / 022        | 112    |

Equal Angle  
Lower Hemisphere  
32 Poles  
32 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-100

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

24 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 19 / 093        | 185    |
| 2 m          | 87 / 141        | 237    |
| 3 m          | 78 / 063        | 153    |

Equal Angle  
Lower Hemisphere  
24 Poles  
24 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-101

### DIAGRAMA DE ROSETAS



Apparent Strike:  
33 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

36 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 33 / 350        | 340     |
| 2 m          | 59 / 131        | 121     |
| 3 m          | 71 / 345        | 75      |

Equal Angle  
Lower Hemisphere  
36 Poles  
36 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-102

### DIAGRAMA DE ROSETAS



Apparent Strike:  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

8 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 15 / 238        | 328     |
| 2 m          | 52 / 265        | 355     |

Equal Angle  
Lower Hemisphere  
8 Poles  
8 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-103

### DIAGRAMA DE ROSETAS



Apparent Strike:  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

14 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 87 / 322        | 52      |
| 2 m          | 20 / 343        | 332     |

Equal Angle  
Lower Hemisphere  
14 Poles  
14 Entries



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-104

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 stress planes / are  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Slip Correction

11 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 54 / 094        | 164     |
| 2 m          | 24 / 103        | 193     |

Equal Angle  
Lower Hemisphere  
11 Poles  
11 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-105

**DIAGRAMA DE ROSETAS**



Apparent Strike  
14 stress planes / are  
at outer circle

Trend / Plunge of  
Face Normal = 15, 90  
(directed away from viewer)

No Slip Correction

14 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**

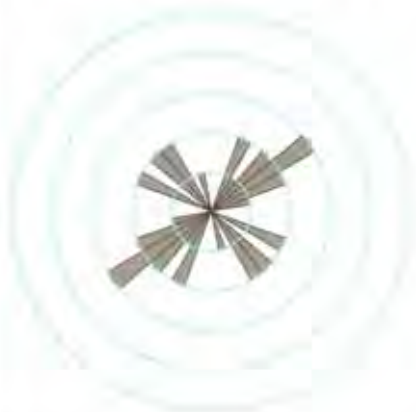


| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 79 / 158        | 245     |
| 2 m          | 33 / 360        | 350     |

Equal Angle  
Lower Hemisphere  
14 Poles  
14 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-106

**DIAGRAMA DE ROSETAS**



Apparent Strike  
18 stress planes / are  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Slip Correction

18 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 74 / 220        | 310     |
| 2 m          | 25 / 146        | 236     |
| 3 m          | 88 / 312        | 42      |

Equal Angle  
Lower Hemisphere  
18 Poles  
18 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-107

**DIAGRAMA DE ROSETAS**



Apparent Stress  
5 main planes / arcs  
at nodes circle

Trend / Plunge of  
Face Normal = 0, 90  
directed away from viewer

No Bias Correction

8 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 17 / 033        | 123     |
| 2 m          | 87 / 050        | 143     |

Equal Angle  
Lower Hemisphere  
8 Poles  
8 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-108

**DIAGRAMA DE ROSETAS**



Apparent Stress  
10 main planes / arcs  
at nodes circle

Trend / Plunge of  
Face Normal = 0, 90  
directed away from viewer

No Bias Correction

31 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 84 / 087        | 157     |
| 2 m          | 85 / 153        | 243     |

Equal Angle  
Lower Hemisphere  
31 Poles  
31 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-109

**DIAGRAMA DE ROSETAS**



Apparent Stress  
5 main planes / arcs  
at nodes circle

Trend / Plunge of  
Face Normal = 0, 90  
directed away from viewer

No Bias Correction

14 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 29 / 221        | 311     |
| 2 m          | 67 / 345        | 75      |

Equal Angle  
Lower Hemisphere  
14 Poles  
14 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-110

### DIAGRAMA DE ROSETAS



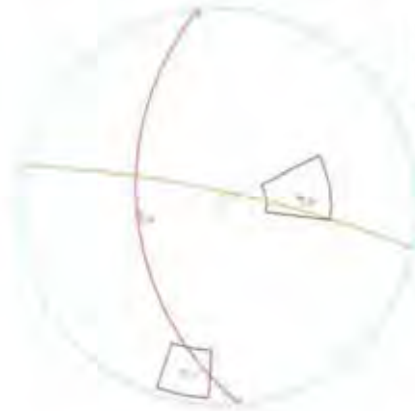
Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(fanned away from viewer)

No Bias Correction

10 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 45 / 264        | 354     |
| 2 m          | 81 / 012        | 102     |

Equal Angle  
Lower Hemisphere  
10 Poles  
10 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-111

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(fanned away from viewer)

No Bias Correction

21 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 43 / 255        | 345     |
| 2 m          | 72 / 116        | 208     |

Equal Angle  
Lower Hemisphere  
21 Poles  
21 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-112

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(fanned away from viewer)

No Bias Correction

21 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 80 / 358        | 348     |
| 2 m          | 90 / 148        | 238     |
| 3 m          | 72 / 015        | 108     |

Equal Angle  
Lower Hemisphere  
21 Poles  
21 Entries



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-113

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

16 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 54 / 005        | 95     |

Equal Angle  
Lower Hemisphere  
16 Poles  
16 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-114

### DIAGRAMA DE ROSETAS



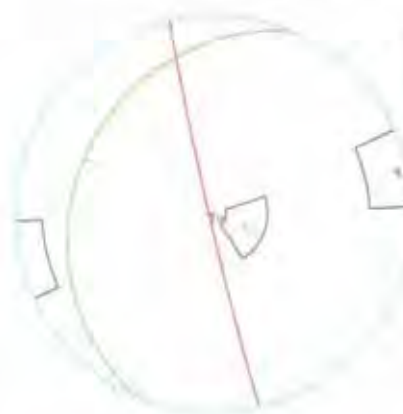
Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

19 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 87 / 257        | 347    |
| 2 m          | 19 / 283        | 25     |

Equal Angle  
Lower Hemisphere  
19 Poles  
19 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-115

### DIAGRAMA DE ROSETAS



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

18 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 85 / 254        | 348    |
| 2 m          | 12 / 310        | 80     |

Equal Angle  
Lower Hemisphere  
18 Poles  
18 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-116

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

23 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 64 / 022        | 112     |

Equal Angle  
Lower Hemisphere  
23 Poles  
23 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-117

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

13 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 65 / 131        | 221     |

Equal Angle  
Lower Hemisphere  
13 Poles  
13 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-118

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

30 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 78 / 151        | 243     |
| 2 m          | 55 / 226        | 316     |

Equal Angle  
Lower Hemisphere  
30 Poles  
30 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-119

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

32 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 77 / 322        | 52      |

Equal Angle  
Lower Hemisphere  
32 Planes  
32 Entire

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-120

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

17 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 90 / 153        | 243     |
| 2 m          | 36 / 250        | 340     |

Equal Angle  
Lower Hemisphere  
17 Planes  
17 Entire

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-121

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

28 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 85 / 102        | 192     |
| 2 m          | 69 / 240        | 330     |

Equal Angle  
Lower Hemisphere  
28 Planes  
28 Entire



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-122

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

37 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 88 / 095        | 185     |
| 2 m          | 85 / 154        | 244     |

Equal Angle  
Lower Hemisphere  
57 Poles  
37 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-123

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

10 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 32 / 066        | 176     |
| 2 m          | 55 / 295        | 35      |

Equal Angle  
Lower Hemisphere  
10 Poles  
10 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-124

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

18 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 60 / 068        | 158     |
| 2 m          | 44 / 294        | 24      |

Equal Angle  
Lower Hemisphere  
18 Poles  
18 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-125

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

17 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 82 / 341        | 71      |
| 2 m          | 35 / 255        | 345     |

Equal Angle  
Lower Hemisphere  
17 Poles  
17 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-126

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

23 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 70 / 202        | 292     |

Equal Angle  
Lower Hemisphere  
23 Poles  
23 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-127

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

14 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 31 / 110        | 200     |
| 2 m          | 85 / 222        | 312     |

Equal Angle  
Lower Hemisphere  
14 Poles  
14 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-128

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

38 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 85 / 099        | 189     |
| 2 m          | 82 / 324        | 54      |
| 3 m          | 94 / 199        | 289     |

Equal Angle  
Lower Hemisphere  
38 Poles  
38 Events

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-129

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

15 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 56 / 137        | 227     |
| 2 m          | 32 / 028        | 118     |

Equal Angle  
Lower Hemisphere  
15 Poles  
15 Events

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-130

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

22 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 65 / 024        | 114     |
| 2 m          | 86 / 106        | 199     |

Equal Angle  
Lower Hemisphere  
22 Poles  
22 Events



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-131

### DIAGRAMA DE ROSETAS



Apparent Strike  
3 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

12 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 18 / 073        | 153     |
| 2 m          | 77 / 317        | 47      |

Equal Angle  
Lower Hemisphere  
12 Poles  
12 Strikes

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-132

### DIAGRAMA DE ROSETAS



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

26 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 43 / 308        | 296     |
| 2 m          | 70 / 089        | 179     |

Equal Angle  
Lower Hemisphere  
26 Poles  
26 Strikes

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-133

### DIAGRAMA DE ROSETAS



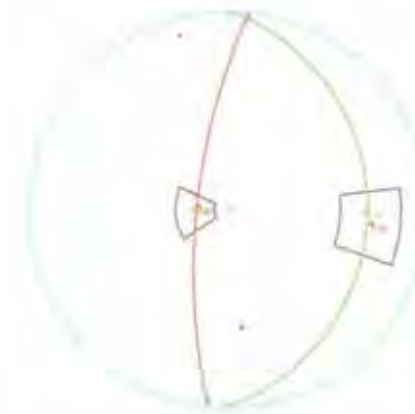
Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

11 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 72 / 376        | 6       |
| 2 m          | 20 / 091        | 181     |

Equal Angle  
Lower Hemisphere  
11 Poles  
11 Strikes

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-134

### DIAGRAMA DE ROSETAS



Apparent Strikes:  
16 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

17 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 69 / 214        | 304     |

Equal Angle  
Lower Hemisphere  
17 Poles  
17 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-135

### DIAGRAMA DE ROSETAS



Apparent Strikes:  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

15 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 73 / 214        | 44      |
| 2 m          | 22 / 127        | 217     |

Equal Angle  
Lower Hemisphere  
15 Poles  
15 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-136

### DIAGRAMA DE ROSETAS



Apparent Strikes:  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

12 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 23 / 111        | 201     |
| 2 m          | 88 / 118        | 206     |

Equal Angle  
Lower Hemisphere  
12 Poles  
12 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-136-I

**DIAGRAMA DE ROSETAS**



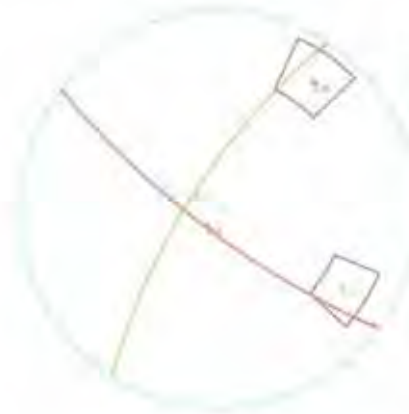
Apparent Strike  
3 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

20 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 77 / 217        | 307     |
| 2 m          | 73 / 303        | 33      |

Equal Angle  
Lower Hemisphere  
20 Poles  
20 Curves

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-137

**DIAGRAMA DE ROSETAS**



Apparent Strike  
3 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

18 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 28 / 080        | 140     |
| 2 m          | 54 / 115        | 206     |

Equal Angle  
Lower Hemisphere  
18 Poles  
18 Curves

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-137-I

**DIAGRAMA DE ROSETAS**



Apparent Strike  
3 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

8 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 20 / 124        | 218     |
| 2 m          | 40 / 100        | 190     |

Equal Angle  
Lower Hemisphere  
8 Poles  
8 Curves



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-137-II

**DIAGRAMA DE ROSETAS**



Apparent Strike  
18 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

18 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 45 / 028        | 118     |
| 2 m          | 64 / 194        | 284     |

Equal Angle  
Lower Hemisphere  
18 Poles  
18 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-138

**DIAGRAMA DE ROSETAS**



Apparent Strike  
18 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

18 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 68 / 007        | 97      |
| 2 m          | 90 / 286        | 16      |
| 3 m          | 37 / 048        | 138     |

Equal Angle  
Lower Hemisphere  
18 Poles  
18 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-139

**DIAGRAMA DE ROSETAS**



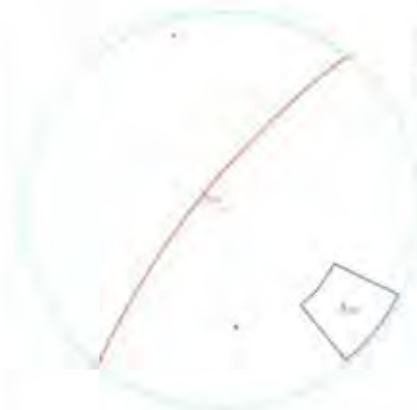
Apparent Strike  
22 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

22 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 76 / 309        | 30      |

Equal Angle  
Lower Hemisphere  
22 Poles  
22 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-140

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / arcs  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

24 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 40 / 024        | 114     |
| 2 m          | 65 / 270        | 360     |

Equal Angle  
Lower Hemisphere  
24 Poles  
24 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-141

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / arcs  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

16 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 64 / 303        | 33      |

Equal Angle  
Lower Hemisphere  
16 Poles  
16 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-142

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arcs  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

16 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 38 / 012        | 102     |
| 2 m          | 56 / 094        | 184     |

Equal Angle  
Lower Hemisphere  
16 Poles  
16 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-143

**DIAGRAMA DE ROSETAS**



Apparent Strike:  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

17 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 24 / 101        | 191    |

Equal Angle  
Lower Hemisphere  
17 Poles  
17 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-144

**DIAGRAMA DE ROSETAS**



Apparent Strike:  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

8 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 44 / 114        | 202    |
| 2 m          | 90 / 336        | 86     |

Equal Angle  
Lower Hemisphere  
8 Poles  
8 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-145

**DIAGRAMA DE ROSETAS**



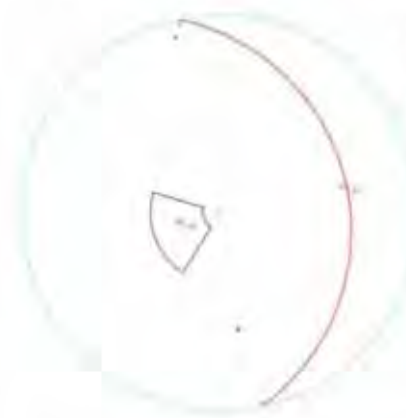
Apparent Strike:  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

22 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 24 / 101        | 158    |

Equal Angle  
Lower Hemisphere  
22 Poles  
22 Entries



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-146

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

5 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 35 / 099        | 189     |

Equal Angle  
Lower Hemisphere  
6 Poles  
5 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-147

### DIAGRAMA DE ROSETAS



Apparent Strike  
11 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

11 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 28 / 120        | 210     |

Equal Angle  
Lower Hemisphere  
11 Poles  
11 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-148

### DIAGRAMA DE ROSETAS



Apparent Strike  
14 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

14 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 35 / 096        | 186     |

Equal Angle  
Lower Hemisphere  
14 Poles  
14 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-149

**DIAGRAMA DE ROSETAS**



Apparent Strike  
8 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)  
No Bias Correction

12 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 23 / 121        | 211    |

Equal Angle  
Lower Hemisphere  
12 Poles  
12 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-150

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)  
No Bias Correction

14 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 72 / 244        | 334    |
| 2 m          | 82 / 355        | 83     |

Equal Angle  
Lower Hemisphere  
14 Poles  
14 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION E-151

**DIAGRAMA DE ROSETAS**

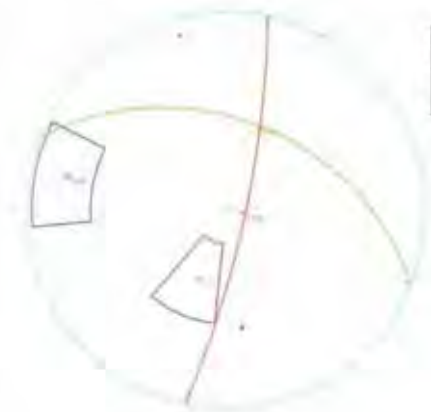


Apparent Strike  
5 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)  
No Bias Correction

13 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 79 / 102        | 192    |
| 2 m          | 41 / 022        | 112    |

Equal Angle  
Lower Hemisphere  
13 Poles  
13 Entries



**ANEXO 4.2**  
**DIAGRAMA DE ROSETAS Y PROYECCION**  
**ESTEREOGRAFICA DE LA ZONA**  
**EL CURA**



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 1

**DIAGRAMA DE ROSETAS**



Apparent Strike:  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

30 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 90 / 266        | 176    |

Equal Angle  
Lower Hemisphere  
30 Poles  
30 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 2

**DIAGRAMA DE ROSETAS**



Apparent Strike:  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

30 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 67 / 235        | 226    |
| 2 m          | 36 / 302        | 32     |
| 3 m          | 63 / 036        | 126    |

Equal Angle  
Lower Hemisphere  
30 Poles  
30 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 3

**DIAGRAMA DE ROSETAS**



Apparent Strike:  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

30 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 85 / 073        | 163    |
| 2 m          | 42 / 340        | 70     |
| 3 m          | 79 / 031        | 801    |

Equal Angle  
Lower Hemisphere  
30 Poles  
30 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 4

**DIAGRAMA DE ROSETAS**



Apparent Strike  
3 main planes / arcs  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

4 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 66 / 300        | 35     |
| 2 m          | 90 / 200        | 110    |

Equal Angle  
Lower Hemisphere  
4 Poles  
4 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 5

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 main planes / arcs  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

