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LIST OF ENCLOSURES

Digital copy of the report and geochemical data.

Files include:

992000Lakebarringtonannualreport.doc

Allconventionalsoildata.xls

Allpartialeachdata.xls

Rockchips.xls

Collars.xls

Survey.xls

Dhassay.xls

## 1. SUMMARY

Exploration activities in the second year of tenure of EL 3/98 have included:

- Continued semi-regional mapping to increase the geological understanding of the area,
- Completion of an orientation conventional and partial leach soil sampling programme,
- Detailed geological mapping and partial leach geochemical sampling of the Days Rd prospect,
- Continued evaluation and compilation of historical data sets.

Previous exploration in this sequence of Cambrian volcanic has concentrated on the sericite and pyrite alteration developed in the quartz-feldspar-phyric sequence (Cethana Alteration Zone, CAZ). The three main prospect areas, Gowrie Park, West and East Cethana, have been extensively explored with C-horizon soil geochemistry, IP and drilling. The CAZ is characterised by narrow "stringer" vein style zones of base metal mineralisation and there appears to be little potential for a sizeable massive sulphide deposit.

Mapping over the last two years has resulted in the recognition of a sequence of andesitic/intermediate epiclastics and lavas immediately overlying the quartz feldspar phyric sequence. These rocks are correlated with the Lynchford Member in western Tasmania, and this contact is a potential ore horizon.

A 272 sample orientation partial leach and conventional soil geochemistry programme was completed on four lines for 7.1 line kilometres. The lines were chosen to give a full coverage of the geology from the Owen Conglomerate through the rhyolite sequence and the overlying andesite sequence. The known mineralisation within the rhyolitic sequence at Gowrie park and West and East Cethana was clearly recognised in this data and the Days Rd Prospect was discovered during this programme.

The Days Rd Prospect was followed up with 9.5 kilometres of gridding, detailed 1:2500 scale creek and grid based mapping, and the collection of 421 partial leach soil samples.

The majority of data from previous exploration has now been captured.

## 2. INTRODUCTION

This report documents work undertaken within Exploration Licence 3/98 Lake Barrington in Northern Tasmania, covering the period April 1999 to April 2000.

Exploration on the Lake Barrington EL is managed and operated by Pasminco Exploration, a division of Pasminco Australia Limited (Pasminco).

The EL covers 51.75 km<sup>2</sup> of Cambrian Mt Read Volcanics, and lies 15km west of Sheffield (Figure 1). The principal target of exploration on the licence is volcanic hosted auriferous base metal massive sulphide, similar to mineralisation at Rosebery and Hercules in Western Tasmania.

The EL has been consolidated in the past twelve months with additional ground picked up at Gowrie Park and also to the north so that the EL is now a single block. The Cethana/Gowrie Park area consists of three prospects, Gowrie Park, East Cethana, and West Cethana which together have been termed the Cethana Alteration Zone (CAZ). These prospects are almost certainly contiguous, with alluvium blanketing the intervening areas. All reporting to date has separated the three areas as distinct entities. These areas have been the focus of a sustained exploration effort over 20 years, which has left a legacy of good access tracks, however grid lines are in need of refurbishment as regrowth and fire have left little trace of them.

During the period covered by this report, exploration has concentrated north of the CAZ within a package of andesitic lavas and sandstones and in particular on the Days Road Prospect. Work completed includes:

- A literature review of previous exploration on the Gowrie Park area.
- Relogging of all holes completed on the CAZ.
- Continued 1: 5000 scale mapping of the tenement.
- An orientation, conventional and partial leach soil programme on four grid widely spaced lines for 7.1 km.
- Cutting, partial leach sampling of soils and mapping of a 9.5 kilometre grid at the Days Prospect.

### 3. TENURE

EL 3/98, Lake Barrington, was granted for a five-year term on 7<sup>th</sup> April 1998 to Pasminco Limited and covers an area of 66 km<sup>2</sup>.

The EL is subject to a number of land classifications. The current land tenure includes land vested in the Hydro-Electric Commission in the area immediately surrounding Cethana Dam and the Transmission Lines, State Forest, private land holdings and the Mt Roland Regional Reserve (Figure 2).

ELA 26/98 (Gowrie Park) and EL 16/99 (Cethana) were consolidated into EL 3/98 on the 15/3/99 and the 3/12/99 respectively.

#### 4. REGIONAL GEOLOGY

The regional geological framework of the Mt Read Belt (MRB) is subdivided, from an exploration perspective, into three elements. The central MRB covering the area of outcrop from south of Queenstown to north of Hellyer, the northern MRB covering the area from Back Bluff eastwards through Gowrie Park and Mole Creek, and the Southern MRB comprising areas west and south of Macquarie Harbour. EL 3/98 is in the central part of the northern MRB.

Basement in the Central and Northern MRB is of Precambrian age, comprising predominantly greenschist facies meta-sediments with minor basalts and dolerites. Higher-grade amphibolite and eclogite facies are also present within the Precambrian. This Precambrian basement termed the Tyennan Block, lies to the south of the Lake Barrington licence.

Cambrian volcanism and sedimentation developed on the Precambrian continental crust and, in the Central MRB, is subdivided into the Eo-Cambrian Tholeiitic Crimson Creek Formation (CCF), the mid to late Cambrian Dundas Group and the predominantly calc-alkaline, Mt Read Volcanics (MRV).

The CCF was deposited in shallow but rapidly subsiding basins comprising basaltic lavas and volcanoclastics, turbidites, carbonates, chert and minor evaporites. This formation is not exposed in the licence area. Ultramafic cumulates and volcanic equivalents were thrust onto the CCF in the mid Cambrian. They are absent from the licence area.

The MRV, in the Central MRB, form a 200 km long by 20 km wide north-south trending belt along the eastern side of the Dundas Trough, adjacent to and in some areas overlapping and intruding the Precambrian basement. The northern extension of the MRV swings eastwards around the northern margin of the Tyennan Precambrian block the volcanics include intermediate to felsic lavas, subvolcanic porphyries and granites, volcanoclastics and basement-derived sedimentary rocks. The MRV host five economically significant volcanic hosted massive sulphide deposits all of which lie in the Central MRB.

Cambrian volcanism and sedimentation was followed by predominantly basement derived late Cambrian to Devonian age sedimentation, which includes siliciclastic conglomerate, sandstone and limestone. These sequences occur within and peripheral to the licence.

At least two phases of regional compression were associated with the mid Devonian Tabberabberan Orogeny. The development of folding, cleavage and regional thrusts in lower Paleozoic rocks were associated with this event. Fold trends in the licence area are approximately E-W.

Deformation was followed by the extensive intrusion of Devonian to Carboniferous granitoids of batholithic proportions. One such intrusion, the Dalcoath Granite, and associated hornfels aureole, outcrop south of the licence. The Devonian granites are associated with carbonate replacement Sn mineralisation at Renison Bell and Mount Bischoff, and the Pb-Zn-Ag vein deposits of Zeehan and possibly the Tullah Fields. A similar setting may be interpreted for the base metal vein deposits in the Round Hill workings. After substantial erosion of this terrane, extensive Tertiary flood basalts and subvolcanic sediments were deposited. Basalt flows cover much of the northern part of the licence.

## 5. PREVIOUS EXPLORATION

The current tenement area has been held by Asarco, CRA, Noranda, Aberfoyle Plutonic and RGC (Table 1). Exploration programmes completed include mapping, soil geochemistry, IP and TEM surveys, DIGHEM, helicopter borne magnetics, 16 percussion holes for 1244 metres and 23 diamond drill holes for 4256.1 metres (See table 1). A full appraisal of pre 1996 work is given in Herrmann (1996) and Halley (1996) and will only be summarised herein.

A broad overview of the work completed will be given and then the programmes will be discussed on a prospect by prospect basis.

It is confusing to establish who held what ground when. The following table (table 2) will hopefully clarify this situation.

| Prospect         | Diamond holes | Metres | Percussion Holes | Metres |
|------------------|---------------|--------|------------------|--------|
| East Cethana     | 7             | 1304.4 | 6                | 373    |
| West Cethana     | 6             | 957    | 2                | 198    |
| Gowrie Park      | 4             | 410.5  | 7                | 471    |
| Staverton        | 1             | 267.2  | 1                | 102    |
| Mt Roland*       | 1             | 229.5  | 1                | 100    |
| Lake Barrington* | 4             | 1087.5 |                  |        |
| Total            | 23            | 4256.1 | 16               | 1244   |

**Table 1.** Drilling completed in the Lake Barrington-Cethana Area.

\*- Not in the current tenement.

| Company              | Tenement | Granted    | Relinquished        | Prospects | Previous Tenement |
|----------------------|----------|------------|---------------------|-----------|-------------------|
| Asarco               | EL 7/73  | 1973       | JV with CRA in 1976 | All       | Nil               |
| CRA                  | EL 7/73  | JV in 1976 | 1988                | 4,5       | Nil               |
| CRA                  | EL 10/76 | 1976       | 1987                | 1,2,3,6   | Nil               |
| Noranda/Plutonic JV  | 10/88    | 1988       | 1998                | 1,2,3,6   | EL 10/76          |
| Aberfoyle            | 11/88    | 1988       | 1993                | 4,5       | EL 7/73           |
| RGC Exploration      | 32/94    | 1994       | 1999                | 4,5       | EL 7/73           |
| Pasminco Exploration | 3/98     | 1998       | -                   | 1,2,3     | EL 10/76          |
| Pasminco Exploration | 26/98    | 1998       | -                   | 4         | EL 32/94          |
| Pasminco Exploration | 16/99    | 1999       | -                   | -         | Various           |

**Table 2:** Tenement holdings in the Lake Barrington-Cethana Areas. The three Pasminco tenements are to be consolidated into one exploration licence (EL 3/98). Prospects: 1= West Cethana, 2= East Cethana, 3= Staveron, 4= Gowrie Park, 5= Mt Roland Prospect. 6= Lake Barrington prospect.

Asarco discovered all of the prospects that have been worked on in this tenement in the 1970's during regional geochemical sampling (Anon, 1974). Their approach was a simple -80# stream sediment sampling programme with analysis for Cu, Pb, Zn and Ag, and if no geochemically anomalous streams were identified then they dropped the ground. This enabled the tenement to be reduced from an area of 743 km<sup>2</sup> in 1973 to 440 km<sup>2</sup> in 1975 to 177 km<sup>2</sup> in 1977. The prospects discovered during this period were the:

- West Cethana Prospect (Galena and sphalerite mineralisation in rhyolitic volcanics).
- East Cethana Prospect (Galena and sphalerite mineralisation in rhyolitic volcanics).
- Staveron Prospect (Galena and sphalerite mineralisation in andesitic volcanics).
- Gowrie Park Prospect (Galena and sphalerite mineralisation in rhyolitic volcanics, (the eastern extension of the East Cethana Prospect)).

- Lake Barrington Prospect (Chalcopyrite veinlets in rhyolitic volcanics).

The other prospect in the area is the Mt Roland Mine, where an adit was excavated to test basemetal mineralisation.

During 1976 an extensive grid based soil sampling programme and a gradient array IP survey was completed at East and West Cethana. Three diamond holes (DD77CC1-C3) were completed at West Cethana Prospect (Purvis, 1977a) and two diamond holes (DD77CC4, 5) were completed at the East Cethana Prospect (Purvis 1977b).

During 1977 three more holes (DD77CC6-8) were completed at East Cethana (Purvis, 1978).

During 1979 a dipole-dipole survey was completed at East Cethana (Purvis, 1979a, 1979b).

In 1981 a regional Dighem II survey was flown over EL 7/73 (Dvorak and Vergos, 1981).

During 1982 and 1983 CRA's exploration effort concentrated on the Mt Roland Prospect.

During 1984 a UTEM survey was completed that covered both the East and West Cethana prospect. Two UTEM anomalies recognised at West Cethana were drilled by percussion holes PD84CC9, 10 (Tembe, 1985a, 1985b).

Two diamond drillholes were drilled at West Cethana during 1986 (Caithness, 1986 and Caithness and von Strokirch, 1987).

CRA relinquished this ground in 1987.

In July 1988 Aberfoyle successfully tendered for the ground covering Gowrie Park and the Beulah area to the east. Aberfoyle completed only minor work on the Gowrie Park area. At the Mt Roland Prospect Aberfoyle completed gridding, mapping, rock chip sampling and a UTEM survey. Aberfoyle relinquished EL 11/88 in 1993.

In August 1988 Noranda successfully tendered for the ground covering Cethana East and West which was granted as EL 10/88. During 1988 a review of CRA geophysics by Zarzavatjian (in Jones, 1989) revealed that some alteration zones had not been covered by IP and UTEM and that numerous IP anomalies at the end of lines and others with coincident geochemical anomalism had not been followed up. Pb isotope studies of core samples indicated that the mineralisation has an isotopic signature similar to Rosebery.

During 1989-90 (Jones, 1990) a gravity survey was done and a helicopter borne high-resolution aeromagnetic survey was completed. An honours thesis titled The geology and mineralisation of the Cethana Pyrite Zone was completed by Hicks (1989) at the University of Tasmania.

On 2 June 1992 Plutonic became the operator of the licence with Noranda retaining a 10% NPR. A further review of previous work was completed (MacDonald and Tomlinson 1992). A further geophysical review was also completed by Zarzavatjian (in MacDonald and Tomlinson 1992). This review identified many weak anomalies in the IP including anomaly CHAR-CE1 that was interpreted to be a single continuous chargeability anomaly running E-W between 21600E and 22600E. Ten diamond drill holes were proposed to test this anomaly.

During 1993 Crone PEM was completed with 2 lines surveyed on the West Cethana Prospect and 13 lines surveyed on the East Cethana Prospect (MacDonald 1993b). An EL area reduction in 1993 resulted in fragmentation of the licence (MacDonald 1993a).

During 1994-95, 2 diamond drillholes (CED1 and CED2) were completed at Cethana East for 495m (Close and MacDonald, 1995).

During 1995 RGC completed a literature review, relogged the core, completed a ground magnetic survey, collected 460 soil samples and geological mapped the grid at Gowrie Park.

During 1996-97 (Close and Reid 1997) a six-hole reverse circulation programme for 373 metres was completed at Cethana East by Plutonic. The aim of this programme was to define an exhalative VMS horizon in the northern part of the tenement. Results from this programme were low.

During 1996 (Gregory, 1997) RGC completed an SP survey, a Gradient Array IP Survey and a VLF-EM survey. Some additional soil samples were collected and 6 short RC holes were completed.

In August 1997 Plutonic relinquished the portions of EL 10/88 that covered the Cethana area.

During 1997 (Stockwell, 1998) 43 soils samples were collected. A hole planned to drill the andesite - rhyolite contact was not drilled. RGC relinquished the ground in 1998.

## **5.1 Prospect Overview:**

### **5.1.1 West Cethana:**

The ground here was original held by Asarco under EL 7/73. The West Cethana area was highlighted by anomalous stream sediment results (Anon, 1974) with a best sample of 700 ppm Zn. CRA joint ventured into this tenement in 1976 to assess targets generated through Asarco's stream sampling programme. CRA also held 10/76 and they explored the area from 1976-1986.

During 1976-77 (Purvis 1977a) CRA completed geochemical sampling, mapping, gradient array IP surveys and three diamond drillholes (DD77CC1-DD77CC3) for 460m. A strongly altered sequence of acid volcanics with anomalous Pb and Zn were recognised. No significant anomalies were recognised in the IP.

Drillhole DD77CC1 intersected:

0.4m @ 8.2% Zn, 0.2 % Pb from 78.6-79.0m in siliceous schists and

2.6m @ 0.92% Zn, 0.91% Pb from 98.0-100.6m as bedded Pb-Zn sulfides in a black tuff.

In 1981 (Flis 1983) a DIGHEM II survey detected an anomaly near the western end of the Cethana east grid.

During 1984-1985 (Tembe 1985) the previous stream sediment, grid soil sampling and geophysical data was compiled. Two percussion drill holes (PD84CC9 and PD84CC10) were drilled. Base metal poor massive pyrite were intersected over 24m in PD84CC9. Downhole EM in these two drill holes failed to identify a conductor. The core from all previous drill holes was re-assayed for gold. No significant values were obtained.

17 rock chip samples were collected from the Roland Conglomerate and Moina Sandstone in the Claude Mountain Lookout area to test for gold potential. These samples were assayed for Cu, Pb, Zn, Ag, As, Sb, and Au. No anomalies were detected.

During 1986-87 (Caithness and von Strokirch 1987) three diamond drill holes (DD86CC11, (abandoned), DD86CC12 and DD86CC13) were completed for 496.5m. The holes were targeted to test a UTEM response and a soil geochemical response and a prospective geological sequence? They failed to intersect any significant mineralisation.

On 2 June 1992 Plutonic became the operator of the licence with Noranda retaining a 10% NPR. A further review of previous work was completed (MacDonald and Tomlinson 1992). Zarzavatjian (in MacDonald and Tomlinson 1992) also completed a further geophysical review. This review identified many weak anomalies in the IP including anomaly CHAR-CE1 that was interpreted to be a single continuous chargeability anomaly running E-W between 21600E and 22600E. Ten diamond drill holes were proposed to test this anomaly.

During 1993 Crone PEM was completed with 2 lines surveyed. MacDonald, (1993b) suggested that the northern contact between the quartz-sericite schist and overlying volcano-sedimentary rocks represented a favourable horizon for a VMS deposit. The schist was regarded as footwall alteration.

An EL area reduction resulted in fragmentation of the licence.

No further work completed.

### 5.1.2. East Cethana:

CRA held this ground under tenements EL 7/73 (An Asarco-CRAE Joint Venture) and 10/76 and explored the area from 1974-1986.

During 1976-77 (Purvis 1977b) CRA completed geochemical sampling, mapping, gradient array IP, EM, magnetics and two diamond drillholes (DD77CC4 and DD77CC5) for 314m. A zone of coincident geochemical and IP anomalism 1300m long and 250m wide was recognised at the eastern end of the prospect.

The two drillholes encountered significant sulfides with a best result of 1.0m @ 3.88% Zn, 0.8 % Pb 1.18% Cu and 185 ppm Ag from 37.8-38.8m 78.6-79 as bands of sulfides in a dark chloritic tuff-shale in DD77CC5. Several other zones of 0.5-1.0% combined Pb-Zn over 2-3 metres were intersected in the holes.

During 1977-1979 (Purvis 1979b) three drillholes (DD77CC6, DD77CC7, and DD78CC8) were completed for 495.5m, a dipole-dipole IP survey was completed and a small amount of additional gridding, geochemical sampling and mapping. The three drillholes were targeted on

the IP anomalies recognised in the 1976 programme (Purvis 1977b). The results were regarded as being poor, however, two separate intersections were recorded with Pb+Zn >1% (viz 4.5m @ 1.2%Zn, 0.4% Pb, and 2.4m of 1%Pb and 0.65% Zn.

In 1981 (Flis 1983) a DIGHEM II survey located an anomaly near the western end of the Cethana east grid.

During 1984-1985 (Tembe 1985b) the previous stream sediment, grid soil sampling and geophysical data was compiled. A dipole-dipole IP survey confirmed the presence of the IP anomalies, which had already been drilled by CRA and showed that the "anomalies" in the central part of the prospect were spurious. An IP anomaly at 21750E 120N and 21800E 3430S with a strike length of 100m was detected.

In 1990 Noranda completed 50m dipole IP on 6 widely spaced lines produced strong well-defined responses on lines 21700E and 21800E.

On 2 June 1992 Plutonic became the operator of the licence with Noranda retaining a 10% NPR. A further review of previous work was completed (MacDonald and Tomlinson 1992). A further geophysical review was also completed by Zarzavatjian (in MacDonald and Tomlinson 1992), This review identified many weak anomalies in the IP including anomaly CHAR-CE1 which was interpreted to be a single continuous chargeability anomaly running E-W between 21600E and 22600E. Ten diamond drill holes were proposed to test this anomaly.

During 1993 Crone PEM was surveyed for 13 lines on the East Cethana Prospect (MacDonald 1993b).. MacDonald, (1993) suggested that the northern contact between the quartz-sericite schist and overlying volcano-sedimentary rocks represented a favourable horizon for a VMS deposit. The schist was regarded as footwall alteration.

During 1994-95, 2 diamond drillholes (CED1 and CED2) were completed at Cethana East for 495m. CED1 was targeted at an IP anomaly and CED2 was targeted along strike of mineralised sediments intersected in 77DDCC5 and at the same IP trend as CED1. No significant intersections were reported.

Downhole EM was completed on these two holes and DD77CC4, DD77CC6, DD77CC7 and DD78CC8 with no offhole responses.

It was concluded that the zone of high chargeability between 21600E and 22600E tested by CC4, CC7, CED1 and CED2 is a broad zone of stringers interpreted to be a VMS footwall stringer zone with the favourable horizon occurring to the north. A recommendation was made to test this zone by drilling a fence of percussion holes along the track at 21400E.

During 1996-97 (Close and Reid 1997) a six-hole reverse circulation programme for 373 metres was completed at Cethana East. The aim of this programme was to define an exhalative VMS horizon in the northern part of the tenement. Assay results from this programme were low.

In August 1997 Plutonic relinquished the portions of EL 10/88 that covered the Cethana area.

### 5.1.3 Gowrie Park:

This area was originally highlighted by stream sediment sampling by Asarco in 1973 (Anon 1974). The Mt Roland workings were sampled by Barker (1975) with results up to 1.7% Zn and 1.8% Pb obtained from rock chip sampling. Further rock chip and soil sampling was completed at the Mt Roland workings by Williamson, (1975) with results to 0.67 % Zn and 0.64 % Pb in soils.

This work was initiated to follow up an eastern extension of a coincident IP and geochemical anomaly from the Cethana East prospect. The Gowrie park grid was cut in June 1977 by CRA under exploration licence EL 7/73. C-horizon soil samples were collected and analysed for Pb, Cu, Zn, and Mn.

During 1977-78 (Purvis, 1978) three diamond drill holes (77GPC1, 77GPC2 and 78GPC3) for 314 metres were completed. All three holes intersected minor pyrite-hematite-galena-sphalerite mineralisation in "stringers" up to 7 cm thick and in patchy fine-grained disseminations. Downhole EM was completed on the three holes.

77GPC 1 was targeted at the best IP anomaly with a chargeability peak 5x background and low resistivity, soil samples were only slightly anomalous. Best results were 0.7m @ 1.4 % Pb, 1% Zn from 82.8 - 83.5m and 2.8m @ 1.1% Pb and 0.09 % Zn from 32.7-35.5m.

77GPC 2 was targeted at the best geochemical anomaly with a peak of 3450 ppm Pb in soils and 3.55% Pb in rock chips. There was also a subtle 2x background IP response. Best results were 4m @ 1% Pb and 0.2 % Zn from 61.9-65.9m.

78GPC 3: Was targeted at a well defined IP anomaly with chargeability 3x background and low resistivity over outcropping silicified altered lavas with gossanous fractures with soils to 1,100 ppm Pb and 2.15% Pb in rocks. Best results were 9.4 m @ 1.1% Pb and 0.4 % Zn from 34.0-43.4m including 1m @ 2.8% Pb and 1 % Zn.

In 1984 an extensive UTEM survey was completed over the Gowrie Park and Mt Roland grid. (Tembe, 1985a). Several anomalies were detected and percussion drillholes RD84MR2 and RD84GP4 were targeted at UTEM anomalies. DHEM was completed on both holes and no offhole conductors were detected.

During 1985 diamond drillhole DD85GP5 was drilled to 96m where it was abandoned due to bad ground. Results from this hole were not well reported and the best result appears to be 1.3 % Pb, 0.14% Zn, 0.29 % Cu, and 5 ppm Ag.

This ground was relinquished by CRA in 1988 and was picked up by Aberfoyle. Only minor work was completed on this prospect by Aberfoyle during the 5 years that they held the tenement.

During 1990 lead isotopes were collected for samples from Gowrie Park (see table 3) and the Mount Roland workings (Table 4) by Aberfoyle (Carr and Dean in Rand, 1990). The results from both prospects are very similar and are slightly less radiogenic than samples from Rosebery.

| Sample       | <u>208</u><br>206 | <u>207</u><br>206 | <u>206</u><br>204 | <u>207</u><br>204 | <u>208</u><br>204 | Pb (ppm) |
|--------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------|
| 428017       | 2.0871            | 0.8552            | 18.216            | 15.579            | 38.019            | 146,300  |
| 428019       | 2.0857            | 0.8547            | 18.231            | 15.581            | 38.026            | 128,500  |
| 513904G1     | 2.0875            | 0.8552            | 18.216            | 15.579            | 38.025            |          |
| 513904G1 (R) | 2.0894            | 0.8557            | 18.238            | 15.607            | 38.107            |          |
| 513905G1     | 2.0881            | 0.8552            | 18.236            | 15.596            | 38.078            |          |
| 513905G1 (R) | 2.0879            | 0.8552            | 18.223            | 15.585            | 38.048            |          |
| 513906G1     | 2.0870            | 0.8550            | 18.235            | 15.591            | 38.056            |          |

Table 3: Lead Isotope results from Gowrie Park.

| Sample       | Location                              |
|--------------|---------------------------------------|
| 428017       | GP drill hole, specific hole unknown: |
| 428019       | GP drill hole, specific hole unknown: |
| 513904G1     | 77GPC 3: 37.5m                        |
| 513904G1 (R) | repeat sample from 77GPC 3: 37.5m     |
| 513905G1     | DD85GP5: 81.65m                       |
| 513905G1 (R) | repeat sample from DD85GP5: 81.65m    |
| 513906G1     | DD85GP5 86.5m                         |

Table 4: Sample location for Lead Isotope data.

Aberfoyle relinquished the ground in 1993.

The tenement was successfully tendered for by RGC Exploration. During 1995 RGC completed a literature review, relogged the core, completed a ground magnetic survey, collected 460 soil samples and geologically mapped the grid (Halley, 1996). Using the geological, geochemical and geophysical information a detailed map of the area was produced which shows a simple geology with felsic volcanics to the south overlain by andesitic volcanics and a major NNW structure offsetting this stratigraphy dextrally.

During 1996 (Gregory, 1997) SP, Gradient Array IP, and VLF-EM survey were completed. Some additional soil samples were collected and 6 short RC holes on two fences were targeted at the covered (by glacials) felsic/andesite contact close to the NNW structure.

Prior to drilling of the RC drill holes the location of the contact was +/- 50m and these two fences of hole allowed accurate location of this contact which was unmineralised. A low resistivity zone (no chargeability anomaly) corresponded with the CRA anomaly that was drilled by GPC5. Two combined IP VLF-EM anomalies were identified:

1. at the base of Mt Claude in a favourable geological (rhyolite-andesite contact) and structural (proximal to the NNW fault) position
2. To the NE within the andesite.

During 1997 (Stockwell, 1998) 43 soils samples were collected from this combined IP/VLF-EM anomaly (the second anomaly) with no anomalism detected. The base of Mt Claude anomaly was not sampled as it was covered by thick Owen Conglomerate Scree. A hole designed to test the andesite - rhyolite contact was planned but not drilled. RGC relinquished the ground in 1998.

#### 5.1.4 Staverton Prospect:

This prospect was discovered during the 1973 stream sediment sampling programme of Asarco (Anon, 1974). A sediment sample from a stream draining the prospect assayed 80 ppm Cu, 400 ppm Pb, 760 ppm Zn and 1.4 ppm Ag. A minor follow up programme (Williamson 1975) of soils and rock sampling produced a spot soil anomaly of 590 ppm Pb but both Zn and Cu were low and no further work was done.

In 1977 a small 4 line 1200m x 800m grid was established (Purvis, 1978) and rock and soil geochemistry and an IP survey was completed. Soils to 1800 ppm Pb and 1100 ppm Zn were collected and there was no major IP response.

During 1982-83 (Weber, 1983 and 1984) the grid was infilled to 100m line spacings and a dipole-dipole IP and pulse EM survey was completed. IP responses correlated with soil geochemistry but were interpreted as superficial and depth limited. A 600m long combined IP and geochemical anomaly was identified. A short percussion hole (PD83SP1, 102m) was drilled to test this anomaly the interval 20-44m assayed 24m @ 0.85% Pb, 0.54 % Zn and 9 g/t Ag including 2m @ 1.9% Pb, 1.2 % Zn and 22 g/t Ag from 32-34m.

Only minor review work was done on this prospect until 1993 when Plutonic (MacDonald 1993) re-established the CRA grid and completed Crone PEM, ground magnetics and drilled a 267.2m diamond drill hole (STD 1) to test the CRA IP and geochemical anomaly. Zinc ratios were reported by MacDonald as being a typically VHMS response but this was disputed (correctly) by Herrmann (1996) who showed that for Pb and Zn > 500 ppm, mean = 48,  $\sigma$  = 12 and n=24.

Whole rock and REE geochemistry and petrology from the Staverton Prospect suggests the mafic rocks are strongly altered correlates of the Que Hellyer footwall mafic rocks (Close and Reid 1997).