7 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 50 / 340        | 75     |
| 2 m          | 90 / 170        | 85     |

Equal Angle  
Lower Hemisphere  
7 Poles  
7 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 6

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 main planes / arcs  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

81 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 61 / 058        | 188    |
| 2 m          | 49 / 009        | 99     |
| 3 m          | 89 / 197        | 287    |

Equal Angle  
Lower Hemisphere  
81 Poles  
81 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 7

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

44 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**

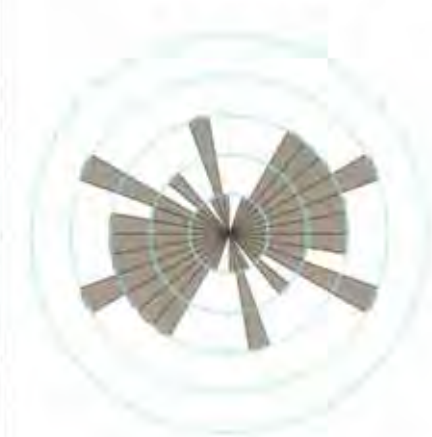


| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 86 / 168        | 79     |
| 2 m          | 83 / 051        | 141    |

Equal Angle  
Lower Hemisphere  
44 Poles  
44 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 8

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

37 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 76 / 235        | 343    |
| 2 m          | 86 / 211        | 301    |
| 3 m          | 73 / 350        | 60     |

Equal Angle  
Lower Hemisphere  
37 Poles  
37 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 9

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

23 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 78 / 248        | 338    |
| 2 m          | 39 / 219        | 309    |

Equal Angle  
Lower Hemisphere  
23 Poles  
23 Entries



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION M-10

**DIAGRAMA DE ROSETAS**



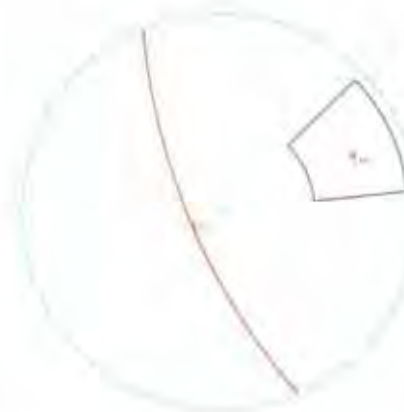
Apparent Strain  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

7 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 72 / 247        | 337    |

Equal Angle  
Lower Hemisphere  
7 Poles  
7 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 11

**DIAGRAMA DE ROSETAS**



Apparent Strain  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

82 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 86 / 106        | 196    |
| 2 m          | 84 / 025        | 116    |
| 3 m          | 89 / 316        | 226    |

Equal Angle  
Lower Hemisphere  
82 Poles  
82 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 12

**DIAGRAMA DE ROSETAS**



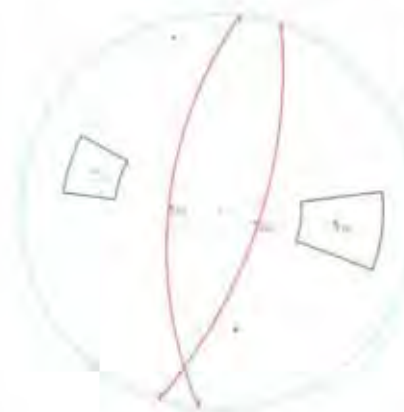
Apparent Strain  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

26 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 61 / 376        | 186    |
| 2 m          | 67 / 108        | 198    |

Equal Angle  
Lower Hemisphere  
26 Poles  
26 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 13

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

10 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 83 / 175        | 85      |

Equal Angle  
Lower Hemisphere  
10 Poles  
10 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 14

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

6 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**

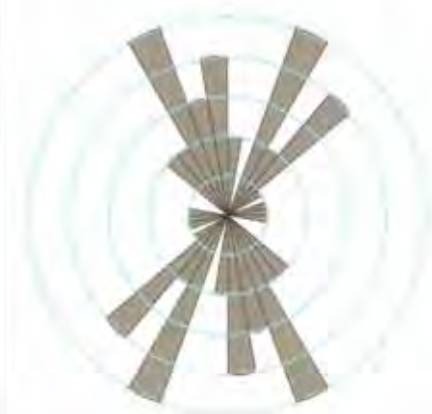


| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 74 / 307        | 217     |
| 2 m          | 84 / 031        | 121     |

Equal Angle  
Lower Hemisphere  
6 Poles  
6 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 15

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

33 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 50 / 370        | 360     |
| 2 m          | 77 / 130        | 220     |
| 3 m          | 16 / 063        | 153     |

Equal Angle  
Lower Hemisphere  
33 Poles  
33 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 16

### DIAGRAMA DE ROSETAS



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

26 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 73 / 162        | 252     |
| 2 m          | 69 / 080        | 110     |

Equal Angle  
Lower Hemisphere  
26 Poles  
26 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 17

### DIAGRAMA DE ROSETAS



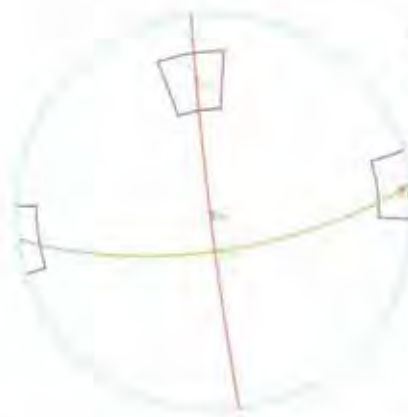
Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

15 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 87 / 253        | 333     |
| 2 m          | 68 / 172        | 262     |

Equal Angle  
Lower Hemisphere  
15 Poles  
15 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 18

### DIAGRAMA DE ROSETAS



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

37 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 76 / 351        | 281     |

Equal Angle  
Lower Hemisphere  
37 Poles  
37 Entries



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 19

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

21 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 89 / 293        | 23     |
| 2 m          | 83 / 045        | 135    |

Equal Angle  
Lower Hemisphere  
21 Poles  
21 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 20

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

13 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 86 / 051        | 141    |
| 2 m          | 74 / 297        | 27     |

Equal Angle  
Lower Hemisphere  
13 Poles  
13 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 21

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

43 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 81 / 023        | 113    |
| 2 m          | 66 / 163        | 253    |

Equal Angle  
Lower Hemisphere  
43 Poles  
43 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 22

### DIAGRAMA DE ROSETAS



Apparent Strikes  
3 main planes / are  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

3 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 41 / 196        | 256     |
| 2 m          | 35 / 056        | 146     |

Equal Angle  
Lower Hemisphere  
3 Poles  
3 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 23

### DIAGRAMA DE ROSETAS



Apparent Strikes  
20 main planes / are  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

112 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 85 / 057        | 147     |
| 2 m          | 57 / 043        | 132     |

Equal Angle  
Lower Hemisphere  
112 Poles  
112 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 24

### DIAGRAMA DE ROSETAS



Apparent Strikes  
9 main planes / are  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

9 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 81 / 106        | 196     |
| 2 m          | 38 / 040        | 130     |

Equal Angle  
Lower Hemisphere  
9 Poles  
9 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 25

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

16 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 54 / 244        | 234    |
| 2 m          | 43 / 191        | 291    |

Equal Angle  
Lower Hemisphere  
16 Poles  
16 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 26

### DIAGRAMA DE ROSETAS



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

62 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 89 / 154        | 244    |
| 2 m          | 85 / 242        | 333    |

Equal Angle  
Lower Hemisphere  
62 Poles  
62 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 27

### DIAGRAMA DE ROSETAS



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

12 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

### PROYECCION ESTEREOGRAFICA



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 60 / 096        | 176    |
| 2 m          | 64 / 171        | 261    |
| 3 m          | 34 / 324        | 324    |

Equal Angle  
Lower Hemisphere  
12 Poles  
12 Entries



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 28

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)  
No Bias Correction

28 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 78 / 189        | 279    |

Equal Angle  
Lower Hemisphere  
28 Poles  
28 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 29

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

27 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 71 / 183        | 273    |
| 2 m          | 75 / 090        | 180    |

Equal Angle  
Lower Hemisphere  
27 Poles  
27 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 30

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

20 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 70 / 014        | 104    |
| 2 m          | 42 / 046        | 136    |

Equal Angle  
Lower Hemisphere  
20 Poles  
20 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 31

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

12 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 66 / 061        | 151     |
| 2 m          | 83 / 345        | 258     |

Equal Angle  
Lower Hemisphere  
12 Poles  
12 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 32

**DIAGRAMA DE ROSETAS**



Apparent Strike  
15 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

55 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**

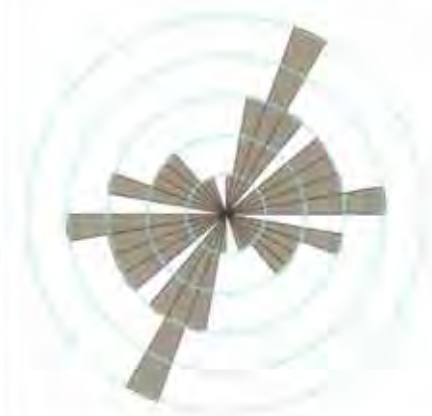


| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 78 / 199        | 100     |
| 2 m          | 82 / 089        | 178     |

Equal Angle  
Lower Hemisphere  
55 Poles  
55 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 33

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

36 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 56 / 297        | 27      |
| 2 m          | 64 / 160        | 70      |

Equal Angle  
Lower Hemisphere  
36 Poles  
36 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 34

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

32 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 83 / 276        | 186     |

Equal Angle  
Lower Hemisphere  
32 Poles  
32 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 35

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

29 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 68 / 197        | 287     |
| 2 m          | 76 / 303        | 215     |

Equal Angle  
Lower Hemisphere  
29 Poles  
29 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 36

**DIAGRAMA DE ROSETAS**



Apparent Strike  
25 max planes / sec  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

155 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 74 / 016        | 106     |

Equal Angle  
Lower Hemisphere  
155 Poles  
155 Entries



## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 37

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

32 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 73 / 166        | 256    |
| 2 m          | 74 / 025        | 115    |

Equal Angle  
Lower Hemisphere  
32 Poles  
32 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 38

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

15 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 85 / 164        | 74     |
| 2 m          | 71 / 054        | 144    |

Equal Angle  
Lower Hemisphere  
15 Poles  
15 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 39

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

50 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 62 / 170        | 90     |
| 2 m          | 69 / 245        | 155    |

Equal Angle  
Lower Hemisphere  
50 Poles  
50 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 40

**DIAGRAMA DE ROSETAS**



Apparent Strike:  
15 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

26 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 84 / 115        | 125     |

Equal Angle  
Lower Hemisphere  
26 Poles  
26 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 41

**DIAGRAMA DE ROSETAS**



Apparent Strike:  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

7 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 79 / 226        | 136     |
| 2 m          | 68 / 312        | 42      |

Equal Angle  
Lower Hemisphere  
7 Poles  
7 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 42

**DIAGRAMA DE ROSETAS**



Apparent Strike:  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

22 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |         |
|--------------|-----------------|---------|
| ID           | Dip / Direction | AZIMUTH |
| 1 m          | 82 / 139        | 329     |
| 2 m          | 73 / 167        | 77      |

Equal Angle  
Lower Hemisphere  
22 Poles  
22 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 43

**DIAGRAMA DE ROSETAS**



Apparent Strike  
10 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

39 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 84 / 187        | 97     |
| 2 m          | 88 / 258        | 168    |
| 3 m          | 91 / 092        | 183    |

Equal Angle  
Lower Hemisphere  
39 Poles  
39 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 44

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

19 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 80 / 080        | 170    |
| 2 m          | 61 / 008        | 96     |

Equal Angle  
Lower Hemisphere  
19 Poles  
19 Entries

## SISTEMA PRINCIPAL DE FRACTURAMIENTO ZONIFICACION 45

**DIAGRAMA DE ROSETAS**



Apparent Strike  
5 max planes / arc  
at outer circle

Trend / Plunge of  
Face Normal = 0, 90  
(directed away from viewer)

No Bias Correction

18 Planes Plotted  
Within 0 and 90  
Degrees of Viewing  
Face

**PROYECCION ESTEREOGRAFICA**



| Orientations |                 |        |
|--------------|-----------------|--------|
| ID           | Dip / Direction | AZIMUT |
| 1 m          | 25 / 155        | 245    |
| 2 m          | 74 / 295        | 25     |
| 3 m          | 74 / 115        | 205    |

Equal Angle  
Lower Hemisphere  
18 Poles  
18 Entries





**MERENDON DE PERU**  
**DEPARTAMENTO DE EXPLORACIONES GEOLOGICA MINERA**



**ANEXO N° 5**  
**CERTIFICADOS DE ANALISIS GEOQUIMICO**  
**(LABORATORIOS ALS CHEMEX)**



EXCELLENCE IN ANALYTICAL CHEMISTRY

LS Per

Calle 1 LT-1A Mz-D, esq. Calle A  
Urb. Industrial Bocanegra Cullao 01  
Lima

Phone: +51 (1) 574 5700 Fax: +51 (1) 574 0721 www.alschemex.com

SAN ISIDRO I M

27

Standardized Date: 14-MAY-2006  
Account: MKNDN

CERTIFICATE OF ANALYSIS LI06038694

| Sample Description | Method<br>Anal/le<br>Units<br>LOD | WEH-21<br>Revised Wt.<br>kg<br>0.02 | AU-AU-23<br>Au<br>ppm<br>0.005 |
|--------------------|-----------------------------------|-------------------------------------|--------------------------------|
| 1149               |                                   | 8.27                                | 0.005                          |
| 1150               |                                   | 7.14                                | 0.007                          |
| 1151               |                                   | 15.86                               | <0.005                         |
| 1152               |                                   | 15.91                               | 0.006                          |
| 1153               |                                   | 14.87                               | <0.005                         |
| 1154               |                                   | 14.89                               | <0.005                         |
| 1155               |                                   | 14.05                               | <0.005                         |
| 1156               |                                   | 13.22                               | <0.005                         |
| 1157               |                                   | 13.71                               | <0.005                         |
| 1158               |                                   | 13.59                               | <0.005                         |
| 1159               |                                   | 12.83                               | <0.005                         |
| 1160               |                                   | 12.83                               | <0.005                         |
| 1161               |                                   | 16.43                               | <0.005                         |
| 1162               |                                   | 14.61                               | 0.011                          |
| 1163               |                                   | 14.01                               | <0.005                         |
| 1164               |                                   | 12.66                               | <0.005                         |
| 1165               |                                   | 11.61                               | <0.005                         |
| 1166               |                                   | 14.20                               | <0.005                         |
| 1167               |                                   | 13.00                               | 0.005                          |
| 1168               |                                   | 11.68                               | <0.005                         |
| 1169               |                                   | 15.44                               | <0.005                         |
| 1170               |                                   | 12.84                               | <0.005                         |
| 1171               |                                   | 13.75                               | 0.006                          |
| 1172               |                                   | 15.72                               | <0.005                         |
| 1173               |                                   | 17.60                               | <0.005                         |
| 1174               |                                   | 14.86                               | 0.005                          |
| 1175               |                                   | 15.31                               | <0.005                         |
| 1176               |                                   | 15.70                               | <0.005                         |
| 1177               |                                   | 17.52                               | 0.005                          |
| 1178               |                                   | 17.92                               | <0.005                         |
| 1179               |                                   | 15.39                               | 0.005                          |
| 1180               |                                   | 17.64                               | <0.005                         |
| 1181               |                                   | 15.96                               | 0.007                          |
| 1182               |                                   | 21.12                               | 0.010                          |
| 1183               |                                   | 20.26                               | 0.007                          |
| 1184               |                                   | 18.33                               | 0.005                          |
| 1185               |                                   | 17.43                               | <0.005                         |
| 1186               |                                   | 21.01                               | <0.005                         |
| 1187               |                                   | 19.28                               | 0.012                          |
| 1188               |                                   | 19.87                               | <0.005                         |



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MEMORANDUM OF DECISION  
AV. REPUBLICA PANAMA 3545 URG. 901  
SAN ISIDRO LIMA 27

Page: 3-A  
Total # Pages: 3 (A)  
Finalized Date: 14-MAY-2006  
Account: MRNDN

**CERTIFICATE OF ANALYSIS LI06038694**

| Sample Description | Method<br>Analyte<br>Units<br>LOR | WEI-21<br>Reced WL<br>kg<br>0.02 | Au-AA23<br>Au<br>µgm<br>0.005 |
|--------------------|-----------------------------------|----------------------------------|-------------------------------|
| 1185               |                                   | 18.41                            | 0.007                         |
| 1190               |                                   | 20.30                            | 0.005                         |
| 1191               |                                   | 14.40                            | <0.005                        |
| 1192               |                                   | 14.47                            | 0.006                         |
| 1193               |                                   | 15.91                            | <0.005                        |
| 1194               |                                   | 15.47                            | <0.005                        |
| 1195               |                                   | 14.63                            | 0.005                         |
| 1196               |                                   | 14.49                            | <0.005                        |
| 1197               |                                   | 13.89                            | <0.005                        |
| 1198               |                                   | 14.01                            | <0.005                        |
| 1199               |                                   | 13.76                            | <0.005                        |
| 1200               |                                   | 14.49                            | 0.006                         |
| 1269               |                                   | 14.41                            | <0.005                        |
| 1270               |                                   | 14.64                            | <0.005                        |
| 1271               |                                   | 12.32                            | <0.005                        |
| 1272               |                                   | 14.80                            | 0.005                         |
| 1273               |                                   | 15.45                            | <0.005                        |
| 1274               |                                   | 15.79                            | <0.005                        |
| 1275               |                                   | 16.52                            | <0.005                        |
| 1276               |                                   | 15.48                            | <0.005                        |
| 1277               |                                   | 14.65                            | <0.005                        |
| 1278               |                                   | 17.38                            | 0.007                         |
| 1279               |                                   | 13.65                            | <0.005                        |
| 1280               |                                   | 15.44                            | 0.007                         |
| 1281               |                                   | 14.85                            | <0.005                        |
| 1282               |                                   | 15.43                            | <0.005                        |
| 1283               |                                   | 15.18                            | <0.005                        |
| 1284               |                                   | 14.00                            | <0.005                        |
| 1285               |                                   | 15.69                            | <0.005                        |
| 1286               |                                   | 15.46                            | 0.006                         |





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To: MERENDON DE PERU S.A.  
AV. REPUBLICA DE PANAMÁ 3545 DPTO. 901  
SAN ISIDRO LIMA 27

Page: 1  
Finalized Date: 13-JUL-2006  
Account: MRNDN

## CERTIFICATE LJ06063059

Project:

P.O. No.:

This report is for 16 Rock samples submitted to our lab in Trujillo, Peru on 9-JUL-2006.