### 5.1.5 Round Mountain:

There is very little literature on these workings. The workings have until recently been held under mining lease and no data had been recorded in recent years. The only comprehensive work was completed by Jennings (1958) and a review by Jones (1992). The following is gleaned from the Jennings report unless referenced otherwise.

Shepherd and Weeks discovered the silver-lead deposits at Round Mountain about 1878. Within a few years of the discovery of the Round Mountain Deposit discoveries were made at the Round Hill Extended, Round Hill Western and Tin Spur. Between 1913-1925 the Round Hill Silver-Lead Company boomed. Rich ore was discovered with one parcel of several tons assaying 6% Cu, 40% Pb, 380 oz per ton Ag and 1 oz per ton Au.

The deposits occur within folded Moina Sandstone. Approximately 1 kilometre SW from the workings the Dalcoath Granite is exposed. The Round Mountain Synclinorium is defined as the major fold system between Mt Claude and the Dalcoath Granite to the southwest. In the Round Mountain area it consists of the Claude Creek Syncline and the Cockatoo Ridge anticline.

Jones (1992) gives a full description of the mineralisation. The mineralisation consists of galena and pyrite with minor sphalerite and chalcopyrite and a gangue of quartz, sericite, chlorite, clay and siderite. The mineralisation is developed as bed replacements within anticlinal hinges. Sampling by Noranda of a quartz saddle reef in the apex of the main anticline returned 1.5m @ 120 g/t Au, 8.2 % Pb, and 275 g/t Ag. Drilling completed by the McCoy Syndicate (who held the lease over the Round mountain workings) also returned high gold values which were often independent of basemetal mineralisation.

Two styles of mineralisation are recognised with:

- Major lodes consisting of galena (fine and coarse grained) and chalcopyrite.
- thin bedding parallel galena veins, these veins also contain pyrite and subordinate sphalerite and occasional blebs of chalcopyrite

Jones (1992) reports a Pb isotope signature that falls within the Hellyer ellipse however this result is unsourced. If it is correct it has significant ramifications for exploration as it suggests that the lead has been remobilised from the underlying Cambrian.

During 1989-1990 RGC Exploration (Castro and Fleming, 1989 and 1990) completed IP and ground magnetics over a 26.3-km grid at Round Mountain. No specific work was done on the workings as a deal was being negotiated with the ML holders (never finalised). High IP chargeability zones corresponds with low resistivity zones and is interpreted as being a response to steep dipping conductors.

### 5.1.6 Lake Barrington Prospect:

This prospect is not contained within Pasminco's current tenement.

The Lake Barrington prospect was identified during regional stream sediment sampling by Asarco (Anon, 1974) via a 1300 ppm Cu result. Four drill holes by CRA (DD80LB1, DD80LB2, DD82LB3 and DD83LB4) all intersected thin high grader copper mineralisation eg DD80LB1 intersected 0.1m @ 14% Cu, 0.75% Pb, 0.59 % Zn and 1.35 g/t Au from 179.4-179.5m.

In 1993 (MacDonald 1993) the 10cm zone in DD80LB1 from 179.4-179.5m was coupled for a mise-a-la-masse survey. Hole DD80LB1 was extended to target a coincident mise-a-la-masse and IP anomaly and intersected additional thin Cu rich zones. The original descriptions of these zones were as massive sulfides but they are pyrite-chalcopyrite rich veinlets.

### 5.1.7 Mt Roland Prospect:

This prospect is not contained within Pasminco's current tenement.

During 1979-1983 work by CRA concentrated on a small adit at the Mt Roland Prospect (Weber 1983). A grid was cut and geochemical sampling of soil and rock was completed. Rock samples assayed up to 1.6% Zn and 0.33 % Pb. A dipole-dipole survey was completed over the grid and a northern and southern anomaly was detected. The northern anomaly was investigated with two trenches and rock chip sampling of the trench was not anomalous. A 229.5m diamond drill hole (MR1) was drilled to test the southern anomaly, this hole failed to intersect significant mineralisation.

In 1984 an extensive UTEM survey was completed over the Gowrie park and Mt Roland Grid. (Tembe, 1985a). Several anomalies were detected and percussion drillholes RD84MR2 and RD84GP4 were targeted at UTEM anomalies. DHEM was completed on both holes and no offhole conductors were detected.

In 1990 -91 (Rand 1990, and Hicks and Richardson, S.M., 1991.) re-established the grid. Sphalerite galena and pyrite veining of hornblende-feldspar phyrlic andesite lava were mapped in the old adit. The best sample from the mine assayed 1.75% Pb, 4.82 % Zn, 9 ppm Ag and 0.7 ppm Au. A lead isotope study (table 5) suggests a Cambrian age for lead.

| Sample       | <u>208</u><br>206 | <u>207</u><br>206 | <u>206</u><br>204 | <u>207</u><br>204 | <u>208</u><br>204 |
|--------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 513692GL     | 2.0870            | 0.8561            | 18.198            | 15.580            | 37.980            |
| 513693GL     | 2.0867            | 0.8560            | 18.202            | 15.580            | 37.982            |
| 513693GL (R) | 2.0875            | 0.8562            | 18.203            | 15.585            | 37.997            |

**Table 5:** Lead isotope values from the Mt Roland Workings.

## 6. WORK COMPLETED

Work completed within the licence area during the period April 1999 to April 2000 has consisted of:

- A literature review of previous exploration.
- Orientation Partial leach sampling programme involving the cutting of four grid widely spaced lines for 7.1 km and assaying soil samples using conventional and partial leach techniques.
- Cutting, partial leach sampling of soils and mapping of a 9.5 kilometre grid at the **Days Rd Prospect**.
- Relogging of all holes (18 holes for 2672m) completed on the CAZ,
- Continued 1:5000 scale mapping of the tenement.
- Pb isotope study at the Round Mountain Workings.
- Stitching of the Plutonic airmag and the RGC ground magnetics.

### 6.1. Conventional Soil and Orientation Partial Leach Sampling Programme

An orientation partial leach-sampling programme was completed on 4 lines for 7.1 line kilometres. The lines were placed at variable intervals across the tenement so that they would cover the interpreted base Tyndall Group boundary, Cethana Alteration Zone, anomalous aeromagnetics and the Owen Conglomerate contact. Sampling was completed at 25m spacing.

The location of the lines with respect to the geology and magnetics is shown in figure 3 and 4 respectively. Conventional soils (shown as red dots on figure 3) were collected in areas that had not been sampled previously.

123 Conventional soils were collected and analysed by Analabs for Au using a 50g charge (F651), for Ba using XRF (X401), Ag, As, Bi, Cd, Pb, Sb and Sn using ICPMS technique M104 and Co, Fe, Mn, Ni and Zn using ICPMS technique I104. Results from this programme are tabulated in appendix 1.

272 Partial Leach Soils were collected and leached at Amdel using deepleach 37 and analysed by ICP for Ag, As, Au, Ba, Bi, Cd, Co, Cu, La, Mo, Ni, Pb, Sb, Sm, Tl and Zn using IC8M. Results from this programme are tabulated in appendix 2.

#### 6.1.1. Orientation Conventional Soils:

The conventional soil data collected during this programme was combined with the soil data sets of RGC (from their Gowrie Park project) and CRA from their Cethana data. This combined data set is provided digitally in the back of this report. The data was levelled using XQ level software and then analysed. Full data for the entire grid area (1990 samples) is

available for zinc and lead only. Pb and Zn values for the area are highly anomalous with 19% of Pb and 12% of Zn values higher than 200ppm. Copper data is available for 1305 samples. Cu values are very low with only 3 % of samples higher than 100 ppm Cu.

The Zn, Cu and Pb results (Figures 5, 6, 7 respectively) show a strong correlation between Pb and Zn with the two figures almost indistinguishable. Cu correlates well with Pb and Zn within the area of the old surveys. Cu, Pb and Zn clearly show a 4 kilometre long zone of anomalism associated with the mineralisation at the East Cethana and Gowrie Park prospects. This anomaly is bedding parallel except at its western end. This area is strongly anomalous in Sb, and also anomalous in Ba. The Gowrie Park area is also anomalous in Mn. The majority of this anomaly has been well tested by IP and drilling however the large Zn, Cu and Pb anomaly at the western end of the East Cethana Prospect has not been drill tested.

The geochemical coverage at West Cethana is less complete with full coverage for Pb and Zn and almost complete coverage for Cu. Zn and Pb are anomalous in soils at the eastern and western end of the West Cethana Prospect however the central most drilled part of the prospect is not anomalous. This is reflected in the fact that the targets here were predominantly geophysical (IP) targets.

The conventional soil samples collected on the western most orientation line (429000mE) show a coherent multi element conventional soil anomaly an area termed the **Days Rd Prospect**. This previously unidentified anomalous zone is approximately 400m wide (across strike) and returned conventional soil values to 760 ppm Zn and 200 ppm Pb. The prospect is the "most" anomalous area on the entire grid in Ba, Zn, Pb and strongly anomalous in Mn and Sb (Sb is slightly offset from the other elements). Additional work has been completed on the Days Prospect and is reported in section 6.2. At the time of the orientation sampling the Days Prospect lay close to the northern tenement boundary and additional ground was added to the licence to cover the prospect.

A single point 169 ppm copper anomaly is identified near the end of line 21700E. This anomaly is surrounded by low (<50ppm Cu) values and is not regarded as significant.

### **6.1.2. Orientation Partial Leach Sampling Programme**

272 partial leach soil samples were collected and analysed for 16 elements. Statistical details for the 16 elements are shown in Table 6. Where the percentage of samples with values less than 10 times the detection limit was high and/or the mean was close to the detection limit then results for these elements were not interpreted in detail.

| Element | Detection Limit | % of samples <10 X DL | Mean  | Maximum |
|---------|-----------------|-----------------------|-------|---------|
| Ag*     | 0.001           | 5                     | 0.008 | 0.187   |
| As      | 0.001           | 5                     | 0.20  | 4.2     |
| Au*     | 0.00001         | 69                    | 0.003 | 0.018   |
| Ba      | 0.4             | 18                    | 11.2  | 52      |
| Bi*     | 0.0001          | 45                    | 0.005 | 0.096   |
| Cd*     | 0.001           | 62                    | 0.013 | 0.338   |
| Co      | 0.002           | 12                    | 0.7   | 8.7     |
| Cu      | 0.001           | 2                     | 1.05  | 14      |
| La*     | 0.04            | 52                    | 0.75  | 11.5    |
| Mo*     | 0.001           | 26                    | 0.03  | 0.173   |
| Ni      | 0.001           | 1                     | 1.03  | 17      |
| Pb      | 0.03            | 11                    | 4.4   | 61      |
| Sb*     | 0.001           | 61                    | 0.01  | 0.062   |
| Sm      | 0.001           | 11                    | 0.11  | 1.5     |
| Tl*     | 0.001           | 94                    | 0.003 | 0.03    |
| Zn      | 0.01            | <1                    | 3.1   | 77.5    |

Table x: Distribution statistics for orientation partial leach samples. Results for elements marked with \* were not interpreted in detail.

Images of Zn, Pb, Cu, As, Ba, Co, Ni, and Sm are shown in figures 8-15.

The East Cethana Prospect is clearly highlighted in Pb and Zn and to a lesser extent in As, Ba, Co and Cu. These results confirm that partial leach geochemical techniques are valid for exploring within this area and can easily locate surface mineralisation. The West Cethana area is clearly highlighted in Pb but not in any other elements.

The highlight of the results from this programme was the discovery of a consistent anomaly at the Days Prospect. This prospect is anomalous in Zn, Pb, Cu and Ba. Additional partial leach work has been completed on the Days Prospect and is reported in section 6.2.2.

Co, Ni, and to a lesser extent Cu are all elevated in the northern part of the sample area. This is a lithological affect and appears to be reflecting the Cambrian andesite.

## 6.2. Days Rd Prospect:

The Days Rd prospect was discovered during regional mapping and the orientation partial leach survey and is a multi-element anomaly in both conventional and partial leach soils. One rock chip (sample 167623 Appendix 5) containing visible galena and assayed 1540 ppm Pb and 1015 ppm Zn. The prospect has been followed up with 9.5 kilometres of gridding, detailed 1:2500 scale creek and grid based mapping, rock sampling, the collection of 421 partial leach soil samples, whole rock and thin section analysis.

### 6.2.1. Days Rd Prospect Geology:

The geology from south to north (see the combined outcrop geology and geological interpretation map (Plan 1)) is:

- Basal quartz-phyric rhyolite volcanics.
- Intermediate epiclastics.
- Felsic sandstone.
- A mixed sequence of magnetic feldspar-phyric andesite and quartz-feldspar-phyric dacite lava.
- Quartz-phyric rhyolitic lava.

To help elucidate these lithologies, nine samples were collected for thin section and whole rock geochemical analysis and a further two were described in thin section only. The details of this work are included as appendix 3.

The basal quartz phyric rhyolite volcanics occur in the southern portion of the prospect. This unit hosts the Cethana Alteration Zone and is described in detail in Murphy et.al (1999).

The intermediate/andesitic epiclastic unit probably overlies the rhyolitic volcanics. The unit consists of moderately sorted lithic clasts (1-20mm, 10-50%), feldspar crystals (1-3mm, 5-10%), quartz (1-2mm, rare to 10%) detrital magnetite (1-2mm, rare to 2%) and minor clinopyroxene. Lithic clasts are commonly aphyric pink rhyolite? lava but also include rounded to subrounded quartzite pebbles, which are interpreted to be derived from Precambrian basement. This unit is predominantly a sandstone, but also includes grits, conglomerates and siltstones. The conglomeratic beds are intriguing as the quartzite clasts are to 20mm but the remaining clasts are <5mm diameter. There is no continuity to the conglomerates and they are interpreted as lenses.

In the southwestern corner of the prospect is a fault-bounded block of felsic sandstone. This unit is only recognised in this area and consists of well-sorted angular quartzite (0.5-1.5mm, 70%), quartz eyes (0.5-1.5mm, 5%), and feldspar (0.5-1mm, 5%) clasts in a brown clay matrix. It is uncertain where this unit fits within the regional stratigraphy.

A variably magnetic dacitic/andesitic lava and volcanoclastic unit overlies the intermediate/andesitic epiclastic unit. The compositional distinction is based on phenocryst phases. The dacite is variably magnetic and has large 2-3mm prominent quartz and feldspar phenocrysts. Whole rock analysis (appendix 3) indicates this unit is a rhyo-dacite. The andesite has variably sized plagioclase feldspars (0.5-3mm), clinopyroxene (1-2mm) and a chlorite

altered phase (hornblende?). This andesitic unit contains rocks that are clearly recognised as lavas and volcanoclastics in thin sections but it is very difficult to distinguish these units in hand specimen. The dacite package is dominant in the western side of the prospect and the andesite package is dominant in the eastern side of the prospect.

The magnetic feldspar phyric andesite and quartz-feldspar-phyric dacite lava unit is overlain? to the north by quartz phyric rhyolitic volcanics. These are similar to the unit at the southern end of the prospect but are less deformed. Locally this unit is a spherulitic lava.

There is evidently a profound change in volcanic facies architecture and provenance through this prospect with an intermediate-mafic sequence sandwiched between two acid/felsic sequences to the south. The structural setting is not well established but the intermediate-mafic unit may occur in the core of a syncline and is underlain by rhyolitic volcanics to the north and south.

The mafic rocks are very similar to the Lynchford Member of the Tyndall Group in Western Tasmania and the mafic sandstones are identical to the sandstones within this member. Correlations of the rhyolitic volcanics are more difficult but these have some similarities with the more felsic parts of the Tyndall Group.

### 6.2.2. Geochemistry

Six rock chips of thinly fractured and manganese veined andesite were analysed by Analabs for Au using a 50g charge (F651), for Ba using XRF (X401), Ag, As, Cd, Sb and Sn using ICPMS technique M104 and Co, Cu, Fe, Mn, Ni, Pb, and Zn using ICPMS technique I104. Results from this programme are tabulated in appendix 5. These samples are Pb (max 441), Zn (max 1115), Ba (max 1540) and Mn (max 1940) anomalous.

421 partial leach samples were collected from the Days Prospect grid. Samples were collected at 25 metre intervals on 200m spaced north-south lines. Three samples per hundred were duplicated and two samples per hundred were in-house standards.

The samples were dried at 30° then leached using deep leach 42. Samples were analysed at Amdel using ICP (IC8M) for Cu, Pb, Zn, Ba, As, Au, Ag, Cd, Co, Bi, Mo, Ni, Y, Zr, La, Ce, Sm, Eu and Gd. Location of these samples are shown in Plan 2. Results were not available at the time of writing this report and will be included in the next annual report.

### 6.3. Core Relogging

The core from the East Cethana, West Cethana and Gowrie Park Prospects (17 holes for 2672m) were relogged to enable a better understanding of the geology of these prospects. The relogging is discussed on a prospect basis. Drill logs are included as appendix 4, a drill hole plan is shown in figure 16 and hole collar coordinates, azimuth and dip are shown on Table 6.

| Hole Number | Easting | Northing | RL  | Azimuth | Dip | EOH     |
|-------------|---------|----------|-----|---------|-----|---------|
| DD77CC1     | 428650  | 5408370  | 340 | 057     | -55 | 106.4m  |
| DD77CC2     | 428800  | 5408150  | 300 | 222     | -61 | 164.1m  |
| DD77CC3     | 429132  | 5408015  | 350 | 220     | -60 | 190m    |
| DD77CC4     | 430929  | 5407073  | 497 | 192     | -60 | 149.7m  |
| DD77CC5     | 430957  | 5407201  | 478 | 192     | -50 | 164.2m  |
| DD77CC6     | 430798  | 5407242  | 463 | 192     | -55 | 200.5m  |
| DD77CC7     | 430700  | 5407030  | 460 | 192     | -50 | 137.4m  |
| DD78CC8     | 430978  | 5407246  | 458 | 192     | -55 | 157.6m  |
| DD86CC11    | 428674  | 5408479  | 343 | 244     | -55 | 77m     |
| DD86CC12    | 428674  | 5408479  | 343 | 244     | -55 | 190m    |
| DD86CC13    | 428699  | 5408263  | 370 | 244     | -60 | 229.5m  |
| CED1        | 431625  | 5407218  | 465 | 204.5   | -64 | 200m    |
| CED2        | 431101  | 5407238  | 460 | 180     | -45 | 295m    |
| 77GPC1      | 433600  | 5406830  | 500 | 180     | -45 | 107.1m  |
| 77GPC2      | 433475  | 5406850  | 500 | 180     | -45 | 112.75m |
| 77GPC3      | 432550  | 5407100  | 500 | 183     | -51 | 94.1m   |
| GPC5        | 433120  | 5407520  | 548 | 180     | -60 | 96.5m   |

**Table 6:** Drillhole collar details for West Cethana, East Cethana and Gowrie Park.

### 6.3.1. West Cethana Prospect, Core Relogging:

Six holes for 957m have been completed at the west Cethana Prospect. All of the holes drilled through similar geology/stratigraphy. No significant mineralisation was intersected.

**DD77CC1:** This hole was targeted at a Pb (max 420) and Zn (max 720) C horizon soil anomaly with associated highly anomalous Pb (max 7100ppm Pb) and Zn (max 23%) rock chips. This hole intersected sericitic  $\pm$  quartz schist from 0.0 to 106.4m (EOH), with a thin chlorite altered, tuffaceous interbed from 95.8-100.6m. From 78.6-95.8m numerous thin cleavage parallel pyrite $\pm$ basemetal veinlets were intersected and assayed 19.8m @ 510 ppm Pb and 3300 ppm Zn. The tuffaceous sediment from 95.8-100.6m was crosscut by pyrite-basemetal and quartz carbonate veinlets and assayed 4.8m @ 0.54% Pb and 0.6 % Zn. This interval has been reported as containing bedded basemetal however bedding is not evident and the sulfides appear to be cleavage parallel.

**DD77CC2:** This hole was targeted at a Pb (max 1180) and Zn (max 1460) C-horizon soil anomaly. This hole intersected a sequence of interbedded fine green ashy volcanics and quartz crystal lithic  $\pm$  pumice massflow unit (predominantly sandstone) for the entire 164.1m of the hole. The fine-grained ashy volcanics are basemetal anomalous particularly in zinc, for example 39-47m assayed 8m @ 410ppm Pb, 1480 ppm Zn. The rocks intersected in this hole are essentially unaltered. The tenor of basemetals intersected in the hole is of the same magnitude as the soil samples.

**DD77CC3:** This hole was targeted at a Pb (max 1560) and Zn (max 830) C-horizon soil anomaly. This hole intersected a sequence of sericite and chlorite altered quartz $\pm$ pumice volcanoclastic sandstones and ashy siltstone. The top 163m of the hole is cut by a stockwork of  $\pm$ pyrite(limonite) $\pm$ carbonate $\pm$ quartz $\pm$ basemetal veinlets however the basemetal tenor is rarely >1000ppm Pb+Zn and are of a similar magnitude as the soil samples.

The first 23m of this hole intersected a very strongly cleaved sericite-quartz schist that grades progressively into a moderately cleaved sericite-chlorite schist. There is little doubt that the former is the oxidised equivalent of the latter and that with oxidation:

Chlorite is leached/oxidised to clay and sericite.

Cleavage is enhanced, presumably by the destruction of chlorite.

This has major implications for surface mapping and the interpretation of alteration and structure.

**DD86CC11/12:** This hole was designed to test a UTEM response along strike from semi massive pyrite occurring within a pyritic black shale intersected in percussion hole **PD84CC9**. It was hoped that a weaker extension of the UTEM anomaly might represent more massive zinc rich sulfides. There is no basemetal C-horizon soil anomalism near this hole. Hole CC11 was abandoned and CC12 was collared 1m away. This hole intersected a sequence of quartz phyric volcanoclastics and lithic conglomerate. This entire hole intersected weakly anomalous Pb and Zn but no pyritic black shale was intersected.

**DD86CC13:** This hole was designed to “test a C horizon soil geochemical anomaly (Pb to 710 ppm) and a prospective geological sequence. The hole intersected variably chlorite and sericite altered volcanoclastic sandstone from 0.0-201m and ashy volcanoclastic from 201-229.5m (EOH). No significant basemetal values were intersected in this hole.

### 6.3.2. East Cethana Prospect, Core Relogging:

Seven holes for 1304.4m were completed at the East Cethana Prospect. All of the holes drilled through similar geology/stratigraphy. Most of the holes intersected significant pyritic veining however the basemetal content was low. Hole DD77CC5 intersected a thin basemetal rich zone from 37.8 – 38.8m which assayed 3.88% Zn , 0.8 % Pb and 1.2 % Cu. Holes were drilled downdip and along strike of this intersection but this zone was not repeated.

**DD77CC4:** This hole was targeted at a combined Pb (max 1400 ppm) and Zn (max 1720 ppm) C horizon soil anomaly and an IP anomaly. The hole intersected a series of quartz phyric rhyolite lavas and quartz sericite volcanoclastic sandstones. The hole intersected zones of significant cleavage parallel bands of pyrite±pyrrhotite to 20mm thick from surface to 47.6m. The sulfides clearly explain the IP response. Unfortunately the basemetal content of the pyrite-pyrrhotite is low.

**DD77CC5:** This hole was targeted at a combined IP anomaly and Pb (max 1750 ppm), Zn (max 1060 ppm) and weak Cu (max 216 ppm) C horizon soil anomaly. The IP was apparently the dominant target as the hole was collared directly on top of the peak of the zinc anomalism. This hole intersected a sequence of sericite and chlorite altered ashy volcanics, quartz ±pumice±feldspar sandstones and rare graded massflow units. From 15.0-102m the sequence is predominantly chlorite altered with cleavage parallel pyrite veinlets. This entire sequence is basemetal anomalous with Pb+Zn >1000 ppm. These sulfides clearly explain the IP response. From 37.8 – 38.8m a well mineralised zone assaying 3.88% Zn , 0.8 % Pb and 1.2 % Cu was intersected. This zone has been fully sampled and no core remains. Purvis (1977) described the intersection as “dark green highly chloritic vitric and graphitic shale with disrupted bedding. Includes a central 35cm zone of 35% sulfides comprised of 15% bronze pyrite, 7-10% sphalerite and galena and 7-10% chalcopyrite. Angles 33° to core axis, slightly schistose”.

This hole also clearly demonstrates that at the surface chlorite is leached/oxidised to clay and sericite and that the cleavage is enhanced, presumably by the destruction of chlorite.

**DD77CC6:** This hole was primarily an IP target with a thin Pb (max 1850 ppm) C-horizon soil anomaly to the south. The hole was collared in a sequence of quartz phyric volcanoclastic and at 91.8m passed into a sequence dominated by quartz phyric lavas but also with interbedded quartz phyric volcanoclastic. At 167.5m the hole passes into a sequence of interbedded ashy volcanic and mass flow unit. Throughout the entire hole the fine-grained ashy units are basemetal anomalous with thin silica/galena/sphalerite veinlets. The sulfides intersected clearly explain the IP response. The interval 35-65m intersected ashy volcanics and assayed 30m @ 0.38%Pb and 0.34%Zn. The basemetal content is fairly consistent within this unit with maximum values of only 1% Pb and 1.7% Zn.

The dominant alteration in this hole is sericite and contains significantly less chlorite than DD77CC5.

**DD77CC7:** This hole was primarily an IP target and was sited directed on a Pb (max 1050 ppm) C horizon soil anomaly. The hole intersected variably sericite chlorite altered quartz crystal,  $\pm$ feldspar $\pm$ lithic volcanoclastic sandstone with minor ashy volcanic and lava from 0.0-123m and a quartz crystal epiclastic sandstone from 123-137.4m (EOH). The entire hole is basemetal anomalous and the best values occur within the fine-grained rocks. Basemetal mineralisation is clearly associated with the coarse-grained, cleavage parallel pyrite zones/veins. The pyrite clearly explains the IP anomaly.

**DD78CC8:** This hole was targeted to test the downdip extensions of the mineralisation intersected from 37.8 – 38.8m (1m @ 3.88% Zn , 0.8 % Pb and 1.2 % Cu) in **DD77CC5**. The hole intersected quartz sericite schist and quartz $\pm$ lithic $\pm$ pumice volcanoclastic sandstone and conglomerate from 0-28.5 and 60.2-95.0m, brecciated ashy volcanic from 28.5-60.2m and from 95-115m and ashy volcanoclastic with minor coarser units and lava from 115-152.4m (EOH). The lithologies intersected in the hole are similar to those intersected in DD77CC5. The entire hole is chlorite and sericite altered and is strongly basemetal anomalous. In this hole the mineralisation appears to be concentrated within the matrix of the breccias with the best interval occurring from 95.0-115m (20m @ 1050 ppm Pb, 2960 ppm Zn). No semi massive sulfide was intersected.

**CED1:** This hole was targeted at an IP anomaly. This hole intersected quartz $\pm$ feldspar $\pm$ pumice volcanoclastics from 0.0-148.6m and 167.5-192.2m. A rhyodacite lava was intersected from 148.6-167.5m and 192.2-200m (EOH). Several thin, strongly pyritic zones were intersected but they were only weakly anomalous (to 477 ppm Zn). The degree of pyrite veining does not adequately explain the IP anomaly.

**CED2** This hole was targeted to test both along strike extensions of the mineralisation intersected from 37.8 – 38.8m (1m @ 3.88% Zn , 0.8 % Pb and 1.2 % Cu) in **DD77CC5** and at the same IP trend as CED1. This hole intersected a brecciated  $\pm$ quartz sericitic schist from 0.0-158.2m and 195.7-206.9m, and a series of quartz sericite siltstones/sandstones from 158.2-195.7m and from 206.9-295m.

Hole CED2 intersects a zone of yellow-silver sphalerite cleavage parallel zones associated with carbonate and within quartz carbonate veins from 74.2-109.2m. Curiously this interval was only sampled by Plutonic from 79.2-85.2m (6m @ 2000 ppm Pb and 6380 ppm Zn) and 87.7-88.7m (1 m @ 1271 ppm Pb and 4202 ppm Zn).

The unsampled portions of this interval was cut and analysed by Analabs for Au using a 50g charge (F651), for Ba using XRF (X401), Ag, As, Bi Cd, Sb and Sn using ICPMS technique M104 and Co, Cu, Fe, Mn, Ni, Pb, and Zn using ICPMS technique I104. The interval from 79.2-99.0m assayed 19.8m @ 0.46% Zn, 0.28% Pb with best assays of 1.3m @ 1.42% Zn, 0.69 % Pb from 88.7-90m, and 1m @ 0.52% Zn, 1% Pb from 97.0-98.0m. The interval from 104-109m assayed 5m @ 0.13 % Zn, 0.21 % Pb.

### 6.3.3. Gowrie Park Prospect Core Relogging:

4 holes for 410.5m were drilled at the Gowrie Park Prospect.