The following have access to data associated with this certificate:

YURI ARONÉS

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION                     |
|----------|---------------------------------|
| WEI-21   | Received Sample Weight          |
| LOG-27   | Sample log in - Rod w/o BarCode |
| CRU-QC   | Crushing QC Test                |
| PUL-QC   | Pulverizing QC Test             |
| CRU-31   | Fine crushing - 70% <2mm        |
| SPL-21   | Split sample - rifle splitter   |
| PUL-31   | Pulverize split to 85% <75 um   |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION                   | INSTRUMENT |
|----------|-------------------------------|------------|
| ME-ICP41 | 34 Element Aqua Regia ICP-AES | ICP-AES    |
| Hjt-CV41 | Trace Hg - cold vapor/AAS     | FIMS       |
| Au-AA23  | Au 30g FA-AA finish           | AAS        |

To: MERENDON DE PERU S.A.

ATTN: YURI ARONÉS

AV. REPUBLICA DE PANAMÁ 3545 DPTO. 901  
SAN ISIDRO LIMA 27

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Milder Mascarqui, Laboratory Manager, Peru



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Page: 2 - 2  
Total # Pages: 2 (A - C)  
Finalized Date: 13-JUL-2006  
Account: MRNDN

CERTIFICATE OF ANALYSIS LI06063059

| Sample Description | Method<br>Analyte<br>Units<br>LOD | WEL-21<br>Revised Wt.<br>kg | AJ-AA23<br>Au<br>ppm | ME-ICP41<br>Ag<br>ppm | ME-ICP41<br>Al<br>% | ME-ICP41<br>As<br>ppm | ME-ICP41<br>B<br>ppm | ME-ICP41<br>Ba<br>ppm | ME-ICP41<br>Be<br>ppm | ME-ICP41<br>Bi<br>ppm | ME-ICP41<br>Ca<br>% | ME-ICP41<br>Cd<br>ppm | ME-ICP41<br>Co<br>ppm | ME-ICP41<br>Cr<br>ppm | ME-ICP41<br>Cu<br>ppm | ME-ICP41<br>Fe<br>% |
|--------------------|-----------------------------------|-----------------------------|----------------------|-----------------------|---------------------|-----------------------|----------------------|-----------------------|-----------------------|-----------------------|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------|
| 401                |                                   | 4.68                        | <0.005               | 0.3                   | 0.14                | <2                    | 10                   | 10                    | <0.5                  | <2                    | 0.70                | 9.1                   | 1                     | 4                     | 79                    | 0.18                |
| 402                |                                   | 5.26                        | 8.55                 | 0.9                   | 0.70                | 50                    | 10                   | 140                   | <0.5                  | 13                    | 0.25                | 2.4                   | 14                    | 5                     | 457                   | 2.81                |
| 403                |                                   | 9.84                        | 0.033                | <0.2                  | 0.02                | 5                     | 10                   | 20                    | 0.5                   | <2                    | 0.05                | <0.5                  | 1                     | 2                     | 4                     | 0.72                |
| 404                |                                   | 6.72                        | 0.022                | <0.2                  | 0.24                | 3                     | 10                   | 20                    | <0.5                  | <2                    | 0.19                | <0.5                  | 1                     | 2                     | 4                     | 0.48                |
| 405                |                                   | 16.58                       | <0.005               | <0.2                  | 0.27                | 2                     | 10                   | 20                    | <0.5                  | <2                    | 0.11                | <0.5                  | <1                    | 3                     | 3                     | 0.58                |
| 406                |                                   | 15.85                       | <0.005               | <0.2                  | 0.24                | <2                    | 10                   | 30                    | <0.5                  | <2                    | 0.26                | <0.5                  | 1                     | 4                     | 3                     | 0.34                |
| 407                |                                   | 15.37                       | <0.005               | <0.2                  | 0.26                | 4                     | 10                   | 20                    | 0.7                   | <2                    | 1.01                | <0.5                  | <1                    | 3                     | 3                     | 0.55                |
| 408                |                                   | 12.01                       | <0.005               | <0.2                  | 0.17                | 2                     | 10                   | 20                    | <0.5                  | <2                    | 0.50                | <0.5                  | <1                    | 5                     | 5                     | 0.47                |
| 409                |                                   | 10.55                       | 0.006                | <0.2                  | 0.28                | 5                     | 10                   | 30                    | 0.6                   | <2                    | 0.44                | <0.5                  | 1                     | 3                     | 3                     | 0.53                |
| 410                |                                   | 11.32                       | <0.005               | <0.2                  | 0.21                | 2                     | 10                   | 10                    | <0.5                  | <2                    | 0.10                | <0.5                  | 1                     | 3                     | 5                     | 0.47                |
| 411                |                                   | 12.53                       | 0.010                | <0.2                  | 0.21                | 5                     | 10                   | 10                    | <0.5                  | <2                    | 0.28                | <0.5                  | 2                     | 2                     | 5                     | 0.48                |
| 412                |                                   | 6.62                        | 1.320                | 0.2                   | 0.45                | 50                    | 10                   | 30                    | 0.6                   | <2                    | 0.06                | <0.5                  | 34                    | 3                     | 104                   | 5.42                |
| 413                |                                   | 5.97                        | 0.779                | 0.2                   | 2.62                | 1.6                   | 10                   | 30                    | 1.9                   | 4                     | 0.05                | 2.8                   | 17                    | 1                     | 163                   | 2.94                |
| 414                |                                   | 14.26                       | <0.005               | <0.2                  | 0.29                | 4                     | 10                   | 80                    | <0.5                  | <2                    | 0.49                | <0.5                  | <1                    | 5                     | 8                     | 0.69                |
| 415                |                                   | 8.50                        | 0.018                | <0.2                  | 1.37                | 5                     | 10                   | 50                    | 0.6                   | <2                    | 1.55                | <0.5                  | 6                     | 3                     | 21                    | 2.65                |
| 416                |                                   | 11.64                       | 0.007                | <0.2                  | 1.68                | 8                     | 10                   | 30                    | <0.5                  | <2                    | 1.14                | <0.5                  | 6                     | 1                     | 17                    | 3.47                |



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AV. REPUBLICA DE PANAMA 3545 DPTO. 901  
SAN ISIDRO LIMA 27

Page: 2 - 2  
Total # Pages: 2 (A - C)  
Finalized Date: 13-JUL-2006  
Account: MRNDN

CERTIFICATE OF ANALYSIS LI06063059

| Sample Description | Method<br>Analyte<br>Units<br>LOR | ME-ICP41<br>Ga<br>ppm<br>10 | Hp-CVA1<br>Hg<br>ppm<br>0.01 | ME-ICP41<br>K<br>%<br>0.01 | ME-ICP41<br>Li<br>ppm<br>10 | ME-ICP41<br>Mg<br>%<br>0.01 | ME-ICP41<br>Mn<br>ppm<br>5 | ME-ICP41<br>Mo<br>ppm<br>1 | ME-ICP41<br>Na<br>%<br>0.01 | ME-ICP41<br>Ni<br>ppm<br>1 | ME-ICP41<br>P<br>ppm<br>10 | ME-ICP41<br>Pb<br>ppm<br>3 | ME-ICP41<br>S<br>%<br>0.01 | ME-ICP41<br>Sb<br>ppm<br>2 | ME-ICP41<br>Se<br>ppm<br>1 | ME-ICP41<br>Sr<br>ppm<br>1 |
|--------------------|-----------------------------------|-----------------------------|------------------------------|----------------------------|-----------------------------|-----------------------------|----------------------------|----------------------------|-----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 401                |                                   | <10                         | 0.12                         | 0.01                       | 10                          | 0.01                        | 109                        | 1                          | 0.09                        | 1                          | 20                         | <2                         | 0.01                       | <2                         | 1                          | 4                          |
| 402                |                                   | <10                         | 0.03                         | 0.14                       | <10                         | 0.15                        | 244                        | 2                          | 0.01                        | 1                          | 170                        | 18                         | 0.03                       | 5                          | 1                          | 5                          |
| 403                |                                   | <10                         | 0.03                         | 0.07                       | <10                         | 0.04                        | 85                         | 1                          | 0.06                        | <1                         | 10                         | 3                          | <0.01                      | <2                         | 1                          | 2                          |
| 404                |                                   | <10                         | 0.01                         | 0.07                       | 20                          | 0.03                        | 89                         | 1                          | 0.05                        | 1                          | <10                        | 2                          | <0.01                      | <2                         | 1                          | 2                          |
| 405                |                                   | <10                         | <0.01                        | 0.05                       | 10                          | 0.06                        | 95                         | 1                          | 0.08                        | 1                          | 10                         | 3                          | 0.01                       | <2                         | 1                          | 2                          |
| 406                |                                   | <10                         | <0.01                        | 0.06                       | 10                          | 0.06                        | 130                        | 1                          | 0.07                        | 1                          | 10                         | 2                          | <0.01                      | 3                          | 1                          | 2                          |
| 407                |                                   | <10                         | <0.01                        | 0.08                       | 10                          | 0.20                        | 164                        | 1                          | 0.05                        | 1                          | 30                         | 2                          | 0.01                       | <2                         | 1                          | 8                          |
| 408                |                                   | <10                         | <0.01                        | 0.04                       | 10                          | 0.02                        | 90                         | 2                          | 0.08                        | 1                          | 20                         | 3                          | <0.01                      | <2                         | 1                          | 2                          |
| 409                |                                   | <10                         | <0.01                        | 0.12                       | 10                          | 0.08                        | 102                        | 1                          | 0.05                        | <1                         | 10                         | 8                          | <0.01                      | <2                         | 1                          | 1                          |
| 410                |                                   | <10                         | <0.01                        | 0.05                       | 10                          | 0.03                        | 55                         | 1                          | 0.08                        | 1                          | 10                         | 2                          | <0.01                      | <2                         | 1                          | 2                          |
| 411                |                                   | <10                         | <0.01                        | 0.05                       | 10                          | 0.02                        | 68                         | 1                          | 0.07                        | 1                          | 10                         | 16                         | <0.01                      | <2                         | 1                          | 2                          |
| 412                |                                   | 10                          | <0.01                        | 0.05                       | 10                          | 0.14                        | 180                        | 6                          | 0.02                        | 1                          | 20                         | 24                         | 0.01                       | 2                          | 1                          | 2                          |
| 413                |                                   | 20                          | 0.01                         | 0.14                       | 10                          | 2.84                        | 274                        | 1                          | 0.04                        | 2                          | 10                         | 11                         | 0.01                       | <2                         | 2                          | 1                          |
| 414                |                                   | <10                         | <0.01                        | 0.09                       | 20                          | 0.03                        | 169                        | 1                          | 0.05                        | 1                          | 10                         | 3                          | 0.01                       | <2                         | 2                          | 8                          |
| 415                |                                   | <10                         | 0.02                         | 0.28                       | 20                          | 0.55                        | 807                        | 2                          | 0.03                        | 1                          | 530                        | 8                          | 0.05                       | 2                          | 5                          | 15                         |
| 416                |                                   | 10                          | <0.01                        | 0.09                       | 20                          | 0.89                        | 548                        | 2                          | 0.05                        | 1                          | 680                        | 5                          | 0.18                       | 3                          | 6                          | 21                         |





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Page: 2 - C  
Total # Pages: 2 (A - C)  
Finalized Date: 13-JUL-2006  
Account: MRNDN

CERTIFICATE OF ANALYSIS LI06063059

| Sample Description | Method<br>Analyte<br>Units<br>LOD | ME-JCP41 |           |           |          |          |           |           |           |           |           |
|--------------------|-----------------------------------|----------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|                    |                                   | Ti<br>%  | Ti<br>ppm | Li<br>ppm | V<br>ppm | W<br>ppm | Zn<br>ppm | As<br>ppm | Se<br>ppm | Br<br>ppm | Ag<br>ppm |
| 401                |                                   | <0.01    | <10       | <10       | 1        | <10      | 1125      |           |           |           |           |
| 402                |                                   | <0.01    | <10       | 10        | 5        | <10      | 456       |           |           |           |           |
| 403                |                                   | <0.01    | <10       | <10       | 1        | <10      | 11        |           |           |           |           |
| 404                |                                   | <0.01    | <10       | <10       | 1        | <10      | 7         |           |           |           |           |
| 405                |                                   | <0.01    | <10       | <10       | 1        | <10      | 7         |           |           |           |           |
| 406                |                                   | <0.01    | <10       | <10       | <1       | <10      | 3         |           |           |           |           |
| 407                |                                   | <0.01    | <10       | 10        | 1        | <10      | 5         |           |           |           |           |
| 408                |                                   | <0.01    | <10       | <10       | <1       | <10      | 6         |           |           |           |           |
| 409                |                                   | <0.01    | <10       | 10        | 1        | <10      | 11        |           |           |           |           |
| 410                |                                   | <0.01    | <10       | <10       | 1        | <10      | 6         |           |           |           |           |
| 411                |                                   | <0.01    | <10       | <10       | 1        | <10      | 7         |           |           |           |           |
| 412                |                                   | <0.01    | <10       | <10       | 8        | <10      | 40        |           |           |           |           |
| 413                |                                   | <0.01    | <10       | <10       | 5        | <10      | 556       |           |           |           |           |
| 414                |                                   | <0.01    | <10       | <10       | 2        | <10      | 28        |           |           |           |           |
| 415                |                                   | 0.12     | <10       | <10       | 36       | <10      | 63        |           |           |           |           |
| 415                |                                   | 0.20     | <10       | <10       | 54       | <10      | 46        |           |           |           |           |



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SAN ISIDRO LIMA 27

Page: 1  
Finalized Date: 18-JUL-2006  
This copy reported on 7-NOV-2006  
Account: MRNDN

## CERTIFICATE LI06063058

Project:

P.O. No.:

This report is for 228 Rock samples submitted to our lab in Trujillo, Peru on 9-JUL-2006.

The following have access to data associated with this certificate:

YURI ARONÉS

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION                    |
|----------|--------------------------------|
| WEI-21   | Received Sample Weight         |
| CRU-QC   | Crushing QC Test               |
| PUL-QC   | Pulverizing QC Test            |
| LOG-22   | Sample login - Rod w/o BarCode |
| CRU-31   | Fine crushing - 70% <2mm       |
| SPL-21   | Split sample - riffle splitter |
| PUL-31   | Pulverize split to 85% <75 um  |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION         | INSTRUMENT |
|----------|---------------------|------------|
| Au-AA23  | Au 30g FA-AA finish | AAS        |

To: MERENDON DE PERU S.A.