**77GPC1:** This hole was targeted at the best IP anomaly with a chargeability peak 5x background with associated low resistivity. C-horizon soil samples were only slightly anomalous. The hole intersected a quartz-feldspar (locally altered to sericite)-leucoxene (after biotite) equigranular fine-grained granite/rhyolite from surface to 78.8m. From 78.8 – 107.1m the hole intersected quartz sericite volcanoclastics and sandstone. Quartz-feldspar ± galena veins and pyrite ± galena was intersected from 26.1-35.5m which assayed 3m @ 0.64% Pb, 260 ppm Zn and from 32.7-35.5m which assayed 2.8m @ 1.1% Pb and 0.09 % Zn. Thin galena/sphalerite veinlets were intersected at 82.9m and the interval from 82.8 - 83.5m assayed 0.7m @ 1.4 % Pb, 1% Zn.

**77GPC2:** This hole was targeted at the best geochemical anomaly with a peak of 3450 ppm Pb in soils and 3.55% Pb in rock chips. There was also a subtle 2x background IP response. The holes intersected a quartz feldspar rhyolite lava from surface to 87.8m and a sericite-chlorite altered quartz feldspar crystal sandstone from 87.8-112.75m (EOH). Thin galena, pyrite, quartz veins were intersected from 61.9-65.9m and assayed 4m @ 1% Pb and 0.2 % Zn.

**77GPC3:** This hole was targeted at a well defined IP anomaly with chargeability 3x background and low resistivity over outcropping silicified altered lavas with gossanous fractures with soils to 1,100 ppm Pb and 2.15% Pb in rocks. This hole intersected a quartz sericite rhyolite lava from surface to 16.4m and from 55.6-94.1m, an equigranular quartz feldspar granite (or a very well sorted sandstone) from 16.4-36.4m and a quartz crystal sandstone from 36.4-94.1m. From 34.0-43.4m the unit is cut by quartz-carbonate –galena veinlets and in places galena only veinlets. This interval assayed 9.4 m @ 1.1% Pb and 0.4 % Zn with a best result of 1m @ 2.8% Pb and 1 % Zn from 41.6-42.6m.

**GPC5:** This hole intersected an equigranular medium grained quartz, sericite (after feldspar), chlorites ?hornblende microgranite from surface to 41.7m and from 71.3-88.6m. A quartz sericite (after feldspar) lava was intersected from 41.7-71.3m and from 88.6-96m (EOH). From 38-41.7m the unit is cut by light brown siderite veins with patches and blebs of fine-grained galena. Assays from this hole are very poorly reported and it appears that the best result was 1.3 % Pb, 0.14% Zn, 0.29 % Cu, and 5 ppm Ag.

### 6.3.4. Discussion:

The mineralisation at West Cethana, East Cethana and Gowrie Park is very similar and occurs semi continuously between the prospects. At all prospects the mineralisation is hosted in phyllosilicate altered quartz-phyric volcanics, which at the West and East Cethana Prospects are dominated by chlorite alteration with the extensive sericite alteration apparent at surface

being due to oxidation. At Gowrie Park there is only minor chlorite alteration with extensive weak sericite alteration of the feldspars. There is weaker development of phyllosilicates at Gowrie Park and this is reflected in the rocks being less cleaved.

The dominant lithology at Gowrie Park is an equigranular quartz-feldspar rock that is either very well sorted sandstone or granite. This unit is not seen at the Cethana Prospects.

The mineralisation at Gowrie Park is dominated by galena with only minor sphalerite and occurs within a quartz carbonate vein set. The mineralisation at the Cethana Prospects contains more sphalerite and again occurs within a quartz carbonate vein set. At all of the prospects there are semi-massive sulfide veinlets. These all contain some carbonate and are probably just basemetal rich parts of the carbonate vein.

The main known mineralisation from West Cethana to Gowrie Park occurs predominantly as syn or post cleavage veinlets however lead isotopes (table 3) suggest a Cambrian VMS age. If the mineralisation was related to shearing (which is parallel to thrusting) then a Devonian age for mineralisation would be expected. Previous workers have suggested that the mineralisation is a weak stockworked footwall alteration zone with the obvious exploration target being to identify the ore deposition horizon.

#### **6.4. 1:5000 Scale Regional Mapping:**

1:5000 scale regional mapping has continued and concentrated on the Days Road area and the area between Staverton Rd and Gowrie Park. A map has not been produced of the area between Staverton Rd and Gowrie Park as the mapping is ongoing and as it is planned to grid this area and map at 1:2500 scale. This data will be compiled for the next annual report.

The geology seen here is similar to that seen further west at the Days Rd Prospect. The mapping has concentrated within the Cambrian intermediate/andesitic epiclastic sequence.

During 1998-99 regional mapping 21-rock chip samples were submitted for analysis. They were analysed by Analabs for Au using a 50g charge (F651), for Ba using XRF (X401), Ag, As, Bi Cd, Sb Sn and Tl using ICPMS technique M104 and Ca, Co, Cu, Fe, K, Mg, Mn, Na, Ni, Pb, and Zn using ICPMS technique I104. Results were not available at the last annual report and they are therefore included in appendix 5. The first sample of the Days Rd Prospect was collected during this programme (sample # 167623) and two samples of basemetal veins (167617 and 167626) returned very high Pb, Zn and Au results.

Sample 167617 was of a thin quartz sulfide vein within sericitic rhyolitic volcanic on Olivers Rd. This was an isolated vein and does not require additional work. Sample 167626 was a float sample of sulfide veined Moina Sandstone collected downstream from the Round Mountain workings.

#### **6.5 Round Mountain:**

The Round Mountain workings are structurally related bedding parallel galena veins and carbonate? replacements within the Moina Sandstone. This prospect is not a viable Pasmenco target however the occurrence of the mineralisation on a major structure (Machinery Creek

Fault) and the possibility that the lead is Cambrian in age (Jones 1991) highlights the possibility that the galena may be remobilised from Cambrian mineralisation.

Three samples were collected from veins within the main workings. The sample was split with one portion sent to Analabs for basemetal determinations and the rest of the sample was submitted to CSIRO for Pb isotope calculations. The CSIRO report is appended as appendix 6 the basemetal results are included in appendix 5 and the isotope data is given as Table 7.

The rock samples were analysed by Analabs for Au using a 50g charge (F651), for Ba using XRF (X401), Ag, As, Bi Cd, Sb Sn and Tl using ICPMS technique M104 and Co, Cu, Fe, Mn, Ni, Pb, and Zn using ICPMS technique I104. The rockchip results confirm the Round Mountain workings as a high Pb (max 75%) and Ag (max 765 ppm) system with elevated Cu (max 0.61%) and Au (1.79ppm). The system is relatively very low in Zn with a maximum value of 1005 ppm.

The Pb isotopic compositions of these samples plot close to the Hellyer ellipse, and are slightly more radiogenic. To date no Cambrian mineralisation has been recognised with a Pb isotopic composition greater than those values representing the Hellyer ellipse and subsequently CSIRO regard the mineralisation as Devonian.

The results are almost certainly not Ordovician, as Ordovician Pb isotope compositions would lie to the left of the Cambrian signatures with lower  $^{206}\text{Pb}/^{204}\text{Pb}$  values. It is however possible to achieve the Pb isotopic composition of the Round Mountain galena by mixing a high Pb Cambrian source with a younger Pb source. This implies that the Round Mountain mineralisation was emplaced in the Devonian but sourced a considerable amount of its lead from the Cambrian. According to Geoff Green (pers.comm) pure Devonian systems are not auriferous.

Table 7. The Pb isotopic composition of three samples from Round Mountain, Tasmania. Note sample 2 is a duplicate of sample 1.

| Plot No | Sample No | $^{206}\text{Pb}/^{204}\text{Pb}$ | $^{207}\text{Pb}/^{204}\text{Pb}$ | $^{208}\text{Pb}/^{204}\text{Pb}$ | Quality High=0<br>Low=9 |
|---------|-----------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------|
| 1       | 274796    | 18.403                            | 15.622                            | 38.332                            | 1                       |
| 2       | 274796D   | 18.385                            | 15.611                            | 38.278                            | 3                       |
| 3       | 274797    | 18.400                            | 15.609                            | 38.279                            | 4                       |
| 4       | 274798    | 18.404                            | 15.622                            | 38.324                            | 3                       |

## 6.6 Magnetics:

The aero magnetics obtained by Plutonic and the ground magnetic obtained by RGC were stitched together to form a composite magnetic map (Plan 3). This map has been instrumental in interpreting results from the 1:5000 scale mapping as the intermediate lavas and sediments

have a very distinct magnetic signature. This map will be interpreted in detail when the 1:5000 scale mapping is completed.

## 7. CONCLUSIONS AND RECOMMENDATIONS:

Stratigraphic relationships are uncertain in the West Cethana through to Gowrie Park area but mapping during 1998-99 (Murphy et.al 1999) indicates that the rhyolitic volcanics are younging to the north. This mapping also demonstrated that the mineralisation (and alteration) within the Cethana Alteration Zone is related to strike extensive shear zones with a dilemma of what came first; the alteration or the shearing.

Plutonic tried to evaluate a higher exhalative stratigraphic position (their six hole RC program of 1996-97) and RGC identified and drilled a contact between felsic and andesitic volcanics to the east at Gowrie Park (Gregory 1997). It is apparent from our mapping that, if an exhalative position to this footwall alteration exists, then it lies further north than the area tested by Plutonic, at the transition from the felsic sequence to the andesitic sequence. The lithologies at this boundary, seen in the creek north of Olivers Road, are strongly cleaved and chlorite altered. Some historical copper prospecting in the immediate area was reported (by a landholder) and fragments of clayey azurite (?) were retrieved from a recently dug pit. In addition, the heli-magnetics indicates the presence of discrete magnetic features along strike of this contact to the east, which need to be, evaluated in future programs.

It was very encouraging that during orientation soil sampling that a significant conventional and partial leach soil anomaly was discovered at the Days Road Prospect. This has provided some confidence in the model and the partial leach sampling technique.

## 8. PLANNED WORK, 2000-2001.

It is planned to grid and partial leach sample the entire rhyolite-mafic contact and the overlying mafic sequence. A 26-line kilometre, 1040-sample gridding and soil-sampling programme is currently in progress.

Regional 1:5000 scale mapping will be completed in advance of the gridding and sampling to confirm previous mapping on which the proposed sampling survey is based. 1:2500 scale mapping will be completed on the grids once they are completed.

There is a hole in the magnetic coverage at approximately 433,000 mE, 5408000 mN. If a helimag system is in the state it will be utilised to infill the gap in coverage.

**9. EXPENDITURE:**

Total expenditure for all work undertaken by Pasminco Exploration on EL 3/98 Lake Barrington (including costs associated with EL's 26/98 and 16/99, which were incorporated into the licence during the current year) for the thirteen-month period 1 March 1999 to 31 March 2000 was **\$130,238**. A summary of the expenditure breakdown is given below.

|                                   |                  |
|-----------------------------------|------------------|
| Personnel                         | 27,432           |
| Travel and Accommodation          | 4,106            |
| Geological Consultants            | 29,960           |
| Geochemical Consultants & Assays  | 18,177           |
| Geophysical Surveys & Contractors | 0                |
| Other Contractors                 | 16,857           |
| Drilling Contractors              | 824              |
| Stores & Supplies                 | 10,890           |
| Vehicles Plant & Equipment        | 558              |
| Land                              | 3,890            |
| Computing                         | 673              |
| Office                            | 5,031            |
| Administration Fee 10%            | 11,840           |
| <b>Total Project Expenditure</b>  | <b>\$130,238</b> |

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**11. KEYWORDS & LOCALITY**Keywords

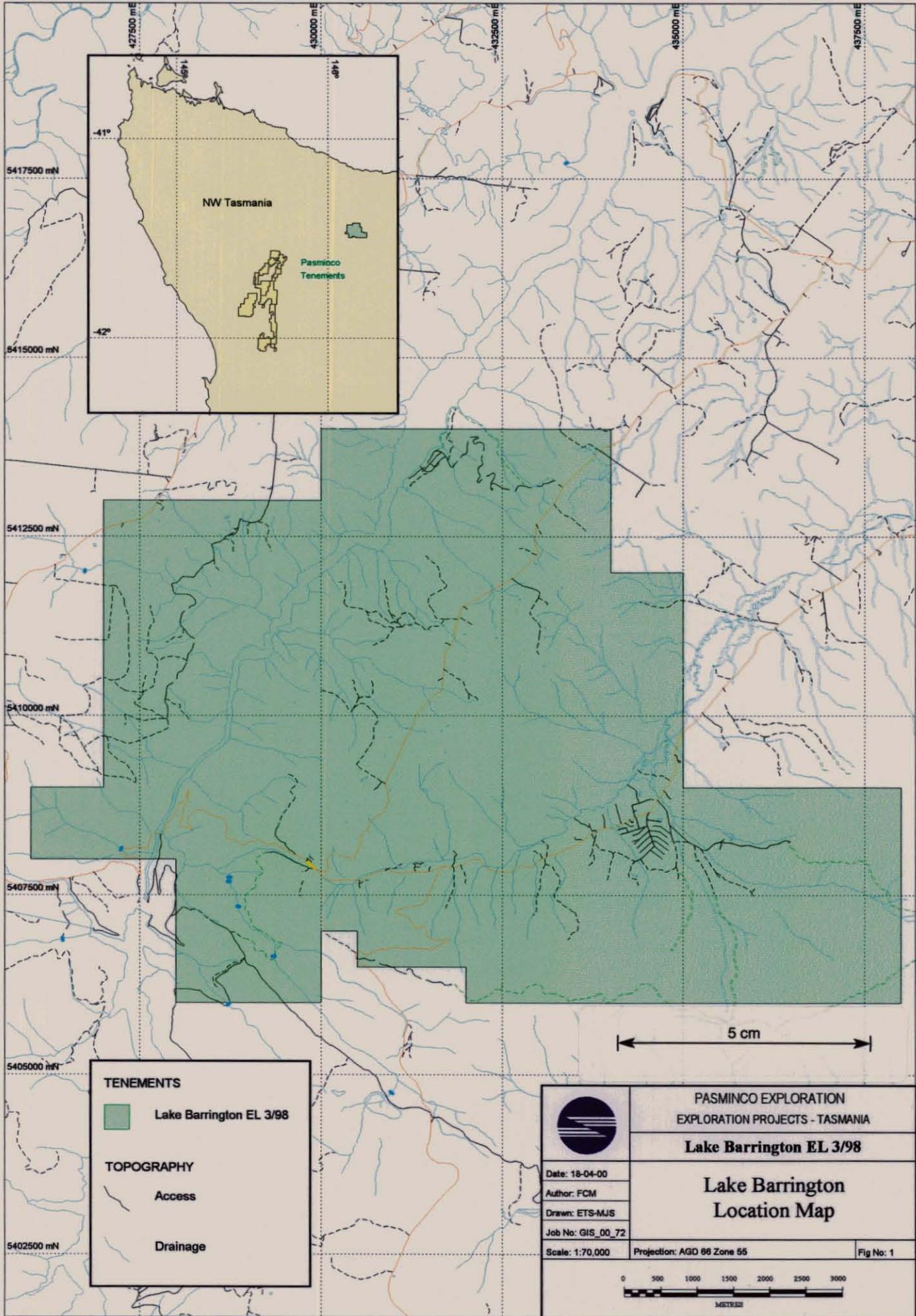
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Locality

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1:100,000        Forth 8115

Mersey 8114



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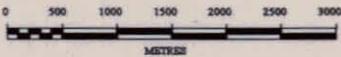
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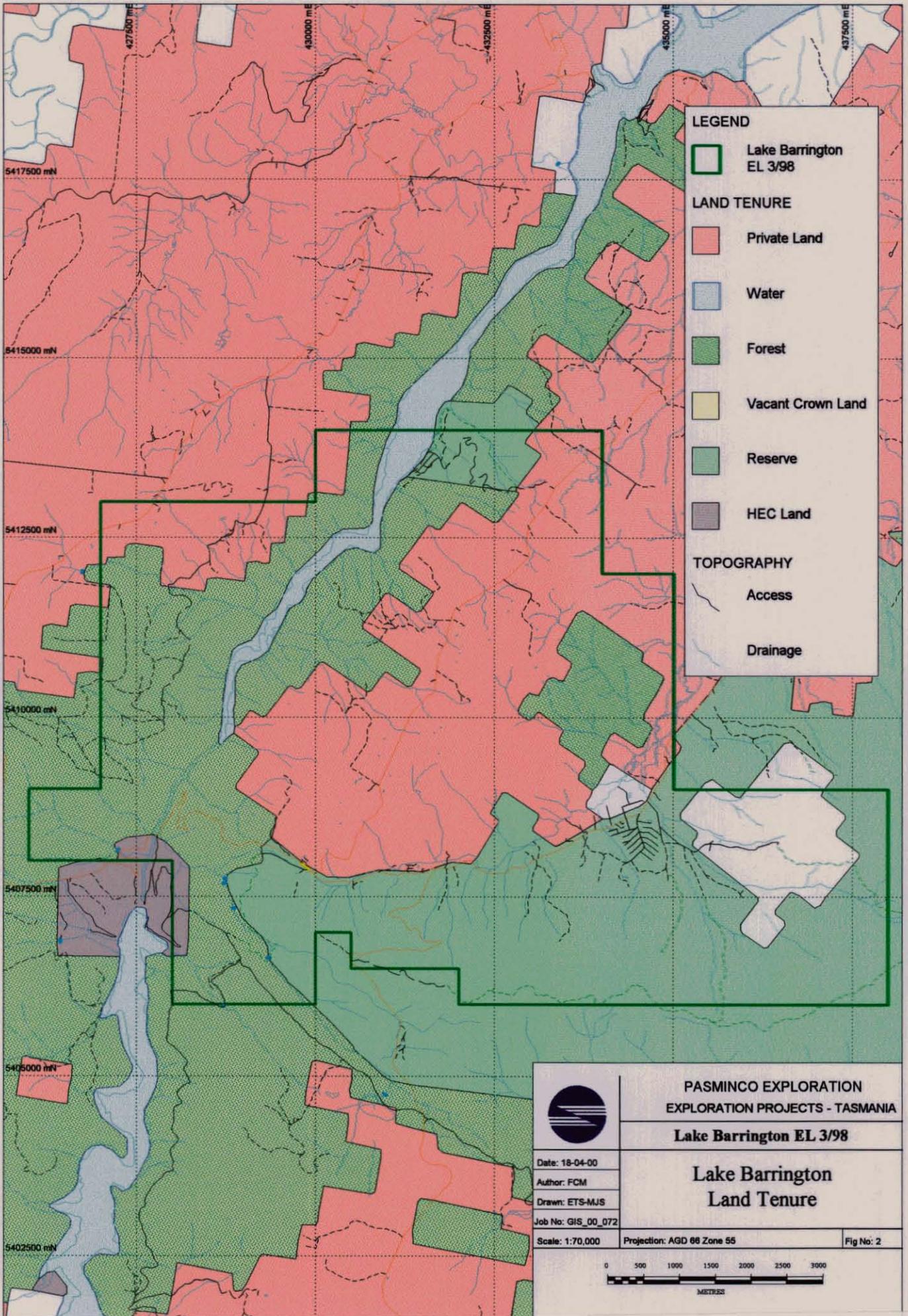
**TOPOGRAPHY**

Access

Drainage

5 cm

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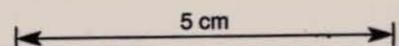
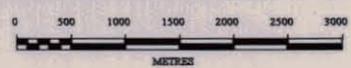
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- Water
- Forest
- Vacant Crown Land
- Reserve
- HEC Land
- TOPOGRAPHY**
- Access
- Drainage

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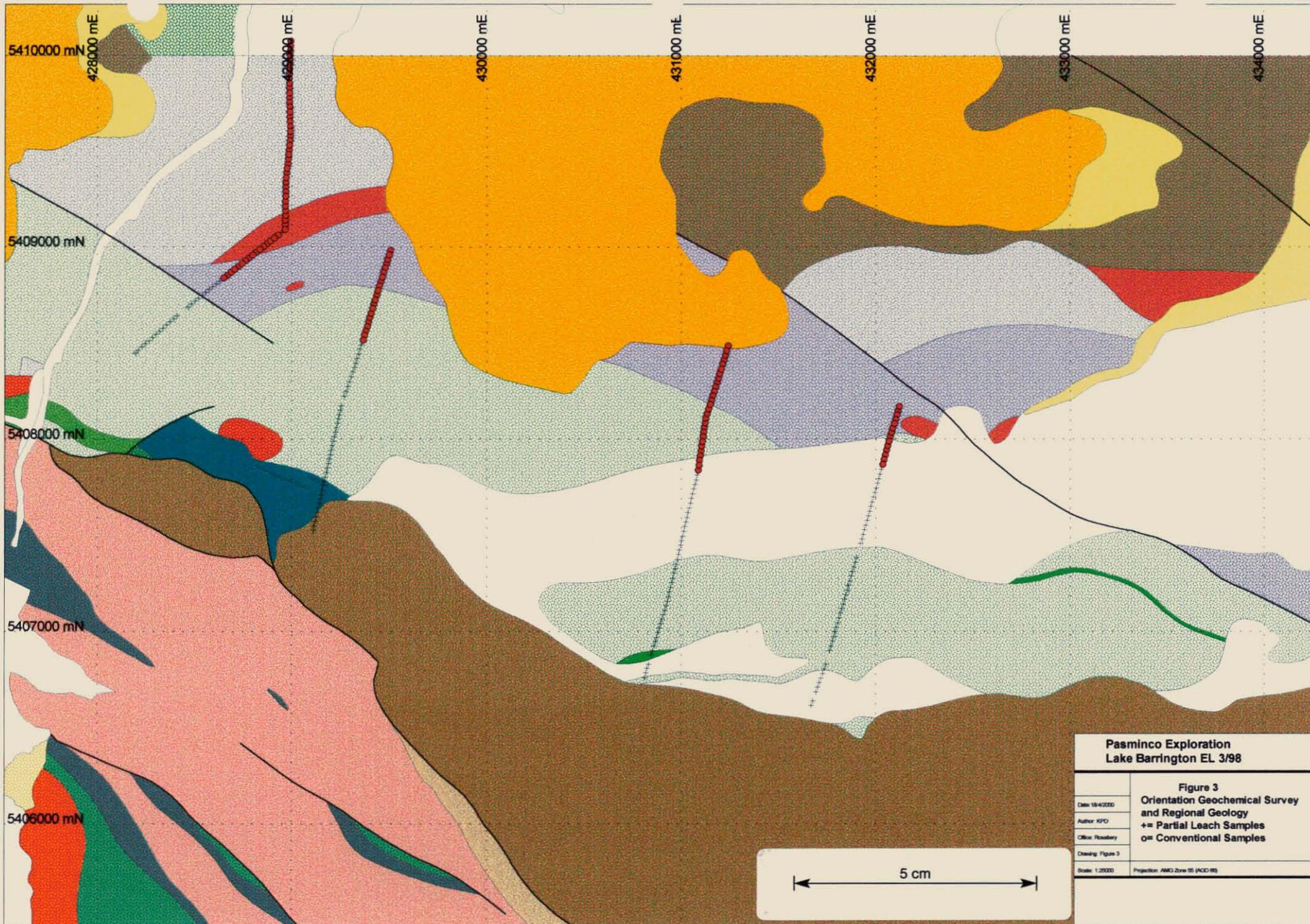
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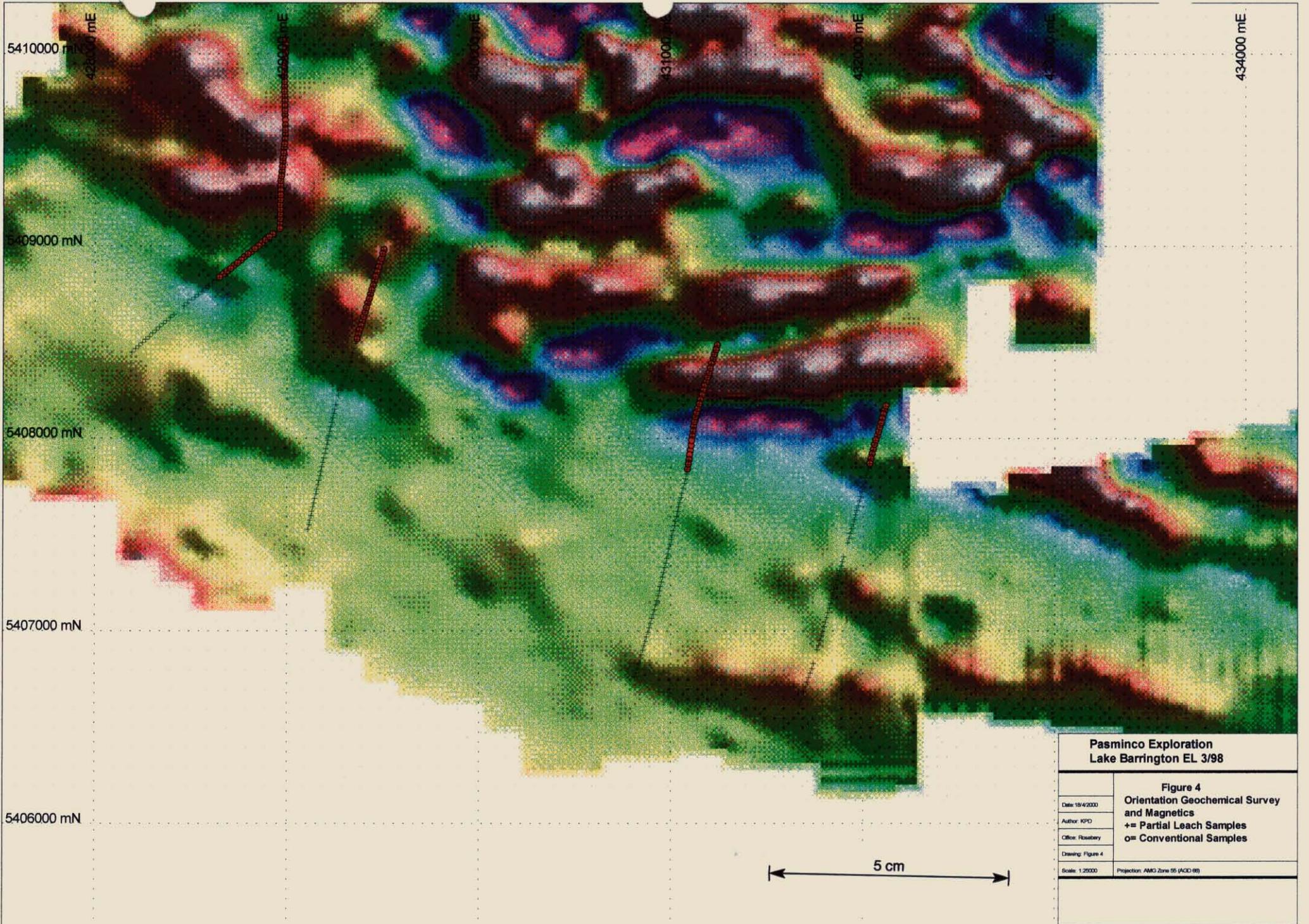
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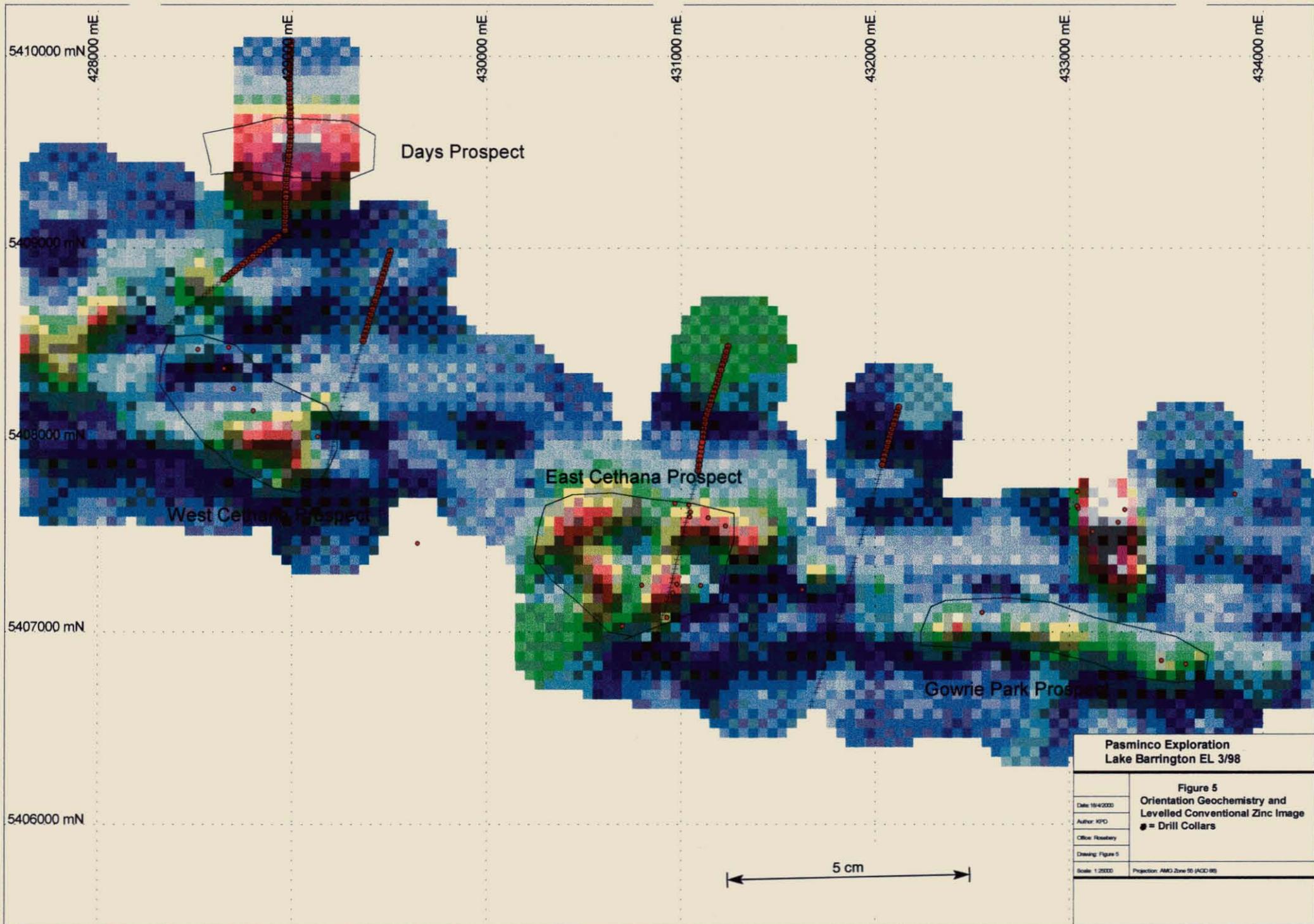