ATTN: YURI ARONÉS

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SAN ISIDRO LIMA 27

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Milder Maszarqui, Laboratory Manager, Peru



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Page: 2 - A  
Total # Pages: 7 (A)  
Finalized Date: 18-JUL-2006  
Account: MRNDN

**CERTIFICATE OF ANALYSIS LI06063058**

| Sample Description | Method<br>Analyte<br>Units<br>Lot | WEL-27<br>Recep. We.<br>kg<br>0.02 | Au-AA23<br>Au<br>ppm<br>0.005 |
|--------------------|-----------------------------------|------------------------------------|-------------------------------|
| 014                |                                   | 18.82                              | 0.005                         |
| 015                |                                   | 17.11                              | 0.010                         |
| 016                |                                   | 17.18                              | 0.007                         |
| 017                |                                   | 17.97                              | <0.005                        |
| 018                |                                   | 17.85                              | 0.448                         |
| 019                |                                   | 18.07                              | 0.153                         |
| 054                |                                   | 18.95                              | <0.005                        |
| 055                |                                   | 19.48                              | <0.005                        |
| 056                |                                   | 18.27                              | <0.006                        |
| 057                |                                   | 19.87                              | <0.005                        |
| 058                |                                   | 19.81                              | 0.005                         |
| 059                |                                   | 18.38                              | 0.005                         |
| 060                |                                   | 18.92                              | <0.005                        |
| 061                |                                   | 18.07                              | 0.037                         |
| 062                |                                   | 19.85                              | 0.007                         |
| 063                |                                   | 17.80                              | 0.005                         |
| 064                |                                   | 18.55                              | <0.005                        |
| 065                |                                   | 19.23                              | <0.005                        |
| 066                |                                   | 18.39                              | <0.005                        |
| 067                |                                   | 21.21                              | <0.005                        |
| 068                |                                   | 21.36                              | 0.005                         |
| 069                |                                   | 18.52                              | 0.008                         |
| 070                |                                   | 17.91                              | <0.005                        |
| 071                |                                   | 16.11                              | <0.005                        |
| 072                |                                   | 18.85                              | <0.005                        |
| 073                |                                   | 18.56                              | <0.005                        |
| 074                |                                   | 16.81                              | <0.005                        |
| 075                |                                   | 17.53                              | <0.005                        |
| 076                |                                   | 18.03                              | <0.005                        |
| 077                |                                   | 19.53                              | <0.005                        |
| 078                |                                   | 19.32                              | <0.005                        |
| 079                |                                   | 19.82                              | <0.005                        |
| 080                |                                   | 21.36                              | <0.005                        |
| 081                |                                   | 20.33                              | <0.005                        |
| 082                |                                   | 21.61                              | <0.005                        |
| 083                |                                   | 20.07                              | <0.005                        |
| 084                |                                   | 19.77                              | <0.005                        |
| 085                |                                   | 18.91                              | <0.005                        |
| 086                |                                   | 22.09                              | <0.005                        |
| 087                |                                   | 20.30                              | <0.005                        |





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Page: 3 - A  
Total # Pages: 7 (A)  
Finalized Date: 18-JUL-2006  
Account: MRNDN

**CERTIFICATE OF ANALYSIS LI06063058**

| Sample Description | Method<br>Analyte<br>Units<br>LOE | WEI-21<br>Revised Wt<br>kg<br>0.02 | Au-AA23<br>Au<br>µg/g<br>0.005 |
|--------------------|-----------------------------------|------------------------------------|--------------------------------|
| 068                |                                   | 20.97                              | 0.003                          |
| 069                |                                   | 19.80                              | <0.005                         |
| 090                |                                   | 23.65                              | <0.005                         |
| 091                |                                   | 20.64                              | <0.005                         |
| 092                |                                   | 21.92                              | <0.005                         |
| 093                |                                   | 19.98                              | <0.005                         |
| 094                |                                   | 20.30                              | <0.005                         |
| 095                |                                   | 19.26                              | <0.005                         |
| 096                |                                   | 22.38                              | <0.005                         |
| 097                |                                   | 20.69                              | <0.005                         |
| 098                |                                   | 22.16                              | <0.005                         |
| 099                |                                   | 23.02                              | <0.005                         |
| 100                |                                   | 22.12                              | <0.005                         |
| 101                |                                   | 20.61                              | <0.005                         |
| 102                |                                   | 21.84                              | <0.005                         |
| 103                |                                   | 23.45                              | <0.005                         |
| 104                |                                   | 21.81                              | <0.005                         |
| 105                |                                   | 20.53                              | <0.005                         |
| 106                |                                   | 20.62                              | <0.005                         |
| 107                |                                   | 20.86                              | 0.005                          |
| 108                |                                   | 22.39                              | <0.005                         |
| 109                |                                   | 21.01                              | <0.005                         |
| 110                |                                   | 21.21                              | <0.005                         |
| 111                |                                   | 22.44                              | <0.005                         |
| 112                |                                   | 22.69                              | <0.005                         |
| 113                |                                   | 21.82                              | <0.005                         |
| 114                |                                   | 20.71                              | <0.005                         |
| 115                |                                   | 22.38                              | <0.005                         |
| 116                |                                   | 20.19                              | <0.005                         |
| 117                |                                   | 19.41                              | <0.005                         |
| 118                |                                   | 18.60                              | 0.007                          |
| 119                |                                   | 17.43                              | <0.005                         |
| 120                |                                   | 18.48                              | <0.005                         |
| 121                |                                   | 18.24                              | <0.005                         |
| 122                |                                   | 17.46                              | 0.005                          |
| 123                |                                   | 18.53                              | 0.009                          |
| 124                |                                   | 18.91                              | 0.010                          |
| 125                |                                   | 19.78                              | <0.005                         |
| 126                |                                   | 17.16                              | <0.005                         |
| 127                |                                   | 17.88                              | 0.007                          |



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CERTIFICATE OF ANALYSIS LI06063058

| Sample Description | Method<br>Analyte<br>Units<br>LOI | WEL-21<br>Revised Val.<br>ppm<br>LOI | ALS-4003<br>AV<br>ppm<br>LOI |
|--------------------|-----------------------------------|--------------------------------------|------------------------------|
| 120                |                                   | 18.09                                | <0.005                       |
| 128                |                                   | 16.48                                | 0.008                        |
| 130                |                                   | 16.44                                | <0.005                       |
| 131                |                                   | 16.12                                | 0.006                        |
| 132                |                                   | 18.94                                | <0.005                       |
| 133                |                                   | 20.40                                | 0.005                        |
| 134                |                                   | 21.26                                | <0.005                       |
| 135                |                                   | 20.57                                | <0.005                       |
| 136                |                                   | 18.68                                | <0.005                       |
| 137                |                                   | 20.43                                | <0.005                       |
| 138                |                                   | 17.95                                | <0.005                       |
| 139                |                                   | 19.84                                | 0.261                        |
| 140                |                                   | 21.00                                | 0.007                        |
| 141                |                                   | 18.12                                | <0.005                       |
| 142                |                                   | 20.11                                | <0.005                       |
| 143                |                                   | 20.06                                | <0.005                       |
| 144                |                                   | 20.95                                | <0.005                       |
| 145                |                                   | 20.39                                | <0.005                       |
| 146                |                                   | 20.21                                | <0.005                       |
| 147                |                                   | 20.23                                | <0.005                       |
| 148                |                                   | 19.39                                | 0.007                        |
| 149                |                                   | 19.49                                | <0.005                       |
| 150                |                                   | 20.30                                | 0.006                        |
| 151                |                                   | 20.27                                | <0.005                       |
| 152                |                                   | 21.22                                | <0.005                       |
| 153                |                                   | 19.07                                | 0.009                        |
| 154                |                                   | 16.16                                | 0.011                        |
| 155                |                                   | 17.34                                | <0.005                       |
| 156                |                                   | 19.32                                | <0.005                       |
| 157                |                                   | 19.79                                | 0.010                        |
| 158                |                                   | 20.41                                | 0.068                        |
| 159                |                                   | 19.69                                | 0.008                        |
| 160                |                                   | 21.52                                | 0.011                        |
| 161                |                                   | 23.65                                | 0.204                        |
| 162                |                                   | 20.95                                | 0.715                        |
| 163                |                                   | 19.91                                | 0.017                        |
| 164                |                                   | 22.53                                | <0.005                       |
| 165                |                                   | 21.83                                | <0.005                       |
| 166                |                                   | 22.23                                | <0.005                       |
| 167                |                                   | 24.35                                | 0.153                        |



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**CERTIFICATE OF ANALYSIS LI06063058**

| Sample Description | Method<br>Analyte<br>Units<br>Lot | WEL-21<br>Residue Wt.<br>µg | Au-AAG23<br>Au<br>ppm |
|--------------------|-----------------------------------|-----------------------------|-----------------------|
| 168                |                                   | 18.88                       | <0.005                |
| 169                |                                   | 17.93                       | 0.007                 |
| 170                |                                   | 15.82                       | 0.009                 |
| 171                |                                   | 16.51                       | 0.034                 |
| 172                |                                   | 20.40                       | <0.005                |
| 173                |                                   | 21.08                       | <0.005                |
| 174                |                                   | 20.81                       | <0.005                |
| 175                |                                   | 20.12                       | 0.082                 |
| 176                |                                   | 19.56                       | <0.005                |
| 177                |                                   | 20.44                       | 0.007                 |
| 178                |                                   | 22.57                       | 0.546                 |
| 179                |                                   | 20.64                       | 1.300                 |
| 180                |                                   | 20.69                       | 0.341                 |
| 181                |                                   | 21.30                       | 0.039                 |
| 182                |                                   | 19.49                       | <0.005                |
| 183                |                                   | 23.13                       | <0.005                |
| 184                |                                   | 21.66                       | <0.005                |
| 185                |                                   | 23.58                       | <0.005                |
| 186                |                                   | 20.53                       | 0.016                 |
| 187                |                                   | 20.98                       | 0.015                 |
| 188                |                                   | 20.67                       | <0.005                |
| 189                |                                   | 21.23                       | 0.006                 |
| 190                |                                   | 21.24                       | 0.005                 |
| 191                |                                   | 20.63                       | 0.012                 |
| 192                |                                   | 21.36                       | <0.005                |
| 193                |                                   | 18.09                       | 0.007                 |
| 194                |                                   | 18.15                       | 0.006                 |
| 195                |                                   | 19.61                       | 0.044                 |
| 196                |                                   | 18.82                       | 0.006                 |
| 197                |                                   | 23.69                       | 0.006                 |
| 198                |                                   | 21.26                       | <0.005                |
| 199                |                                   | 21.81                       | 0.009                 |
| 200                |                                   | 21.69                       | <0.005                |
| 201                |                                   | 22.58                       | <0.005                |
| 202                |                                   | 22.27                       | <0.005                |
| 203                |                                   | 23.82                       | <0.005                |
| 204                |                                   | 22.78                       | <0.005                |
| 205                |                                   | 24.43                       | <0.005                |
| 206                |                                   | 22.61                       | <0.005                |
| 207                |                                   | 21.95                       | <0.005                |





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**CERTIFICATE OF ANALYSIS LI06063058**

| Sample Description | Method<br>Analyte<br>Units<br>Lot# | WEI-21<br>Revised Wt.<br>kg<br>0.02 | AU-A423<br>Au<br>Form<br>0.005 |
|--------------------|------------------------------------|-------------------------------------|--------------------------------|
| 208                |                                    | 20.65                               | <0.005                         |
| 209                |                                    | 22.73                               | <0.005                         |
| 210                |                                    | 25.74                               | 0.006                          |
| 211                |                                    | 24.35                               | <0.005                         |
| 212                |                                    | 23.52                               | <0.005                         |
| 213                |                                    | 23.42                               | <0.005                         |
| 214                |                                    | 22.75                               | <0.005                         |
| 215                |                                    | 23.05                               | <0.005                         |
| 216                |                                    | 26.24                               | <0.005                         |
| 217                |                                    | 22.93                               | <0.005                         |
| 218                |                                    | 23.47                               | <0.005                         |
| 219                |                                    | 23.27                               | <0.005                         |
| 220                |                                    | 25.06                               | <0.005                         |
| 221                |                                    | 24.48                               | <0.005                         |
| 222                |                                    | 22.59                               | <0.005                         |
| 223                |                                    | 24.84                               | <0.005                         |
| 224                |                                    | 21.36                               | <0.005                         |
| 225                |                                    | 23.96                               | <0.005                         |
| 226                |                                    | 22.83                               | <0.005                         |
| 227                |                                    | 23.69                               | <0.005                         |
| 228                |                                    | 23.89                               | <0.005                         |
| 229                |                                    | 20.62                               | <0.005                         |
| 230                |                                    | 22.52                               | <0.005                         |
| 231                |                                    | 24.17                               | <0.005                         |
| 232                |                                    | 23.66                               | <0.005                         |
| 233                |                                    | 21.66                               | <0.005                         |
| 234                |                                    | 22.47                               | <0.005                         |
| 235                |                                    | 21.96                               | <0.005                         |
| 236                |                                    | 25.22                               | <0.005                         |
| 237                |                                    | 21.49                               | <0.005                         |
| 238                |                                    | 23.59                               | <0.005                         |
| 239                |                                    | 22.28                               | <0.005                         |
| 240                |                                    | 22.60                               | <0.005                         |
| 241                |                                    | 21.33                               | <0.005                         |
| 242                |                                    | 23.02                               | <0.005                         |
| 243                |                                    | 24.86                               | <0.005                         |
| 244                |                                    | 23.00                               | <0.005                         |
| 245                |                                    | 23.61                               | <0.005                         |
| 246                |                                    | 23.76                               | 0.005                          |
| 247                |                                    | 22.60                               | 0.007                          |



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CERTIFICATE OF ANALYSIS LI06063058

| Sample Description | Method<br>Analyte<br>Units<br>LOI | WEIGHT<br>Received Wt.<br>kg<br>0.02 | AU-A223<br>Au<br>mg<br>0.005 |
|--------------------|-----------------------------------|--------------------------------------|------------------------------|
| 248                |                                   | 23.96                                | 0.005                        |
| 249                |                                   | 22.85                                | 0.005                        |
| 250                |                                   | 21.11                                | <0.005                       |
| 251                |                                   | 20.80                                | 0.668                        |
| 252                |                                   | 24.99                                | 0.173                        |
| 253                |                                   | 22.70                                | 0.005                        |
| 254                |                                   | 24.22                                | 0.034                        |
| 255                |                                   | 23.04                                | 0.006                        |
| 256                |                                   | 25.17                                | <0.005                       |
| 257                |                                   | 24.96                                | <0.005                       |
| 258                |                                   | 23.92                                | <0.005                       |
| 259                |                                   | 22.23                                | <0.005                       |
| 260                |                                   | 21.85                                | <0.005                       |
| 261                |                                   | 23.60                                | <0.005                       |
| 262                |                                   | 24.26                                | <0.005                       |
| 263                |                                   | 25.30                                | <0.005                       |
| 264                |                                   | 24.72                                | <0.005                       |
| 265                |                                   | 23.78                                | <0.005                       |
| 266                |                                   | 23.22                                | <0.005                       |
| 267                |                                   | 24.22                                | <0.005                       |
| 268                |                                   | 16.25                                | <0.005                       |
| 269                |                                   | 13.55                                | <0.005                       |
| 270                |                                   | 16.52                                | <0.005                       |
| 271                |                                   | 17.22                                | <0.005                       |
| 272                |                                   | 17.57                                | <0.005                       |
| 273                |                                   | 14.96                                | 0.005                        |
| 274                |                                   | 17.31                                | <0.005                       |
| 275                |                                   | 11.40                                | <0.005                       |



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This copy reported on 7-NOV-2006  
Account: MRNDN

## CERTIFICATE LI06086476

Project  
P.O. No.

This report is for 201 Rock samples submitted to our lab in Trujillo, Peru on 4-SEP-2005.

The following have access to data associated with this certificate

YURI ARONES

YURI ARONES (2)

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION                    |
|----------|--------------------------------|
| WEI-21   | Received Sample Weight         |
| CRU-QC   | Crushing QC Test               |
| PUL-QC   | Pulverizing QC Test            |
| LOG-22   | Sample login - Rcd w/o BarCode |
| CRU-31   | Fine crushing - 70% <2mm       |
| SPL-21   | Split sample - riffle splitter |
| PUL-31   | Pulverize split to 85% <75 um  |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION           | INSTRUMENT |
|----------|-----------------------|------------|
| Au-AA23  | Au 30g FA-AA finish   | AA5        |
| Au-GRA21 | Au 30g FA-GRAV finish | WST-SIM    |

To: MERENDON DE PERU S.A.

ATTN: YURI ARONES

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SAN ISIDRO LIMA 27

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Milder Mascaraqui, Laboratory Manager, Peru





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**CERTIFICATE OF ANALYSIS LI06086476**

| Sample Description | Method<br>Analyte<br>Units<br>Lot# | Wet/27<br>Reconc We<br>kg | Au-AA23<br>Au<br>ppm | Au-GR423<br>Au<br>ppm | Au-30P23<br>Au Check<br>ppm |
|--------------------|------------------------------------|---------------------------|----------------------|-----------------------|-----------------------------|
| 276                |                                    | 18.84                     | 0.653                |                       |                             |
| 277                |                                    | 18.53                     | 0.167                |                       |                             |
| 278                |                                    | 16.56                     | 0.053                |                       |                             |
| 279                |                                    | 17.40                     | 0.016                |                       |                             |
| 280                |                                    | 15.40                     | 0.006                |                       |                             |
| 281                |                                    | 15.31                     | 0.005                |                       |                             |
| 282                |                                    | 19.18                     | 0.438                |                       |                             |
| 283                |                                    | 18.66                     | 1.360                |                       |                             |
| 284                |                                    | 21.73                     | >10.0                | 12.25                 | 15.90                       |
| 285                |                                    | 18.18                     | 0.061                |                       |                             |
| 286                |                                    | 19.01                     | 0.104                |                       |                             |
| 287                |                                    | 10.95                     | 0.030                |                       |                             |
| 288                |                                    | 19.60                     | <0.005               |                       |                             |
| 289                |                                    | 16.13                     | <0.005               |                       |                             |
| 290                |                                    | 18.70                     | 0.008                |                       |                             |
| 291                |                                    | 16.65                     | <0.005               |                       |                             |
| 292                |                                    | 18.16                     | <0.005               |                       |                             |
| 293                |                                    | 17.43                     | <0.005               |                       |                             |
| 294                |                                    | 18.58                     | <0.005               |                       |                             |
| 295                |                                    | 22.33                     | <0.005               |                       |                             |
| 296                |                                    | 21.72                     | <0.005               |                       |                             |
| 297                |                                    | 19.79                     | <0.005               |                       |                             |
| 298                |                                    | 19.77                     | 0.007                |                       |                             |
| 299                |                                    | 20.34                     | 0.005                |                       |                             |
| 300                |                                    | 22.29                     | <0.005               |                       |                             |
| 301                |                                    | 22.15                     | <0.005               |                       |                             |
| 302                |                                    | 21.04                     | <0.005               |                       |                             |
| 303                |                                    | 20.58                     | <0.005               |                       |                             |
| 304                |                                    | 18.06                     | <0.005               |                       |                             |
| 305                |                                    | 22.66                     | <0.005               |                       |                             |
| 306                |                                    | 19.08                     | <0.005               |                       |                             |
| 307                |                                    | 22.01                     | <0.005               |                       |                             |
| 308                |                                    | 20.40                     | <0.005               |                       |                             |
| 309                |                                    | 21.13                     | <0.005               |                       |                             |
| 310                |                                    | 21.77                     | <0.005               |                       |                             |
| 311                |                                    | 21.81                     | <0.005               |                       |                             |
| 312                |                                    | 22.07                     | 0.005                |                       |                             |
| 313                |                                    | 22.18                     | <0.005               |                       |                             |
| 314                |                                    | 20.74                     | <0.005               |                       |                             |
| 315                |                                    | 20.39                     | <0.005               |                       |                             |



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**CERTIFICATE OF ANALYSIS LI06086476**

| Sample Description | Method<br>Analyte<br>Units<br>LOI | WEL-21<br>Revised Wt.<br>kg | AU-AA-23<br>Au<br>ppm | AU-GBA-21<br>Au<br>ppm | AU-GBA-21<br>Au Check<br>ppm |
|--------------------|-----------------------------------|-----------------------------|-----------------------|------------------------|------------------------------|
| 316                |                                   | 19.68                       | <0.005                |                        |                              |
| 317                |                                   | 22.04                       | <0.005                |                        |                              |
| 318                |                                   | 22.22                       | <0.005                |                        |                              |
| 319                |                                   | 21.63                       | <0.005                |                        |                              |
| 320                |                                   | 21.09                       | <0.005                |                        |                              |
| 321                |                                   | 23.58                       | <0.005                |                        |                              |
| 322                |                                   | 21.96                       | <0.005                |                        |                              |
| 323                |                                   | 22.66                       | <0.005                |                        |                              |
| 324                |                                   | 21.09                       | <0.005                |                        |                              |
| 325                |                                   | 20.25                       | 0.006                 |                        |                              |
| 326                |                                   | 22.31                       | <0.005                |                        |                              |
| 327                |                                   | 22.87                       | <0.005                |                        |                              |
| 328                |                                   | 20.67                       | <0.005                |                        |                              |
| 329                |                                   | 21.83                       | <0.005                |                        |                              |
| 330                |                                   | 22.00                       | <0.005                |                        |                              |
| 331                |                                   | 22.09                       | <0.005                |                        |                              |
| 332                |                                   | 22.31                       | <0.005                |                        |                              |
| 333                |                                   | 23.97                       | <0.005                |                        |                              |
| 334                |                                   | 21.85                       | <0.005                |                        |                              |
| 335                |                                   | 24.36                       | <0.005                |                        |                              |
| 336                |                                   | 22.99                       | <0.005                |                        |                              |
| 337                |                                   | 23.16                       | <0.005                |                        |                              |
| 338                |                                   | 24.51                       | <0.005                |                        |                              |
| 339                |                                   | 24.81                       | <0.005                |                        |                              |
| 340                |                                   | 23.75                       | <0.005                |                        |                              |
| 341                |                                   | 24.33                       | <0.005                |                        |                              |
| 342                |                                   | 26.01                       | <0.005                |                        |                              |
| 343                |                                   | 24.23                       | <0.005                |                        |                              |
| 344                |                                   | 23.40                       | <0.005                |                        |                              |
| 345                |                                   | 23.72                       | <0.005                |                        |                              |
| 346                |                                   | 23.26                       | <0.005                |                        |                              |
| 347                |                                   | 18.16                       | 0.005                 |                        |                              |
| 348                |                                   | 16.21                       | 0.016                 |                        |                              |
| 349                |                                   | 17.77                       | <0.005                |                        |                              |
| 350                |                                   | 25.58                       | 0.006                 |                        |                              |
| 351                |                                   | 25.64                       | <0.005                |                        |                              |
| 352                |                                   | 28.43                       | 0.007                 |                        |                              |
| 353                |                                   | 27.47                       | 0.045                 |                        |                              |
| 354                |                                   | 24.53                       | 0.924                 |                        |                              |
| 355                |                                   | 23.99                       | <0.005                |                        |                              |



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**CERTIFICATE OF ANALYSIS LI06086476**

| Sample Description | Method<br>Analyte<br>Units<br>LOI | WEI 2Y<br>Revised Wt.<br>kg<br>0.02 | (Au)AA23<br>Au<br>ppm<br>0.005 | (Au)GRAD31<br>Au<br>ppm<br>0.05 | (Au)GRAD31<br>Au Check<br>ppm<br>0.05 |
|--------------------|-----------------------------------|-------------------------------------|--------------------------------|---------------------------------|---------------------------------------|
| 356                |                                   | 21.45                               | 0.064                          |                                 |                                       |
| 357                |                                   | 20.87                               | 0.036                          |                                 |                                       |
| 358                |                                   | 20.04                               | <0.005                         |                                 |                                       |
| 359                |                                   | 23.49                               | <0.005                         |                                 |                                       |
| 360                |                                   | 21.76                               | <0.005                         |                                 |                                       |
| 361                |                                   | 20.79                               | <0.005                         |                                 |                                       |
| 362                |                                   | 22.97                               | <0.005                         |                                 |                                       |
| 363                |                                   | 21.38                               | <0.005                         |                                 |                                       |
| 364                |                                   | 21.82                               | <0.005                         |                                 |                                       |
| 365                |                                   | 23.01                               | 0.170                          |                                 |                                       |
| 366                |                                   | 24.63                               | 1.935                          |                                 |                                       |
| 367                |                                   | 21.34                               | <0.005                         |                                 |                                       |
| 368                |                                   | 22.23                               | 0.008                          |                                 |                                       |
| 369                |                                   | 22.71                               | <0.005                         |                                 |                                       |
| 370                |                                   | 23.67                               | <0.005                         |                                 |                                       |
| 371                |                                   | 20.85                               | <0.005                         |                                 |                                       |
| 372                |                                   | 22.25                               | <0.005                         |                                 |                                       |
| 373                |                                   | 22.65                               | <0.005                         |                                 |                                       |
| 374                |                                   | 23.30                               | <0.005                         |                                 |                                       |
| 375                |                                   | 24.40                               | <0.005                         |                                 |                                       |
| 376                |                                   | 27.21                               | <0.005                         |                                 |                                       |
| 377                |                                   | 22.81                               | <0.005                         |                                 |                                       |
| 378                |                                   | 25.43                               | <0.005                         |                                 |                                       |
| 379                |                                   | 26.15                               | <0.005                         |                                 |                                       |
| 380                |                                   | 25.86                               | <0.005                         |                                 |                                       |
| 381                |                                   | 22.80                               | <0.005                         |                                 |                                       |
| 382                |                                   | 26.64                               | <0.005                         |                                 |                                       |
| 383                |                                   | 26.94                               | <0.005                         |                                 |                                       |
| 384                |                                   | 26.13                               | <0.005                         |                                 |                                       |
| 385                |                                   | 29.99                               | <0.005                         |                                 |                                       |
| 386                |                                   | 31.57                               | <0.005                         |                                 |                                       |
| 387                |                                   | 27.70                               | <0.005                         |                                 |                                       |
| 388                |                                   | 25.62                               | 0.008                          |                                 |                                       |
| 389                |                                   | 27.29                               | <0.005                         |                                 |                                       |
| 390                |                                   | 27.87                               | 0.025                          |                                 |                                       |
| 391                |                                   | 30.17                               | 0.016                          |                                 |                                       |
| 392                |                                   | 28.97                               | <0.005                         |                                 |                                       |
| 393                |                                   | 28.00                               | 0.008                          |                                 |                                       |
| 394                |                                   | 23.60                               | <0.005                         |                                 |                                       |
| 395                |                                   | 24.66                               | <0.005                         |                                 |                                       |





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SAN ISIDRO LIMA 27

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**CERTIFICATE OF ANALYSIS LI06086476**

| Sample Description | Method<br>Analysis<br>Units<br>LOR | WER-21<br>Revised Vt<br>g/g | Au-AA23<br>Au<br>g/g | Au-GBA21<br>Au<br>g/g | Au-GBA21<br>Au<br>g/g | Au-GBA21<br>Au<br>g/g | Au-GBA21<br>Au<br>g/g |
|--------------------|------------------------------------|-----------------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 396                |                                    | 26.23                       | <0.005               |                       |                       |                       |                       |
| 397                |                                    | 24.71                       | <0.005               |                       |                       |                       |                       |
| 398                |                                    | 25.23                       | <0.005               |                       |                       |                       |                       |
| 399                |                                    | 25.91                       | 0.068                |                       |                       |                       |                       |
| 400                |                                    | 25.84                       | <0.005               |                       |                       |                       |                       |
| 501                |                                    | 28.97                       | <0.005               |                       |                       |                       |                       |
| 502                |                                    | 26.35                       | <0.005               |                       |                       |                       |                       |
| 503                |                                    | 27.72                       | 0.012                |                       |                       |                       |                       |
| 504                |                                    | 26.39                       | 0.414                |                       |                       |                       |                       |
| 505                |                                    | 27.05                       | <0.005               |                       |                       |                       |                       |
| 506                |                                    | 26.29                       | <0.005               |                       |                       |                       |                       |
| 507                |                                    | 28.70                       | <0.005               |                       |                       |                       |                       |
| 508                |                                    | 28.41                       | 0.010                |                       |                       |                       |                       |
| 509                |                                    | 27.00                       | <0.005               |                       |                       |                       |                       |
| 510                |                                    | 25.45                       | <0.005               |                       |                       |                       |                       |
| 511                |                                    | 27.35                       | <0.005               |                       |                       |                       |                       |
| 512                |                                    | 29.62                       | <0.005               |                       |                       |                       |                       |
| 513                |                                    | 27.93                       | <0.005               |                       |                       |                       |                       |
| 514                |                                    | 28.78                       | <0.005               |                       |                       |                       |                       |
| 515                |                                    | 30.07                       | <0.005               |                       |                       |                       |                       |
| 516                |                                    | 26.50                       | <0.005               |                       |                       |                       |                       |
| 517                |                                    | 27.88                       | <0.005               |                       |                       |                       |                       |
| 518                |                                    | 25.91                       | <0.005               |                       |                       |                       |                       |
| 519                |                                    | 29.54                       | <0.005               |                       |                       |                       |                       |
| 520                |                                    | 27.16                       | <0.005               |                       |                       |                       |                       |
| 521                |                                    | 25.31                       | <0.005               |                       |                       |                       |                       |
| 522                |                                    | 25.89                       | <0.005               |                       |                       |                       |                       |
| 523                |                                    | 26.37                       | <0.005               |                       |                       |                       |                       |
| 524                |                                    | 26.46                       | <0.005               |                       |                       |                       |                       |
| 525                |                                    | 26.69                       | <0.005               |                       |                       |                       |                       |
| 526                |                                    | 26.86                       | <0.005               |                       |                       |                       |                       |
| 527                |                                    | 28.69                       | <0.005               |                       |                       |                       |                       |
| 528                |                                    | 27.63                       | 0.010                |                       |                       |                       |                       |
| 529                |                                    | 25.59                       | 0.019                |                       |                       |                       |                       |
| 530                |                                    | 27.51                       | 0.006                |                       |                       |                       |                       |
| 531                |                                    | 29.13                       | <0.005               |                       |                       |                       |                       |
| 532                |                                    | 26.47                       | <0.005               |                       |                       |                       |                       |
| 533                |                                    | 26.22                       | 0.010                |                       |                       |                       |                       |
| 534                |                                    | 25.74                       | <0.005               |                       |                       |                       |                       |
| 535                |                                    | 34.97                       | 0.005                |                       |                       |                       |                       |



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**CERTIFICATE OF ANALYSIS LI06086476**

| Sample Description | Method<br>Analyte<br>Units<br>LOE | WED-21<br>Revised Wt.<br>kg<br>0.02 | Au-AA23<br>Au<br>ppm<br>0.005 | Au-CER21<br>Au<br>ppm<br>0.05 | Au-DRA21<br>Au Check<br>ppm<br>0.05 |
|--------------------|-----------------------------------|-------------------------------------|-------------------------------|-------------------------------|-------------------------------------|
| 536                |                                   | 24.27                               | <0.005                        |                               |                                     |
| 537                |                                   | 25.61                               | <0.005                        |                               |                                     |
| 538                |                                   | 25.01                               | <0.005                        |                               |                                     |
| 539                |                                   | 21.72                               | <0.005                        |                               |                                     |
| 540                |                                   | 19.87                               | <0.005                        |                               |                                     |
| 541                |                                   | 22.45                               | <0.005                        |                               |                                     |
| 542                |                                   | 24.25                               | 0.011                         |                               |                                     |
| 543                |                                   | 25.47                               | <0.005                        |                               |                                     |
| 544                |                                   | 25.88                               | <0.005                        |                               |                                     |
| 545                |                                   | 22.78                               | <0.005                        |                               |                                     |
| 546                |                                   | 24.67                               | <0.005                        |                               |                                     |
| 547                |                                   | 24.92                               | <0.005                        |                               |                                     |
| 548                |                                   | 25.29                               | <0.005                        |                               |                                     |
| 549                |                                   | 25.46                               | 0.007                         |                               |                                     |
| 550                |                                   | 23.66                               | <0.005                        |                               |                                     |
| 551                |                                   | 21.35                               | <0.005                        |                               |                                     |
| 552                |                                   | 23.87                               | <0.005                        |                               |                                     |
| 553                |                                   | 25.94                               | <0.005                        |                               |                                     |
| 554                |                                   | 22.46                               | <0.005                        |                               |                                     |
| 555                |                                   | 27.31                               | <0.005                        |                               |                                     |
| 556                |                                   | 24.84                               | <0.005                        |                               |                                     |
| 557                |                                   | 27.74                               | 0.150                         |                               |                                     |
| 558                |                                   | 24.61                               | 0.009                         |                               |                                     |
| 559                |                                   | 23.81                               | 0.097                         |                               |                                     |
| 560                |                                   | 25.52                               | 0.150                         |                               |                                     |
| 561                |                                   | 24.14                               | 0.012                         |                               |                                     |
| 562                |                                   | 22.53                               | 0.009                         |                               |                                     |
| 563                |                                   | 23.63                               | <0.005                        |                               |                                     |
| 564                |                                   | 24.92                               | 0.008                         |                               |                                     |
| 565                |                                   | 23.03                               | 0.007                         |                               |                                     |
| 566                |                                   | 22.12                               | 0.015                         |                               |                                     |
| 567                |                                   | 23.44                               | <0.005                        |                               |                                     |
| 568                |                                   | 24.88                               | <0.005                        |                               |                                     |
| 569                |                                   | 24.57                               | 1.120                         |                               |                                     |
| 570                |                                   | 25.80                               | 1.180                         |                               |                                     |
| 571                |                                   | 27.79                               | 0.010                         |                               |                                     |
| 572                |                                   | 25.86                               | <0.005                        |                               |                                     |
| 573                |                                   | 27.29                               | 0.005                         |                               |                                     |
| 574                |                                   | 26.01                               | <0.005                        |                               |                                     |
| 575                |                                   | 24.40                               | 0.007                         |                               |                                     |



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CERTIFICATE OF ANALYSIS LI06086476

| Sample Description | Method<br>Analyte<br>Units<br>Low | WEL-21<br>Recon Wt<br>µg<br>0.02 | Ref-A22<br>Au<br>ppm<br>0.005 | Ref-GMA21<br>Au<br>ppm<br>0.05 | Ref-GMA21<br>Au Check<br>ppm<br>0.05 |
|--------------------|-----------------------------------|----------------------------------|-------------------------------|--------------------------------|--------------------------------------|
| 417                |                                   | 14.52                            | 2.83                          |                                |                                      |





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## CERTIFICATE LI06100076

Project:  
P.O. No.:

This report is for 240 Rock samples submitted to our lab in Trujillo, Peru on 5-OCT-2006

The following have access to data associated with this certificate:

YURI ARONES

YURI ARONES (2)

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION                    |
|----------|--------------------------------|
| WEI-21   | Received Sample Weight         |
| CRU-OC   | Crushing QC Test               |
| PUL-OC   | Pulverizing QC Test            |
| LOG-22   | Sample login - Rod w/o BarCode |
| CRU-31   | Fine crushing - 70% <2mm       |
| SPL-21   | Split sample - rifle splitter  |
| PUL-31   | Pulverize split to 85% <75 um  |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION           | INSTRUMENT |
|----------|-----------------------|------------|
| Au-AA23  | Au 30g FA-AA finish   | AAAS       |
| Au-GRA21 | Au 30g FA-GRAV finish | WST-SIM    |

To: MERENDON DE PERU S.A.