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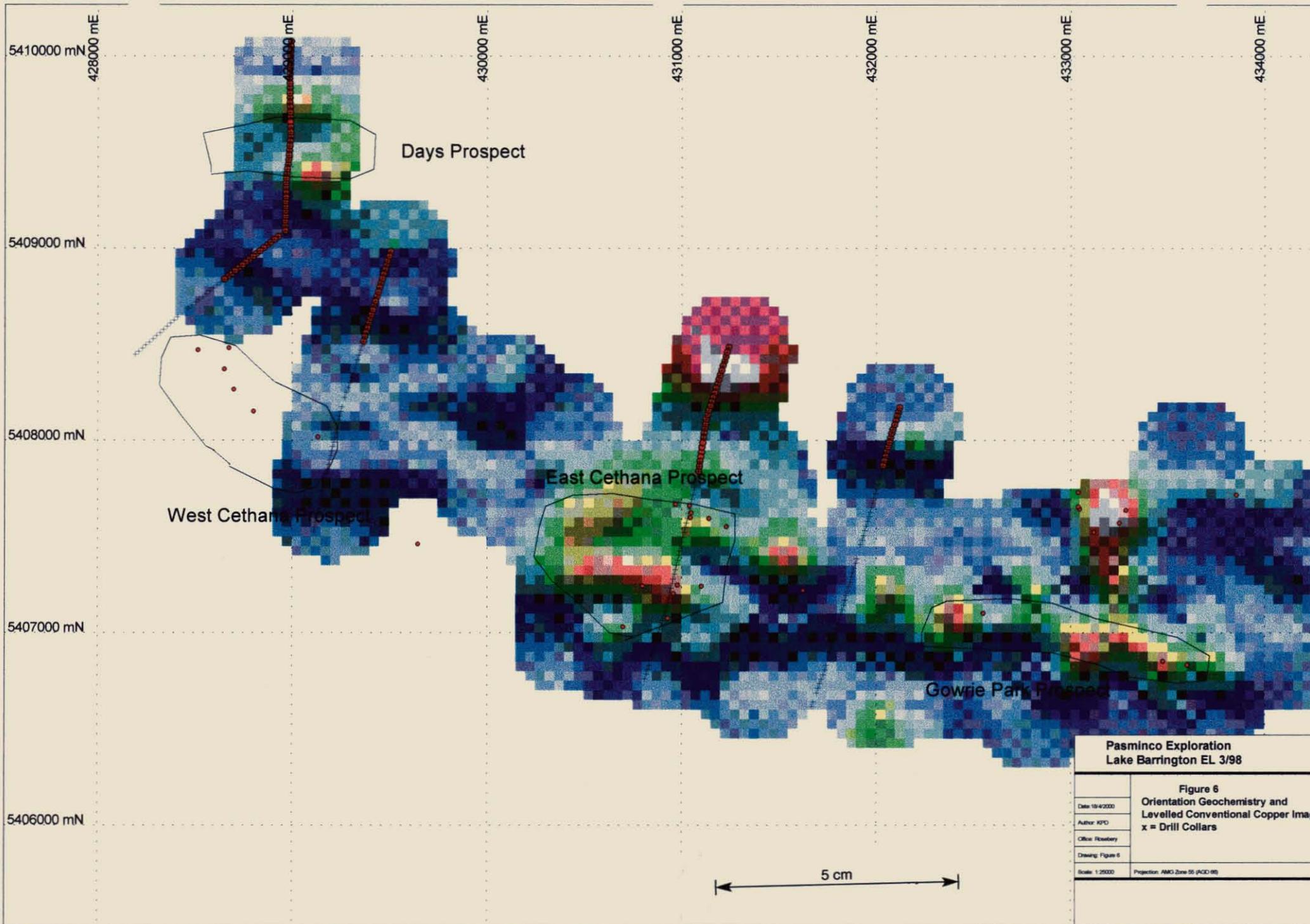


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|--|----------------------------------|
| <b>Pasmenco Exploration<br/>Lake Barrington EL 3/98</b>              |                                  |
| <b>Figure 4<br/>Orientation Geochemical Survey<br/>and Magnetics</b> |                                  |
| Date: 18/4/2000  | + = Partial Leach Samples        |
| Author: KPD  | o = Conventional Samples         |
| Office: Rosebery   |                                  |
| Drawing: Figure 4  |                                  |
| Scale: 1:25000   | Projection: AMG Zone 55 (AGD 86) |

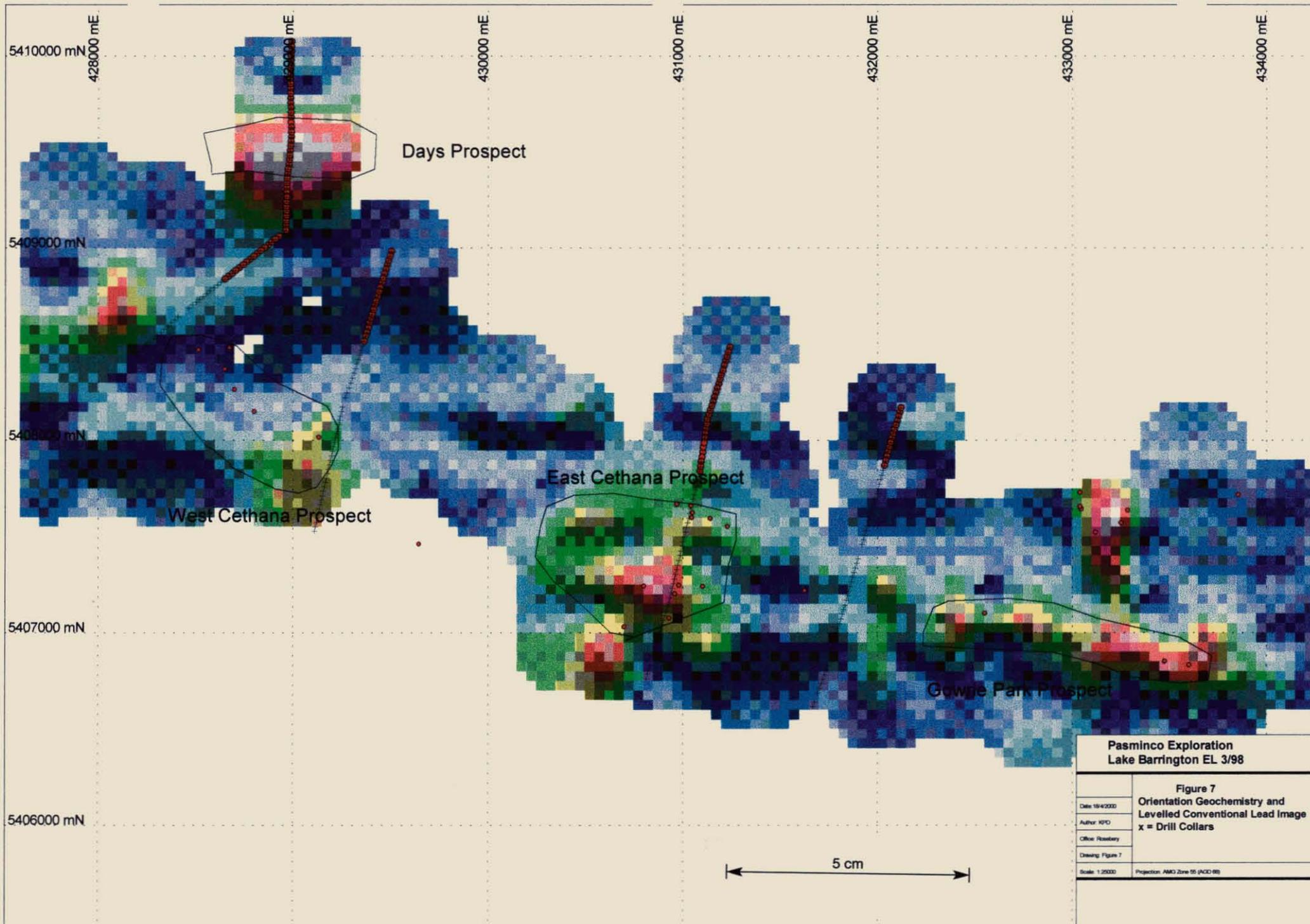
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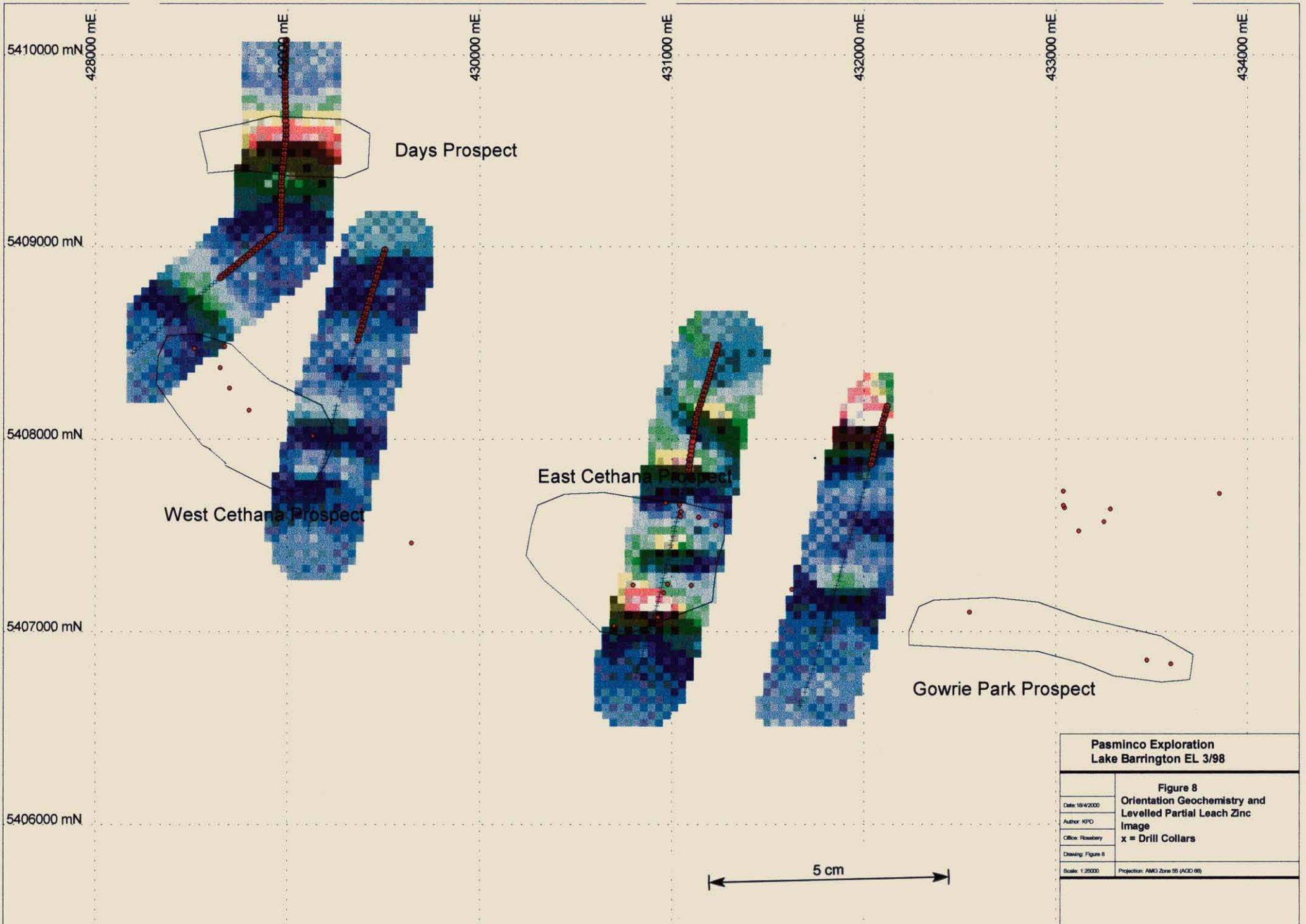