ATTN: YURI ARONES

AV. REPÚBLICA DE PANAMÁ 3545 DPTO. 901

SAN ISIDRO LIMA 27

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Milder Mascamqui, Laboratory Manager, Peru



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**CERTIFICATE OF ANALYSIS LI06100076**

| Sample Description | Method<br>Analysis<br>Units<br>LOE | WD-24<br>Revised Wt<br>kg<br>0.02 | Au-AA23<br>Au<br>gpm<br>0.025 | Au-GB231<br>Au<br>gpm<br>0.05 |
|--------------------|------------------------------------|-----------------------------------|-------------------------------|-------------------------------|
| 418                |                                    | 11.14                             | 0.692                         |                               |
| 419                |                                    | 18.88                             | <0.005                        |                               |
| 420                |                                    | 16.85                             | <0.005                        |                               |
| 421                |                                    | 20.10                             | <0.005                        |                               |
| 422                |                                    | 19.11                             | <0.005                        |                               |
| 423                |                                    | 18.02                             | <0.005                        |                               |
| 424                |                                    | 19.36                             | <0.005                        |                               |
| 425                |                                    | 18.13                             | <0.005                        |                               |
| 426                |                                    | 16.97                             | <0.005                        |                               |
| 427                |                                    | 16.60                             | <0.005                        |                               |
| 428                |                                    | 14.96                             | 0.147                         |                               |
| 429                |                                    | 19.67                             | 0.323                         |                               |
| 430                |                                    | 18.87                             | 0.013                         |                               |
| 431                |                                    | 17.31                             | 0.009                         |                               |
| 432                |                                    | 16.65                             | <0.005                        |                               |
| 433                |                                    | 16.14                             | <0.005                        |                               |
| 434                |                                    | 14.99                             | 0.103                         |                               |
| 435                |                                    | 15.56                             | 0.111                         |                               |
| 436                |                                    | 18.31                             | <0.005                        |                               |
| 437                |                                    | 15.66                             | <0.005                        |                               |
| 438                |                                    | 14.63                             | <0.005                        |                               |
| 439                |                                    | 16.69                             | 5.40                          |                               |
| 440                |                                    | 13.84                             | 0.058                         |                               |
| 441                |                                    | 22.09                             | 0.056                         |                               |
| 442                |                                    | 18.47                             | <0.005                        |                               |
| 443                |                                    | 21.54                             | <0.005                        |                               |
| 444                |                                    | 12.31                             | 0.044                         |                               |
| 445                |                                    | 14.73                             | 0.007                         |                               |
| 446                |                                    | 22.36                             | <0.005                        |                               |
| 447                |                                    | 22.04                             | 0.032                         |                               |
| 448                |                                    | 20.73                             | 0.026                         |                               |
| 449                |                                    | 20.83                             | <0.005                        |                               |
| 450                |                                    | 26.37                             | 0.036                         |                               |
| 451                |                                    | 20.14                             | <0.005                        |                               |
| 452                |                                    | 11.50                             | <0.005                        |                               |
| 453                |                                    | 43.52                             | 0.007                         |                               |
| 576                |                                    | 23.36                             | 0.636                         |                               |
| 577                |                                    | 26.75                             | 5.22                          |                               |
| 578                |                                    | 25.60                             | 0.576                         |                               |
| 579                |                                    | 21.02                             | 0.303                         |                               |



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**CERTIFICATE OF ANALYSIS LI06100076**

| Sample Description | Method<br>Analyte<br>Units<br>LRL | WEI-21<br>Revised Wt.<br>kg<br>0.02 | AU-A123<br>Au<br>ppm<br>0.005 | AU-CPA31<br>Au<br>ppm<br>0.05 |
|--------------------|-----------------------------------|-------------------------------------|-------------------------------|-------------------------------|
| 580                |                                   | 26.31                               | 0.038                         |                               |
| 581                |                                   | 25.44                               | 0.018                         |                               |
| 582                |                                   | 26.70                               | 0.052                         |                               |
| 583                |                                   | 23.65                               | 0.009                         |                               |
| 584                |                                   | 23.85                               | 0.012                         |                               |
| 585                |                                   | 23.36                               | 0.116                         |                               |
| 586                |                                   | 22.80                               | 0.072                         |                               |
| 587                |                                   | 26.29                               | 1.830                         |                               |
| 588                |                                   | 25.95                               | 0.811                         |                               |
| 589                |                                   | 26.37                               | <0.005                        |                               |
| 590                |                                   | 27.54                               | <0.005                        |                               |
| 591                |                                   | 26.55                               | <0.005                        |                               |
| 592                |                                   | 27.02                               | <0.005                        |                               |
| 593                |                                   | 26.42                               | <0.005                        |                               |
| 594                |                                   | 27.67                               | <0.005                        |                               |
| 595                |                                   | 26.63                               | <0.005                        |                               |
| 596                |                                   | 27.59                               | <0.005                        |                               |
| 597                |                                   | 26.82                               | <0.005                        |                               |
| 598                |                                   | 27.06                               | <0.005                        |                               |
| 599                |                                   | 26.82                               | <0.005                        |                               |
| 600                |                                   | 29.00                               | <0.005                        |                               |
| 601                |                                   | 26.21                               | <0.005                        |                               |
| 602                |                                   | 26.68                               | <0.005                        |                               |
| 603                |                                   | 26.50                               | <0.005                        |                               |
| 604                |                                   | 24.71                               | <0.005                        |                               |
| 605                |                                   | 24.72                               | 0.016                         |                               |
| 606                |                                   | 25.82                               | 0.006                         |                               |
| 607                |                                   | 26.41                               | 0.010                         |                               |
| 608                |                                   | 27.95                               | <0.005                        |                               |
| 609                |                                   | 25.06                               | <0.005                        |                               |
| 610                |                                   | 24.94                               | <0.005                        |                               |
| 611                |                                   | 24.19                               | <0.005                        |                               |
| 612                |                                   | 25.63                               | 0.038                         |                               |
| 613                |                                   | 25.37                               | 0.015                         |                               |
| 614                |                                   | 20.01                               | 0.023                         |                               |
| 615                |                                   | 23.94                               | 0.008                         |                               |
| 616                |                                   | 24.49                               | <0.005                        |                               |
| 617                |                                   | 22.77                               | <0.005                        |                               |
| 618                |                                   | 25.68                               | <0.005                        |                               |
| 619                |                                   | 21.81                               | <0.005                        |                               |





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**CERTIFICATE OF ANALYSIS LI06100076**

| Sample Description | Method<br>Analyte<br>Units<br>LOR | WEI 27<br>Revised Wt.<br>kg<br>0.03 | ALS A423<br>Au<br>ppm<br>0.00E | ALS ORA31<br>Au<br>ppm<br>0.05 |
|--------------------|-----------------------------------|-------------------------------------|--------------------------------|--------------------------------|
| 620                |                                   | 22.94                               | <0.005                         |                                |
| 621                |                                   | 22.65                               | <0.005                         |                                |
| 622                |                                   | 19.28                               | <0.005                         |                                |
| 623                |                                   | 16.30                               | <0.005                         |                                |
| 624                |                                   | 21.62                               | <0.005                         |                                |
| 625                |                                   | 22.50                               | 0.170                          |                                |
| 626                |                                   | 22.57                               | <0.005                         |                                |
| 627                |                                   | 22.76                               | <0.005                         |                                |
| 628                |                                   | 21.68                               | <0.005                         |                                |
| 629                |                                   | 21.12                               | <0.005                         |                                |
| 630                |                                   | 21.16                               | <0.005                         |                                |
| 631                |                                   | 22.03                               | <0.005                         |                                |
| 632                |                                   | 21.34                               | <0.005                         |                                |
| 633                |                                   | 20.92                               | <0.005                         |                                |
| 634                |                                   | 21.51                               | <0.005                         |                                |
| 635                |                                   | 24.11                               | <0.005                         |                                |
| 636                |                                   | 22.18                               | <0.005                         |                                |
| 637                |                                   | 22.33                               | 0.076                          |                                |
| 638                |                                   | 21.20                               | 0.054                          |                                |
| 639                |                                   | 24.10                               | <0.005                         |                                |
| 640                |                                   | 23.70                               | <0.005                         |                                |
| 641                |                                   | 28.71                               | <0.005                         |                                |
| 642                |                                   | 20.14                               | <0.005                         |                                |
| 643                |                                   | 25.81                               | <0.005                         |                                |
| 644                |                                   | 25.09                               | <0.005                         |                                |
| 645                |                                   | 22.73                               | <0.005                         |                                |
| 646                |                                   | 26.96                               | <0.005                         |                                |
| 647                |                                   | 25.80                               | <0.005                         |                                |
| 648                |                                   | 22.53                               | <0.005                         |                                |
| 649                |                                   | 22.50                               | <0.005                         |                                |
| 650                |                                   | 25.72                               | <0.005                         |                                |
| 651                |                                   | 25.04                               | <0.005                         |                                |
| 652                |                                   | 22.71                               | <0.005                         |                                |
| 653                |                                   | 24.92                               | <0.005                         |                                |
| 654                |                                   | 23.60                               | <0.005                         |                                |
| 655                |                                   | 21.34                               | <0.005                         |                                |
| 656                |                                   | 22.08                               | 0.006                          |                                |
| 657                |                                   | 26.75                               | <0.005                         |                                |
| 658                |                                   | 27.64                               | <0.005                         |                                |
| 659                |                                   | 25.75                               | <0.005                         |                                |



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SAN ISIDRO LIMA 27

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Account: MRNDN

**CERTIFICATE OF ANALYSIS LI06100076**

| Sample Description | Method<br>Analysis<br>Units<br>LOI | WDS-21<br>Revised Wt.<br>kg<br>0.03 | Au-AA23<br>Au<br>ppm<br>0.005 | Au-GR21<br>Au<br>g/gm<br>0.05 |
|--------------------|------------------------------------|-------------------------------------|-------------------------------|-------------------------------|
| 660                |                                    | 26.82                               | <0.005                        |                               |
| 661                |                                    | 24.98                               | <0.005                        |                               |
| 662                |                                    | 23.97                               | <0.005                        |                               |
| 663                |                                    | 25.20                               | 0.016                         |                               |
| 664                |                                    | 24.09                               | <0.005                        |                               |
| 665                |                                    | 25.53                               | <0.005                        |                               |
| 666                |                                    | 25.91                               | 0.006                         |                               |
| 667                |                                    | 23.06                               | <0.005                        |                               |
| 668                |                                    | 25.28                               | <0.005                        |                               |
| 669                |                                    | 25.90                               | <0.005                        |                               |
| 670                |                                    | 25.27                               | <0.005                        |                               |
| 671                |                                    | 24.90                               | <0.005                        |                               |
| 672                |                                    | 23.08                               | <0.005                        |                               |
| 673                |                                    | 23.58                               | <0.005                        |                               |
| 674                |                                    | 24.02                               | <0.005                        |                               |
| 675                |                                    | 23.85                               | <0.005                        |                               |
| 676                |                                    | 24.36                               | <0.005                        |                               |
| 677                |                                    | 24.32                               | <0.005                        |                               |
| 678                |                                    | 23.17                               | <0.005                        |                               |
| 679                |                                    | 25.52                               | <0.005                        |                               |
| 680                |                                    | 24.62                               | <0.005                        |                               |
| 681                |                                    | 24.11                               | <0.005                        |                               |
| 682                |                                    | 24.35                               | <0.005                        |                               |
| 683                |                                    | 22.64                               | <0.005                        |                               |
| 684                |                                    | 24.19                               | <0.005                        |                               |
| 685                |                                    | 23.38                               | 0.009                         |                               |
| 686                |                                    | 25.41                               | <0.005                        |                               |
| 687                |                                    | 23.76                               | 0.008                         |                               |
| 688                |                                    | 25.48                               | <0.005                        |                               |
| 689                |                                    | 25.61                               | <0.005                        |                               |
| 690                |                                    | 25.72                               | <0.005                        |                               |
| 691                |                                    | 27.26                               | <0.005                        |                               |
| 692                |                                    | 25.75                               | 0.005                         |                               |
| 693                |                                    | 23.03                               | 0.005                         |                               |
| 694                |                                    | 23.86                               | <0.005                        |                               |
| 695                |                                    | 21.78                               | <0.005                        |                               |
| 696                |                                    | 24.33                               | <0.005                        |                               |
| 697                |                                    | 22.55                               | <0.005                        |                               |
| 698                |                                    | 22.17                               | <0.005                        |                               |
| 699                |                                    | 21.87                               | <0.005                        |                               |



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**CERTIFICATE OF ANALYSIS LI06100076**

| Sample Description | Method<br>Analyte<br>Units<br>Lot | WEI 21<br>Revised Wt.<br>kg<br>0.02 | Au-AA23<br>Au<br>ppm<br>0.005 | Au-GRAD3<br>Au<br>3000<br>0.05 |
|--------------------|-----------------------------------|-------------------------------------|-------------------------------|--------------------------------|
| 700                |                                   | 23.02                               | <0.005                        |                                |
| 701                |                                   | 23.67                               | <0.005                        |                                |
| 702                |                                   | 23.61                               | <0.005                        |                                |
| 703                |                                   | 26.32                               | <0.005                        |                                |
| 704                |                                   | 24.42                               | <0.005                        |                                |
| 705                |                                   | 24.02                               | <0.005                        |                                |
| 706                |                                   | 24.15                               | <0.005                        |                                |
| 707                |                                   | 24.30                               | 0.005                         |                                |
| 708                |                                   | 24.29                               | <0.005                        |                                |
| 709                |                                   | 25.45                               | <0.005                        |                                |
| 710                |                                   | 22.17                               | <0.005                        |                                |
| 711                |                                   | 24.52                               | 0.034                         |                                |
| 712                |                                   | 22.69                               | 0.087                         |                                |
| 713                |                                   | 23.28                               | <0.005                        |                                |
| 714                |                                   | 25.96                               | 0.005                         |                                |
| 715                |                                   | 22.97                               | 0.016                         |                                |
| 716                |                                   | 25.97                               | 0.585                         |                                |
| 717                |                                   | 23.49                               | 0.216                         |                                |
| 718                |                                   | 24.26                               | 0.044                         |                                |
| 719                |                                   | 23.48                               | 0.010                         |                                |
| 720                |                                   | 26.15                               | <0.005                        |                                |
| 721                |                                   | 23.92                               | <0.005                        |                                |
| 722                |                                   | 26.89                               | 0.009                         |                                |
| 723                |                                   | 27.38                               | 0.009                         |                                |
| 724                |                                   | 25.94                               | 0.068                         |                                |
| 725                |                                   | 24.75                               | 0.020                         |                                |
| 726                |                                   | 26.20                               | 0.019                         |                                |
| 727                |                                   | 27.72                               | 0.198                         |                                |
| 728                |                                   | 22.62                               | 1.275                         |                                |
| 729                |                                   | 25.02                               | 0.038                         |                                |
| 730                |                                   | 25.70                               | 0.006                         |                                |
| 731                |                                   | 24.32                               | <0.005                        |                                |
| 732                |                                   | 24.00                               | <0.005                        |                                |
| 733                |                                   | 24.05                               | <0.005                        |                                |
| 734                |                                   | 24.85                               | <0.005                        |                                |
| 735                |                                   | 22.60                               | <0.005                        |                                |
| 736                |                                   | 23.26                               | <0.005                        |                                |
| 737                |                                   | 24.61                               | <0.005                        |                                |
| 738                |                                   | 23.06                               | <0.005                        |                                |
| 739                |                                   | 23.49                               | <0.005                        |                                |





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**CERTIFICATE OF ANALYSIS LI06100076**

| Sample Description | Method<br>Analyte<br>Units | WEI-Z1<br>Revised Wt<br>kg | AU-AA23<br>Au<br>ppm | AU-GBA21<br>Au<br>ppm |
|--------------------|----------------------------|----------------------------|----------------------|-----------------------|
| 740                | LOW                        | 24.80                      | <0.005               |                       |
| 741                |                            | 22.66                      | 0.011                |                       |
| 742                |                            | 25.15                      | 0.005                |                       |
| 743                |                            | 24.59                      | <0.005               |                       |
| 744                |                            | 23.76                      | 0.006                |                       |
| 745                |                            | 25.13                      | 0.346                |                       |
| 746                |                            | 25.89                      | 0.053                |                       |
| 747                |                            | 26.08                      | 0.307                |                       |
| 748                |                            | 25.00                      | 0.030                |                       |
| 749                |                            | 24.90                      | 0.008                |                       |
| 750                |                            | 24.74                      | 0.987                |                       |
| 751                |                            | 24.07                      | 0.442                |                       |
| 752                |                            | 26.67                      | >10.0                | 14.25                 |
| 753                |                            | 22.31                      | 1.480                |                       |
| 754                |                            | 24.19                      | 1.560                |                       |
| 755                |                            | 23.96                      | 0.017                |                       |
| 756                |                            | 22.85                      | 0.005                |                       |
| 757                |                            | 24.61                      | <0.005               |                       |
| 758                |                            | 25.16                      | 0.005                |                       |
| 759                |                            | 24.17                      | 0.006                |                       |
| 760                |                            | 23.64                      | 0.006                |                       |
| 761                |                            | 24.07                      | <0.005               |                       |
| 762                |                            | 25.38                      | <0.005               |                       |
| 763                |                            | 22.85                      | <0.005               |                       |
| 764                |                            | 23.85                      | <0.005               |                       |
| 765                |                            | 26.66                      | <0.005               |                       |
| 766                |                            | 27.40                      | <0.005               |                       |
| 767                |                            | 23.87                      | <0.005               |                       |
| 768                |                            | 24.17                      | <0.005               |                       |
| 769                |                            | 26.51                      | 0.008                |                       |
| 770                |                            | 24.00                      | <0.005               |                       |
| 771                |                            | 25.26                      | <0.005               |                       |
| 772                |                            | 25.03                      | <0.005               |                       |
| 773                |                            | 26.03                      | <0.005               |                       |
| 774                |                            | 23.19                      | <0.005               |                       |
| 775                |                            | 22.36                      | <0.005               |                       |
| 776                |                            | 24.83                      | <0.005               |                       |
| 777                |                            | 24.96                      | 0.005                |                       |
| 778                |                            | 24.20                      | <0.005               |                       |
| 779                |                            | 23.09                      | <0.005               |                       |



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Account: MRNDN

## CERTIFICATE LI06103351

Project:

P.O. No.:

This report is for 6 Rock samples submitted to our lab in Lima, Peru on 16-OCT-2006.

The following have access to data associated with this certificate:

YURI ARONES

YURI ARONES (2)

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION                    |
|----------|--------------------------------|
| WEI-21   | Received Sample Weight         |
| CRU-QC   | Crushing QC Test               |
| PUL-QC   | Pulverizing QC Test            |
| LOG-22   | Sample login - Rcd w/o BarCode |
| CRU-31   | Fine crushing - 70% <2mm       |
| SPL-21   | Split sample - riffle splitter |
| PUL-31   | Pulverize split to 85% <75 um  |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION         | INSTRUMENT |
|----------|---------------------|------------|
| AU-AA23  | Au 30g FA-AA finish | AAS        |

To: MERENDON DE PERU S.A.,  
ATTN: YURI ARONES  
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This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Milder Mascaracu, Laboratory Manager, Peru



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CERTIFICATE OF ANALYSIS LI06103351

| Sample Description | Method<br>Analyte<br>Units<br>LOI | WES21<br>Resvd Wt<br>%<br>0.02 | Au-A423<br>Au<br>ppm<br>0.005 |
|--------------------|-----------------------------------|--------------------------------|-------------------------------|
| M-454              |                                   | 16.54                          | 0.113                         |
| M-455              |                                   | 18.13                          | <0.005                        |
| M-456              |                                   | 12.97                          | 0.005                         |
| M-457              |                                   | 12.84                          | 0.051                         |
| M-458              |                                   | 7.53                           | 0.043                         |
| M-459              |                                   | 5.25                           | 1.075                         |





# ALS Chemex

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This copy reported on 7-NOV-2006  
Account: MRNDN

## CERTIFICATE LI06107458

Project:  
P.O. No.

This report is for 50 Pulp samples submitted to our lab in Lima, Peru on 20-OCT-2006.

The following have access to data associated with this certificate:

YURI ARONÉS

YURI ARONÉS (2)

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION                   |
|----------|-------------------------------|
| FND-02   | Find Sample for Addn Analysis |
| LOG-24   | Pulp Login - Rcd w/o Barcode  |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION                   | INSTRUMENT |
|----------|-------------------------------|------------|
| ME-ICP41 | 34 Element Aqua Regia ICP-AES | ICP-AES    |
| Hg-CV41  | Trace Hg - cold vapor/AAS     | FIMS       |

To: MERENDON DE PERU S.A.

ATTN: YURI ARONÉS

AV. REPÚBLICA DE PANAMÁ 3545 DPTO. 901

SAN ISIDRO LIMA 27

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Milder Mascaraqui, Laboratory Manager, Peru



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Finalized Date: 1-NOV-2006  
Account: MRNDN

**CERTIFICATE OF ANALYSIS LI06107458**

| Sample Description | Method<br>Analyte<br>Units<br>Log | ME-ICP41<br>Ag<br>µg/g | ME-ICP41<br>Al<br>% | ME-ICP41<br>As<br>ppm | ME-ICP41<br>B<br>ppm | ME-ICP41<br>Ba<br>ppm | ME-ICP41<br>Be<br>ppm | ME-ICP41<br>Bi<br>ppm | ME-ICP41<br>Ca<br>% | ME-ICP41<br>Cd<br>ppm | ME-ICP41<br>Ce<br>ppm | ME-ICP41<br>Cr<br>ppm | ME-ICP41<br>Cu<br>ppm | ME-ICP41<br>Fe<br>% | ME-ICP41<br>Hg<br>ppm |
|--------------------|-----------------------------------|------------------------|---------------------|-----------------------|----------------------|-----------------------|-----------------------|-----------------------|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------|-----------------------|
| M-016              |                                   | <0.2                   | 0.65                | 2                     | <10                  | 20                    | 0.7                   | <2                    | 0.29                | <0.5                  | 1                     | 4                     | 3                     | 1.04                | <10                   |
| M-018              |                                   | <0.2                   | 0.39                | 3                     | <10                  | 30                    | 0.5                   | <2                    | 0.36                | <0.5                  | 1                     | 4                     | 3                     | 0.90                | <10                   |
| M-139              |                                   | <0.2                   | 1.50                | 5                     | <10                  | 50                    | <0.5                  | <2                    | 1.28                | <0.5                  | 8                     | 2                     | 8                     | 2.23                | 10                    |
| M-161              |                                   | <0.2                   | 0.29                | 22                    | <10                  | 30                    | 0.5                   | 3                     | 0.05                | <0.5                  | 3                     | 3                     | 50                    | 1.31                | <10                   |
| M-162              |                                   | 0.5                    | 0.28                | 37                    | <10                  | 40                    | 1.0                   | 7                     | 0.07                | 1.1                   | 11                    | 3                     | 137                   | 1.33                | <10                   |
| M-167              |                                   | <0.2                   | 0.93                | 5                     | <10                  | 30                    | <0.5                  | <2                    | 0.55                | <0.5                  | 4                     | 8                     | 9                     | 1.75                | <10                   |
| M-178              |                                   | 0.2                    | 2.00                | 3                     | <10                  | 20                    | 0.5                   | <2                    | 0.15                | <0.5                  | 6                     | 4                     | 4                     | 2.84                | 10                    |
| M-179              |                                   | 0.2                    | 1.78                | 19                    | <10                  | 80                    | 0.7                   | <2                    | 0.14                | <0.5                  | 6                     | 3                     | 20                    | 2.88                | 10                    |
| M-180              |                                   | <0.2                   | 1.45                | 16                    | <10                  | 70                    | 0.5                   | <2                    | 0.14                | <0.5                  | 10                    | 3                     | 32                    | 3.01                | 10                    |
| M-251              |                                   | 0.3                    | 1.07                | 197                   | <10                  | 40                    | 0.5                   | <2                    | 1.11                | <0.5                  | 7                     | 8                     | 22                    | 1.85                | <10                   |
| M-252              |                                   | <0.2                   | 0.80                | 22                    | <10                  | 40                    | 0.5                   | <2                    | 1.26                | <0.5                  | 9                     | 5                     | 11                    | 1.34                | <10                   |
| M-276              |                                   | <0.2                   | 0.30                | 12                    | <10                  | 20                    | 1.0                   | 2                     | 0.04                | <0.5                  | <1                    | 3                     | 6                     | 0.55                | <10                   |
| M-277              |                                   | <0.2                   | 0.26                | 10                    | <10                  | 20                    | 0.7                   | <2                    | 0.03                | <0.5                  | <1                    | 4                     | 7                     | 0.38                | <10                   |
| M-282              |                                   | <0.2                   | 0.41                | 75                    | <10                  | 20                    | 0.9                   | <2                    | 0.12                | <0.5                  | 3                     | 5                     | 20                    | 2.05                | 10                    |
| M-283              |                                   | <0.2                   | 0.67                | 43                    | <10                  | 20                    | 1.1                   | 2                     | 0.10                | <0.5                  | 4                     | 11                    | 10                    | 1.84                | <10                   |
| M-284              |                                   | 0.5                    | 0.23                | 71                    | <10                  | 10                    | 0.9                   | 4                     | 0.03                | <0.5                  | 1                     | 3                     | 6                     | 1.66                | 10                    |
| M-285              |                                   | <0.2                   | 0.40                | 2                     | <10                  | 10                    | 0.8                   | <2                    | 0.07                | <0.5                  | 1                     | 8                     | 5                     | 0.59                | <10                   |
| M-354              |                                   | <0.2                   | 0.73                | 15                    | <10                  | 20                    | 0.7                   | <2                    | 0.26                | <0.5                  | 3                     | 6                     | 5                     | 0.98                | <10                   |
| M-365              |                                   | <0.2                   | 0.35                | 31                    | <10                  | 20                    | 0.5                   | <2                    | 0.11                | <0.5                  | 1                     | 3                     | 7                     | 0.53                | <10                   |
| M-366              |                                   | 3.5                    | 0.62                | 913                   | <10                  | 20                    | 0.6                   | 3                     | 0.21                | 3.4                   | 3                     | 12                    | 6                     | 1.00                | 190                   |
| M-504              |                                   | 0.3                    | 0.61                | 34                    | <10                  | 40                    | 0.6                   | <2                    | 1.48                | 0.9                   | 3                     | 3                     | 26                    | 1.37                | <10                   |
| M-557              |                                   | 0.6                    | 0.50                | 40                    | <10                  | 30                    | 0.7                   | <2                    | 1.18                | 0.6                   | 2                     | 3                     | 14                    | 0.96                | 10                    |
| M-560              |                                   | 0.2                    | 0.38                | 37                    | <10                  | 30                    | 0.6                   | <2                    | 0.45                | 0.5                   | 2                     | 4                     | 12                    | 0.61                | <10                   |
| M-569              |                                   | 0.4                    | 0.69                | 20                    | <10                  | 30                    | 0.5                   | <2                    | 0.93                | <0.5                  | 2                     | 5                     | 7                     | 1.35                | 10                    |
| M-570              |                                   | 0.2                    | 0.69                | 20                    | <10                  | 30                    | 0.5                   | 2                     | 0.60                | <0.5                  | 3                     | 22                    | 12                    | 1.61                | <10                   |
| M-576              |                                   | <0.2                   | 0.42                | 23                    | <10                  | 30                    | 0.7                   | 2                     | 0.06                | <0.5                  | 2                     | 3                     | 8                     | 0.73                | <10                   |
| M-577              |                                   | 0.7                    | 0.39                | 46                    | <10                  | 30                    | 0.7                   | 2                     | 0.06                | <0.5                  | 4                     | 3                     | 10                    | 0.97                | 10                    |
| M-578              |                                   | <0.2                   | 0.34                | 12                    | <10                  | 30                    | 0.5                   | <2                    | 0.05                | <0.5                  | 3                     | 3                     | 6                     | 0.49                | <10                   |
| M-579              |                                   | <0.2                   | 0.35                | 7                     | <10                  | 30                    | 0.6                   | <2                    | 0.06                | <0.5                  | 1                     | 2                     | 7                     | 0.59                | <10                   |
| M-585              |                                   | <0.2                   | 0.51                | 5                     | <10                  | 20                    | 0.9                   | <2                    | 0.17                | <0.5                  | 1                     | 2                     | 4                     | 0.57                | <10                   |
| M-587              |                                   | 0.4                    | 0.57                | 21                    | <10                  | 30                    | 0.8                   | <2                    | 0.32                | <0.5                  | 3                     | 3                     | 13                    | 1.21                | 10                    |
| M-588              |                                   | <0.2                   | 0.81                | 5                     | <10                  | 30                    | 0.7                   | <2                    | 1.22                | <0.5                  | 3                     | 3                     | 5                     | 1.41                | <10                   |
| M-625              |                                   | <0.2                   | 0.80                | 40                    | <10                  | 40                    | 0.9                   | <2                    | 0.85                | <0.5                  | 6                     | 5                     | 14                    | 2.44                | 20                    |
| M-716              |                                   | 0.3                    | 0.35                | 18                    | <10                  | 30                    | 0.8                   | <2                    | 0.33                | <0.5                  | 2                     | 4                     | 7                     | 0.88                | 10                    |
| M-717              |                                   | <0.2                   | 0.35                | 10                    | <10                  | 40                    | 0.7                   | <2                    | 0.55                | <0.5                  | 1                     | 5                     | 5                     | 0.71                | <10                   |
| M-727              |                                   | <0.2                   | 0.26                | 10                    | <10                  | 20                    | 0.5                   | <2                    | 0.02                | <0.5                  | 1                     | 4                     | 2                     | 0.42                | <10                   |
| M-728              |                                   | 0.2                    | 0.43                | 26                    | <10                  | 20                    | 1.1                   | 2                     | 0.04                | <0.5                  | 3                     | 3                     | 4                     | 0.92                | <10                   |
| M-745              |                                   | <0.2                   | 0.34                | 3                     | <10                  | 30                    | 0.7                   | <2                    | 0.44                | <0.5                  | 1                     | 3                     | 2                     | 0.84                | <10                   |
| M-747              |                                   | <0.2                   | 0.31                | 5                     | <10                  | 30                    | 0.6                   | <2                    | 0.22                | <0.5                  | 1                     | 3                     | 4                     | 0.82                | <10                   |
| M-750              |                                   | 0.2                    | 0.31                | 31                    | <10                  | 20                    | <0.5                  | <2                    | 0.03                | <0.5                  | 2                     | 4                     | 8                     | 1.12                | 10                    |



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## CERTIFICATE OF ANALYSIS LI06107458

| Sample Description | ME-CPM1 |        | ME-CPM1 |        | ME-CPM1 |      | ME-CPM1 |      | ME-CPM1 |        | ME-CPM1 |        | ME-CPM1 |        | ME-CPM1 |        | ME-CPM1 |      | ME-CPM1 |        | ME-CPM1 |  |
|--------------------|---------|--------|---------|--------|---------|------|---------|------|---------|--------|---------|--------|---------|--------|---------|--------|---------|------|---------|--------|---------|--|
|                    | K %     | La ppm | Mg %    | Al ppm | Si ppm  | Mn % | P ppm   | S %  | Pb ppm  | Fe ppm | Ni %    | Co ppm | Cr %    | Mo ppm | Cu ppm  | Zn ppm | Br ppm  | Ti % | As ppm  | Se ppm | Bi ppm  |  |
| M-018              | 0.07    | 30     | 0.03    | 142    | 1       | 0.04 | 2       | 0.03 | 12      | 60     | 10      | 2      | 0.01    | 2      | 3       | 7      | 0.02    | <10  | <10     | <10    | <10     |  |
| M-019              | 0.05    | 30     | 0.04    | 152    | 1       | 0.05 | 1       | 0.03 | 14      | 60     | 10      | 2      | 0.01    | 2      | 3       | 6      | 0.03    | <10  | <10     | <10    | <10     |  |
| M-020              | 0.16    | 20     | 0.72    | 727    | <1      | 0.05 | 2       | 0.03 | 4       | 760    | 10      | 2      | 0.03    | 2      | 5       | 20     | 0.16    | <10  | <10     | <10    | <10     |  |
| M-061              | 0.08    | <10    | 0.03    | 187    | 3       | 0.04 | 2       | 0.02 | 15      | 10     | 10      | 2      | 0.02    | 2      | 1       | 2      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-062              | 0.09    | 10     | 0.04    | 393    | 2       | 0.04 | 1       | 0.03 | 32      | 20     | 20      | 2      | 0.03    | 2      | 1       | 3      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-167              | 0.06    | 10     | 0.71    | 255    | 1       | 0.05 | 3       | 0.03 | 8       | 390    | 10      | 2      | 0.03    | 2      | 4       | 10     | 0.02    | <10  | <10     | <10    | <10     |  |
| M-178              | 0.11    | 20     | 1.84    | 312    | 1       | 0.03 | 2       | 0.02 | 4       | 570    | 10      | 2      | 0.02    | 2      | 6       | 3      | 0.01    | <10  | <10     | <10    | <10     |  |
| M-179              | 0.19    | 30     | 1.86    | 240    | 2       | 0.02 | 3       | 0.04 | 4       | 470    | 10      | 2      | 0.04    | 2      | 3       | 3      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-180              | 0.19    | 20     | 1.28    | 233    | 2       | 0.02 | 1       | 0.05 | 5       | 520    | 10      | 2      | 0.05    | 2      | 3       | 7      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-251              | 0.23    | 20     | 0.58    | 330    | <1      | 0.03 | 3       | 0.03 | 9       | 370    | 10      | 2      | 0.03    | 2      | 2       | 13     | 0.01    | <10  | <10     | <10    | <10     |  |
| M-352              | 0.26    | 20     | 0.39    | 315    | <1      | 0.02 | 4       | 0.03 | 5       | 370    | 10      | 2      | 0.03    | 2      | 1       | 12     | <0.01   | <10  | <10     | <10    | <10     |  |
| M-375              | 0.16    | 10     | 0.05    | 100    | <1      | 0.02 | 1       | 0.02 | 22      | 30     | 10      | 2      | 0.02    | 2      | 1       | 2      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-277              | 0.19    | 10     | 0.02    | 46     | <1      | 0.02 | 2       | 0.02 | 20      | 30     | 10      | 2      | 0.02    | 2      | <1      | 1      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-283              | 0.15    | 20     | 0.09    | 103    | 1       | 0.03 | 3       | 0.02 | 28      | 100    | 10      | 2      | 0.02    | 2      | 1       | 3      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-283              | 0.11    | 20     | 0.25    | 257    | 1       | 0.03 | 3       | 0.03 | 12      | 130    | 10      | 2      | 0.02    | 2      | 2       | 3      | 0.01    | <10  | <10     | <10    | <10     |  |
| M-294              | 0.09    | 10     | 0.04    | 38     | 3       | 0.03 | 2       | 0.03 | 16      | 30     | 10      | 2      | 0.03    | 2      | 1       | 2      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-286              | 0.09    | 10     | 0.10    | 118    | <1      | 0.05 | 2       | 0.02 | 7       | 40     | 10      | 2      | 0.02    | 2      | 3       | 3      | 0.01    | <10  | <10     | <10    | <10     |  |
| M-354              | 0.13    | 10     | 0.24    | 150    | <1      | 0.02 | 2       | 0.02 | 25      | 170    | 10      | 2      | 0.02    | 2      | 2       | 5      | 0.04    | <10  | <10     | <10    | <10     |  |
| M-365              | 0.14    | 10     | 0.04    | 78     | <1      | 0.04 | 1       | 0.03 | 59      | 90     | 10      | 2      | 0.03    | 2      | 1       | 4      | 0.01    | <10  | <10     | <10    | <10     |  |
| M-366              | 0.20    | 20     | 0.17    | 151    | <1      | 0.04 | 3       | 0.04 | 5900    | 200    | 10      | 2      | 0.04    | 2      | 2       | 5      | 0.02    | <10  | <10     | <10    | <10     |  |
| M-504              | 0.24    | 20     | 0.12    | 348    | <1      | 0.02 | 2       | 0.02 | 318     | 280    | 10      | 2      | 0.04    | 2      | 1       | 10     | <0.01   | <10  | <10     | <10    | <10     |  |
| M-557              | 0.21    | 20     | 0.10    | 214    | <1      | 0.03 | 3       | 0.03 | 128     | 300    | 10      | 2      | 0.03    | 2      | 1       | 13     | 0.01    | <10  | <10     | <10    | <10     |  |
| M-569              | 0.24    | 20     | 0.06    | 118    | <1      | 0.01 | 1       | 0.02 | 52      | 300    | 10      | 2      | 0.02    | 2      | 1       | 7      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-569              | 0.12    | 20     | 0.21    | 321    | 1       | 0.04 | 3       | 0.03 | 47      | 210    | 10      | 2      | 0.03    | 2      | 2       | 14     | 0.04    | <10  | <10     | <10    | <10     |  |
| M-570              | 0.15    | 20     | 0.41    | 305    | 2       | 0.04 | 12      | 0.03 | 65      | 260    | 10      | 2      | 0.03    | 2      | 2       | 12     | 0.04    | <10  | <10     | <10    | <10     |  |
| M-576              | 0.17    | 20     | 0.05    | 135    | 1       | 0.02 | 1       | 0.02 | 55      | 100    | 10      | 2      | 0.02    | 2      | 1       | 3      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-577              | 0.16    | 20     | 0.07    | 129    | 2       | 0.02 | 3       | 0.02 | 155     | 90     | 10      | 2      | 0.02    | 2      | <1      | 2      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-578              | 0.18    | 20     | 0.04    | 105    | 1       | 0.02 | 2       | 0.03 | 45      | 70     | 10      | 2      | 0.03    | 2      | <1      | 2      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-679              | 0.17    | 10     | 0.04    | 53     | 1       | 0.02 | 2       | 0.03 | 13      | 50     | 10      | 2      | 0.03    | 2      | <1      | 2      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-585              | 0.16    | 20     | 0.09    | 112    | <1      | 0.02 | 2       | 0.02 | 10      | 80     | 10      | 2      | 0.02    | 2      | 1       | 4      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-587              | 0.16    | 20     | 0.12    | 187    | 1       | 0.03 | 2       | 0.02 | 16      | 150    | 10      | 2      | 0.02    | 2      | 2       | 5      | 0.01    | <10  | <10     | <10    | <10     |  |
| M-588              | 0.21    | 20     | 0.19    | 382    | 1       | 0.03 | 1       | 0.03 | 29      | 270    | 10      | 2      | 0.03    | 2      | 1       | 13     | 0.01    | <10  | <10     | <10    | <10     |  |
| M-625              | 0.11    | 10     | 0.44    | 253    | 1       | 0.04 | 3       | 0.03 | 17      | 70     | 10      | 2      | 0.03    | 2      | 3       | 5      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-716              | 0.15    | 20     | 0.05    | 157    | <1      | 0.03 | 1       | 0.03 | 30      | 50     | 10      | 2      | 0.03    | 2      | 2       | 6      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-717              | 0.17    | 20     | 0.05    | 220    | 1       | 0.04 | 2       | 0.04 | 28      | 30     | 10      | 2      | 0.01    | 2      | 2       | 7      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-727              | 0.12    | 10     | 0.07    | 59     | <1      | 0.01 | 1       | 0.01 | 5       | 20     | 10      | 2      | <0.01   | 2      | <1      | 1      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-728              | 0.15    | 10     | 0.11    | 123    | 1       | 0.01 | 2       | 0.01 | 20      | 30     | 10      | 2      | <0.01   | 2      | 1       | 2      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-745              | 0.10    | 30     | 0.05    | 159    | <1      | 0.05 | 1       | 0.01 | 10      | 50     | 10      | 2      | 0.01    | 2      | 3       | 5      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-747              | 0.09    | 30     | 0.03    | 131    | 1       | 0.05 | <1      | 0.01 | 8       | 60     | 10      | 2      | <0.01   | 2      | 3       | 5      | <0.01   | <10  | <10     | <10    | <10     |  |
| M-750              | 0.18    | 10     | 0.04    | 57     | 2       | 0.02 | 1       | 0.02 | 36      | 40     | 10      | 2      | 0.01    | 2      | <1      | 2      | <0.01   | <10  | <10     | <10    | <10     |  |





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CERTIFICATE OF ANALYSIS LI06107458

| Sample Description | Method<br>Analyte<br>Units<br>LOI | ME-ICP41<br>U<br>ppm<br>10 | ME-ICP41<br>V<br>ppm<br>1 | ME-ICP41<br>W<br>ppm<br>10 | ME-ICP41<br>Zn<br>ppm<br>1 |
|--------------------|-----------------------------------|----------------------------|---------------------------|----------------------------|----------------------------|
| M-016              |                                   | <10                        | 2                         | <10                        | 22                         |
| M-019              |                                   | <10                        | 3                         | <10                        | 23                         |
| M-139              |                                   | <10                        | 27                        | <10                        | 46                         |
| M-161              |                                   | <10                        | <1                        | <10                        | 53                         |
| M-162              |                                   | <10                        | 1                         | <10                        | 162                        |
| M-167              |                                   | <10                        | 15                        | <10                        | 25                         |
| M-178              |                                   | <10                        | 35                        | <10                        | 26                         |
| M-179              |                                   | <10                        | 17                        | <10                        | 20                         |
| M-180              |                                   | <10                        | 17                        | <10                        | 21                         |
| M-251              |                                   | <10                        | 16                        | <10                        | 16                         |
| M-252              |                                   | <10                        | 5                         | <10                        | 12                         |
| M-276              |                                   | <10                        | 1                         | <10                        | 11                         |
| M-277              |                                   | <10                        | <1                        | <10                        | 6                          |
| M-282              |                                   | <10                        | 12                        | <10                        | 26                         |
| M-283              |                                   | <10                        | 15                        | <10                        | 34                         |
| M-284              |                                   | <10                        | 8                         | <10                        | 7                          |
| M-286              |                                   | <10                        | 5                         | <10                        | 11                         |
| M-354              |                                   | <10                        | 12                        | <10                        | 26                         |
| M-365              |                                   | <10                        | 6                         | <10                        | 66                         |
| M-365              |                                   | <10                        | 107                       | <10                        | 545                        |
| M-504              |                                   | <10                        | 22                        | <10                        | 328                        |
| M-557              |                                   | <10                        | 8                         | <10                        | 114                        |
| M-560              |                                   | <10                        | 5                         | <10                        | 89                         |
| M-569              |                                   | <10                        | 10                        | <10                        | 42                         |
| M-570              |                                   | <10                        | 14                        | <10                        | 35                         |
| M-576              |                                   | <10                        | 4                         | <10                        | 22                         |
| M-577              |                                   | <10                        | 6                         | <10                        | 42                         |
| M-578              |                                   | <10                        | 2                         | <10                        | 11                         |
| M-579              |                                   | <10                        | 2                         | <10                        | 9                          |
| M-585              |                                   | <10                        | 2                         | <10                        | 9                          |
| M-587              |                                   | <10                        | 5                         | <10                        | 24                         |
| M-588              |                                   | <10                        | 7                         | <10                        | 36                         |
| M-625              |                                   | <10                        | 12                        | <10                        | 45                         |
| M-716              |                                   | <10                        | 3                         | <10                        | 21                         |
| M-717              |                                   | <10                        | 1                         | <10                        | 17                         |
| M-727              |                                   | <10                        | 1                         | <10                        | 6                          |
| M-728              |                                   | <10                        | 3                         | <10                        | 17                         |
| M-745              |                                   | <10                        | 2                         | <10                        | 16                         |
| M-747              |                                   | <10                        | 2                         | <10                        | 12                         |
| M-750              |                                   | <10                        | 5                         | <10                        | 22                         |



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**CERTIFICATE OF ANALYSIS LI06107458**

| Sample Description | Method<br>Analysis<br>Units<br>Lot | ME-ICP41<br>Ag<br>ppm<br>0.2 | ME-ICP41<br>Al<br>%<br>0.01 | ME-ICP41<br>As<br>ppm<br>2 | ME-ICP41<br>B<br>ppm<br>10 | ME-ICP41<br>Ba<br>ppm<br>10 | ME-ICP41<br>Be<br>ppm<br>0.5 | ME-ICP41<br>Bi<br>ppm<br>5 | ME-ICP41<br>Ca<br>%<br>0.01 | ME-ICP41<br>Cd<br>ppm<br>0.5 | ME-ICP41<br>Co<br>ppm<br>1 | ME-ICP41<br>Cr<br>ppm<br>1 | ME-ICP41<br>Cu<br>ppm<br>5 | ME-ICP41<br>Fe<br>%<br>0.01 | ME-ICP41<br>Ga<br>ppm<br>10 | ME-ICP41<br>Hg<br>ppm<br>10 |
|--------------------|------------------------------------|------------------------------|-----------------------------|----------------------------|----------------------------|-----------------------------|------------------------------|----------------------------|-----------------------------|------------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|-----------------------------|-----------------------------|
| M-751              |                                    | 0.4                          | 0.26                        | 6                          | <10                        | 20                          | <0.5                         | <2                         | 0.03                        | <0.5                         | 1                          | 3                          | 5                          | 0.35                        | <10                         | <10                         |
| M-752              |                                    | 1.5                          | 0.35                        | 86                         | <10                        | 20                          | 0.8                          | 6                          | 0.04                        | <0.5                         | 2                          | 3                          | 6                          | 1.38                        | <10                         | 10                          |
| M-753              |                                    | 0.3                          | 0.49                        | 42                         | <10                        | 20                          | 1.0                          | 3                          | 0.05                        | <0.5                         | 2                          | 4                          | 7                          | 1.25                        | <10                         | 10                          |
| M-417              |                                    | <0.2                         | 0.50                        | 59                         | <10                        | 80                          | <0.5                         | 3                          | 0.08                        | <0.5                         | 5                          | 5                          | 8                          | 4.79                        | <10                         | 10                          |
| M-418              |                                    | <0.2                         | 0.20                        | 10                         | <10                        | 30                          | <0.5                         | <2                         | 0.08                        | <0.5                         | 1                          | 4                          | 9                          | 0.52                        | <10                         | <10                         |
| M-428              |                                    | <0.2                         | 0.35                        | 4                          | <10                        | 30                          | <0.5                         | <2                         | 0.03                        | <0.5                         | 1                          | 4                          | 17                         | 0.85                        | <10                         | <10                         |
| M-429              |                                    | <0.2                         | 0.22                        | 6                          | <10                        | 10                          | <0.5                         | <2                         | 0.02                        | <0.5                         | 8                          | 5                          | 7                          | 0.70                        | <10                         | 140                         |
| M-434              |                                    | <0.2                         | 0.16                        | <2                         | <10                        | 10                          | <0.5                         | <2                         | 0.01                        | <0.5                         | 4                          | 5                          | 3                          | 0.51                        | <10                         | 20                          |
| M-435              |                                    | <0.2                         | 0.72                        | 2                          | <10                        | 10                          | <0.5                         | <2                         | 0.05                        | <0.5                         | 4                          | 6                          | 3                          | 1.08                        | <10                         | 30                          |
| M-439              |                                    | 20.2                         | 0.43                        | 12                         | <10                        | 30                          | <0.5                         | 36                         | 0.32                        | 4.3                          | 8                          | 8                          | 400                        | 1.29                        | <10                         | 470                         |



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**CERTIFICATE OF ANALYSIS LI06107458**

| Sample Description | Method<br>Analyte<br>Units<br>LOI | ME-ICP41<br>K<br>% | ME-ICP41<br>La<br>ppm | ME-ICP41<br>Mg<br>% | ME-ICP41<br>Mn<br>ppm | ME-ICP41<br>Na<br>% | ME-ICP41<br>Ni<br>ppm | ME-ICP41<br>P<br>ppm | ME-ICP41<br>Fe<br>ppm | ME-ICP41<br>S<br>% | ME-ICP41<br>Sb<br>ppm | ME-ICP41<br>Se<br>ppm | ME-ICP41<br>Si<br>ppm | ME-ICP41<br>Sr<br>ppm | ME-ICP41<br>Ti<br>% | ME-ICP41<br>Zn<br>ppm | ME-ICP41<br>Total<br>ppm |
|--------------------|-----------------------------------|--------------------|-----------------------|---------------------|-----------------------|---------------------|-----------------------|----------------------|-----------------------|--------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------|-----------------------|--------------------------|
| M-751              |                                   | 0.12               | 20                    | 0.02                | 64                    | 1                   | 0.03                  | 2                    | 40                    | <0.01              | <2                    | <1                    | <1                    | <1                    | <0.01               | <10                   | <10                      |
| M-752              |                                   | 0.15               | 10                    | 0.04                | 56                    | 3                   | 0.02                  | 2                    | 50                    | 0.01               | <2                    | <1                    | <1                    | <1                    | <0.01               | <10                   | <10                      |
| M-753              |                                   | 0.16               | 10                    | 0.05                | 52                    | 2                   | 0.02                  | 1                    | 40                    | 0.01               | <2                    | 1                     | 1                     | 1                     | <0.01               | <10                   | <10                      |
| M-417              |                                   | 0.15               | 10                    | 0.29                | 59                    | 8                   | 0.01                  | <1                   | 200                   | 0.09               | 2                     | 1                     | 1                     | 1                     | <0.01               | <10                   | <10                      |
| M-418              |                                   | 0.12               | 20                    | 0.02                | 43                    | 1                   | 0.03                  | 4                    | 30                    | 0.06               | <2                    | 1                     | 1                     | 1                     | <0.01               | <10                   | <10                      |
| M-426              |                                   | 0.07               | <10                   | 0.00                | 35                    | 2                   | 0.06                  | 1                    | 20                    | 0.01               | <2                    | 1                     | 1                     | 1                     | <0.01               | <10                   | <10                      |
| M-429              |                                   | 0.05               | 30                    | 0.07                | 63                    | 3                   | 0.04                  | 1                    | 40                    | <0.01              | <2                    | 1                     | 1                     | 1                     | <0.01               | <10                   | <10                      |
| M-434              |                                   | 0.03               | 20                    | 0.05                | 35                    | 1                   | 0.06                  | 1                    | 40                    | <0.01              | <2                    | 1                     | 1                     | 1                     | <0.01               | <10                   | <10                      |
| M-435              |                                   | 0.04               | 20                    | 0.65                | 135                   | 1                   | 0.02                  | 2                    | 230                   | <0.01              | <2                    | 1                     | 1                     | 1                     | <0.01               | <10                   | <10                      |
| M-438              |                                   | 0.14               | 10                    | 0.05                | 472                   | 31                  | 0.01                  | 2                    | 110                   | 0.04               | <2                    | 1                     | 1                     | 1                     | 0.01                | <10                   | <10                      |





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CERTIFICATE OF ANALYSIS LI06107458

| Sample Description | Method<br>Analyte<br>Units<br>LOI | ALS-ICP41<br>U<br>ppm<br>10 | ME-ICP41<br>V<br>ppm<br>1 | ME-ICP41<br>W<br>ppm<br>10 | ME-ICP41<br>Zn<br>ppm<br>2 |
|--------------------|-----------------------------------|-----------------------------|---------------------------|----------------------------|----------------------------|
| M-751              |                                   | <10                         | 2                         | <10                        | 9                          |
| M-752              |                                   | <10                         | 7                         | <10                        | 16                         |
| M-753              |                                   | <10                         | 6                         | <10                        | 15                         |
| M-417              |                                   | <10                         | 12                        | <10                        | 7                          |
| M-418              |                                   | <10                         | 1                         | <10                        | 5                          |
| M-428              |                                   | <10                         | 1                         | <10                        | 15                         |
| M-429              |                                   | <10                         | 2                         | <10                        | 6                          |
| M-434              |                                   | <10                         | 1                         | <10                        | 3                          |
| M-435              |                                   | <10                         | 5                         | <10                        | 11                         |
| M-439              |                                   | <10                         | 17                        | <10                        | 1690                       |



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**CERTIFICATE LI06109852**

Project

P.O. No.1

This report is for 2 Rock samples submitted to our lab in Lima, Peru on 27-OCT-2006.

The following have access to data associated with this certificate:

YURI ARONÉS  
YURI ARONÉS (2)

**SAMPLE PREPARATION**

| ALS CODE | DESCRIPTION                   |
|----------|-------------------------------|
| FND-02   | Find Sample for Addn Analysis |

**ANALYTICAL PROCEDURES**

| ALS CODE | DESCRIPTION                   | INSTRUMENT |
|----------|-------------------------------|------------|
| ME-ICP41 | 34 Element Aqua Regia ICP-AES | ICP-AES    |
| Hg-CV41  | Trace Hg - cold vapor/AAS     | FIMS       |

To: MERENDON DE PERU S.A.  
ATTN: YURI ARONÉS  
AV. REPUBLICA DE PANAMÁ 3545 DPTO. 901  
SAN ISIDRO LIMA 27

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

**Signature:**

  
Mildor Mascaraqui, Laboratory Manager, Peru



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Finalized Date: 5-NOV-2006  
Account: MRNDN

## CERTIFICATE OF ANALYSIS LI06109852

| Sample Description | Method<br>Analyte<br>Units<br>LOR | ME-ICP41  |         |           |          |           |           |           |         |           |           |           |         |           |           |    |  |
|--------------------|-----------------------------------|-----------|---------|-----------|----------|-----------|-----------|-----------|---------|-----------|-----------|-----------|---------|-----------|-----------|----|--|
|                    |                                   | Mg<br>ppm | Al<br>% | #d<br>ppm | B<br>ppm | Ba<br>ppm | Be<br>ppm | Bi<br>ppm | Cd<br>% | Ca<br>ppm | Co<br>ppm | Cu<br>ppm | Fe<br>% | Ga<br>ppm | Hg<br>ppb | 10 |  |
| M-454              |                                   | <0.2      | 0.16    | 1120      | <10      | 20        | <0.5      | 4         | 0.08    | <0.5      | 24        | 8         | 0.98    | <10       | 30        |    |  |
| M-459              |                                   | 0.3       | 0.44    | 37        | *10      | 50        | 0.7       | 5         | 0.27    | <0.5      | 3         | 6         | 2.26    | *10       | 20        |    |  |





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## CERTIFICATE OF ANALYSIS LI06109852

| Sample Description | Method<br>Analyte<br>Units<br>LOE | ME-ICP-AES |         |           |           |           |          |           |        |           |           |           |         |           |  |
|--------------------|-----------------------------------|------------|---------|-----------|-----------|-----------|----------|-----------|--------|-----------|-----------|-----------|---------|-----------|--|
|                    |                                   | Li<br>ppm  | Mg<br>% | Mn<br>ppm | Na<br>ppm | Al<br>ppm | P<br>ppm | Pb<br>ppm | S<br>% | Si<br>ppm | Sc<br>ppm | Sr<br>ppm | Ti<br>% | Tl<br>ppm |  |
| M-454              |                                   | 30         | 0.03    | 54        |           | <1        | 50       | 18        | 0.01   | 3         | 1         | 5         | <0.01   | <10       |  |
| M-459              |                                   | 10         | 0.13    | 57        |           | <1        | 40       | 118       | 0.05   | <2        | 2         | 7         | <0.01   | <10       |  |



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**CERTIFICATE OF ANALYSIS LI06109852**

| Sample Description | Method<br>Analyte<br>Units<br>LOK | ME-ICD41<br>U<br>ppm<br>10 | ME-ICD41<br>V<br>ppm<br>1 | ME-ICD41<br>W<br>ppm<br>10 | ME-ICD41<br>Xn<br>ppm<br>2 |
|--------------------|-----------------------------------|----------------------------|---------------------------|----------------------------|----------------------------|
| M-454              |                                   | <10                        | 4                         | <10                        | 4                          |
| M-459              |                                   | <10                        | 4                         | <10                        | 13                         |