**Pasminco Exploration  
Lake Barrington EL 3/98**

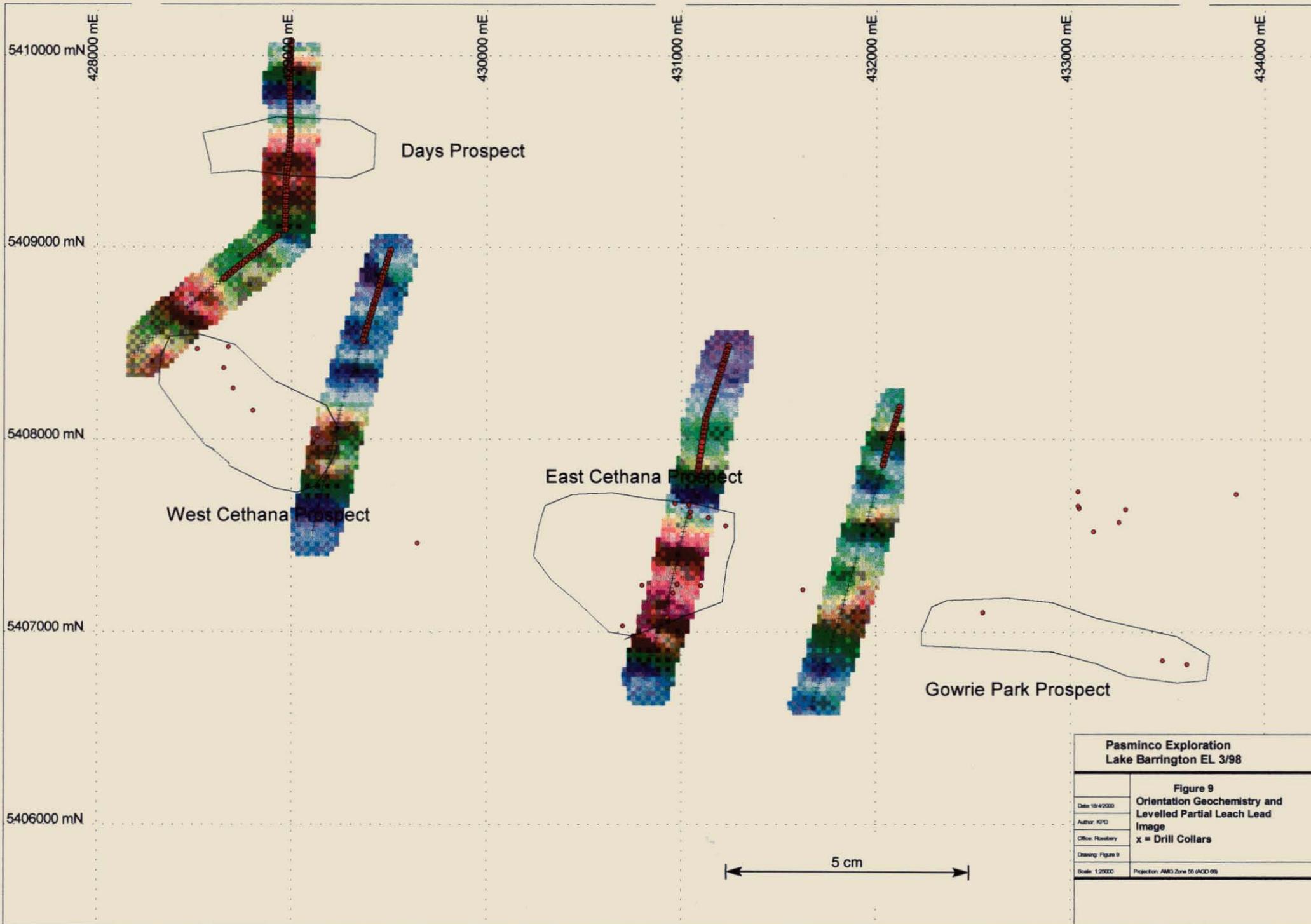
**Figure 7  
Orientation Geochemistry and  
Levelled Conventional Lead Image  
x = Drill Collars**

|                   |                                  |
|-------------------|----------------------------------|
| Date: 19/4/2000   |                                  |
| Author: KPO       |                                  |
| Client: Rosebery  |                                  |
| Drawing: Figure 7 |                                  |
| Scale: 1:20000    | Projection: AMG Zone 55 (AGD 85) |

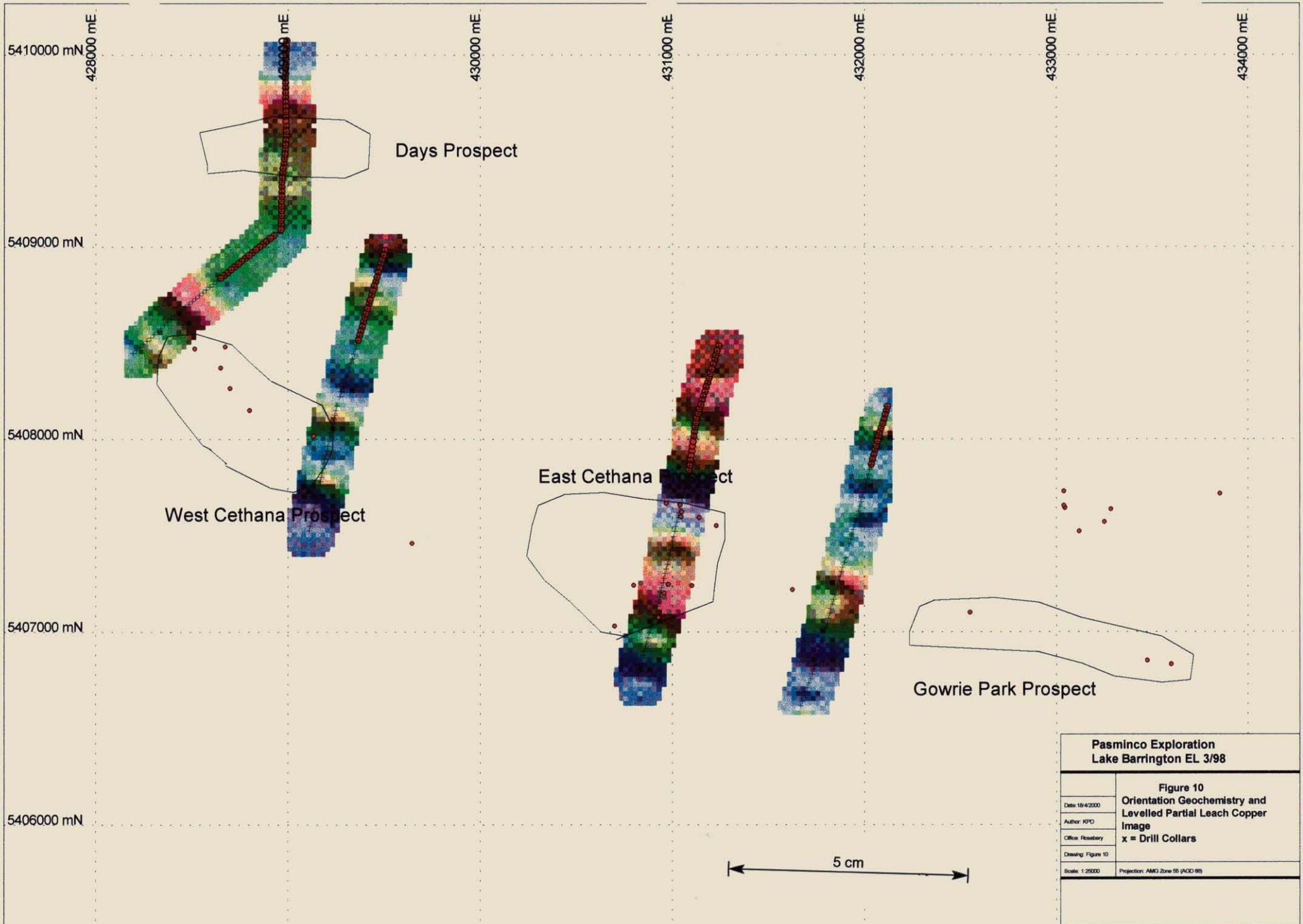
646050



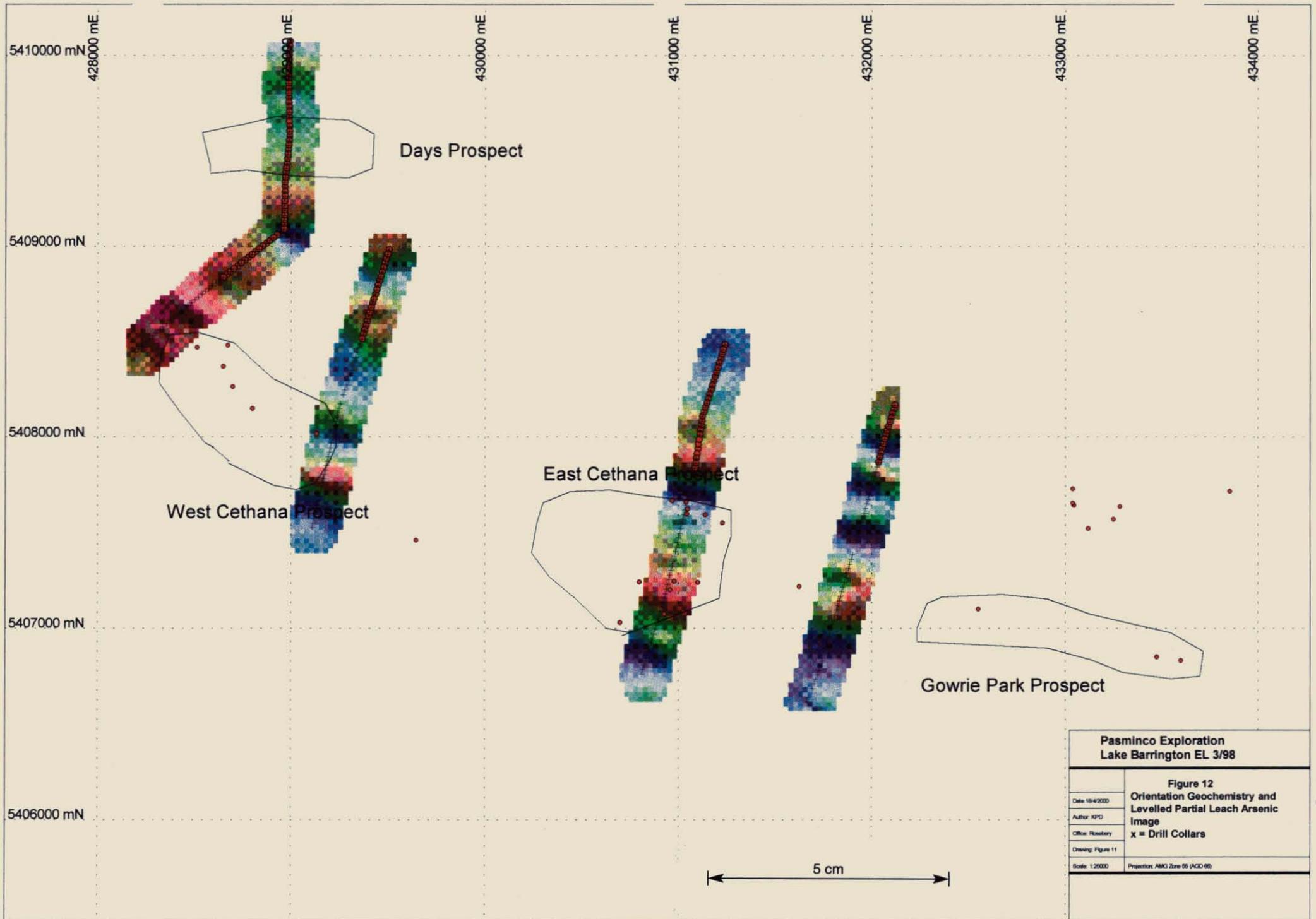
646051



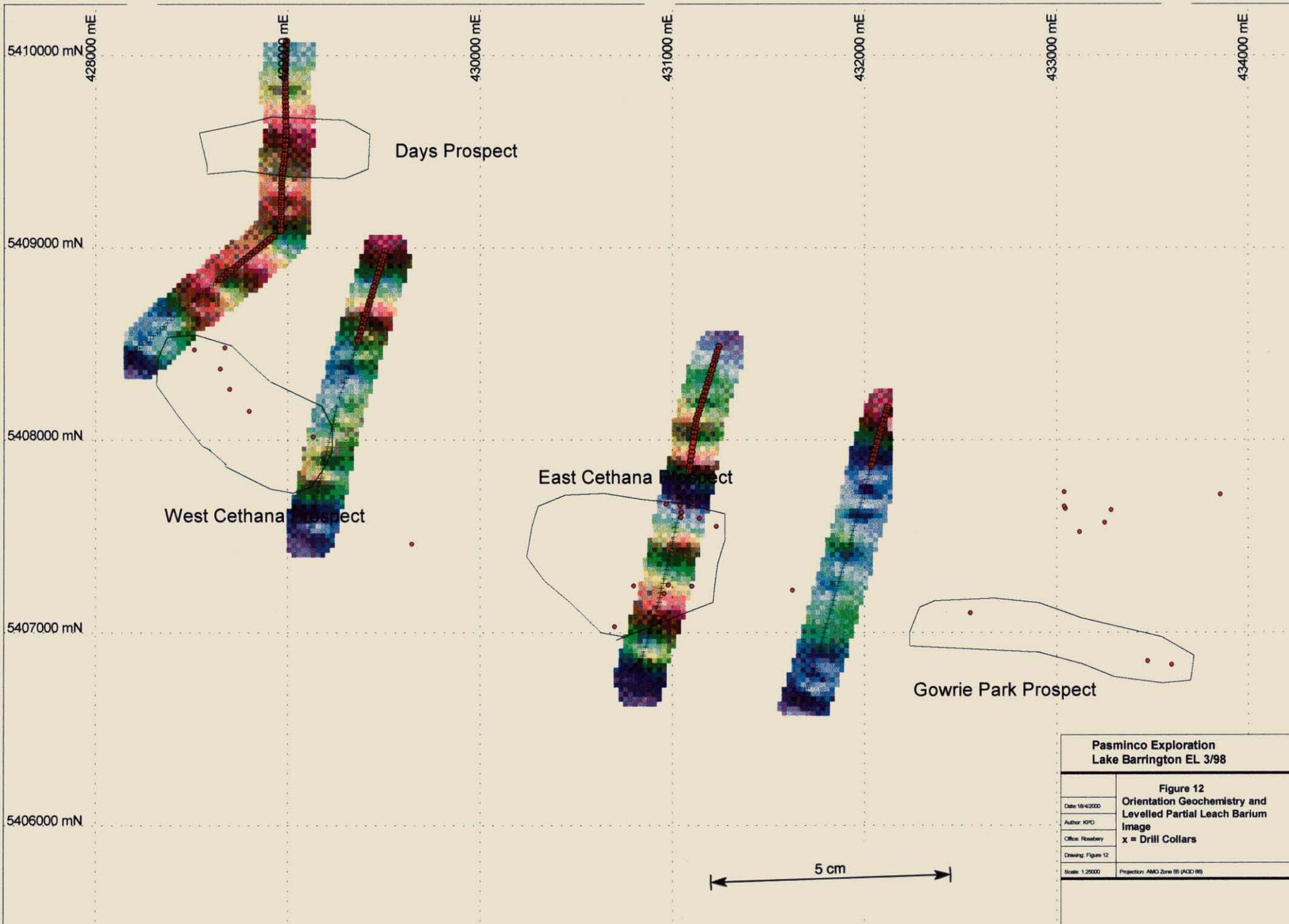
646052



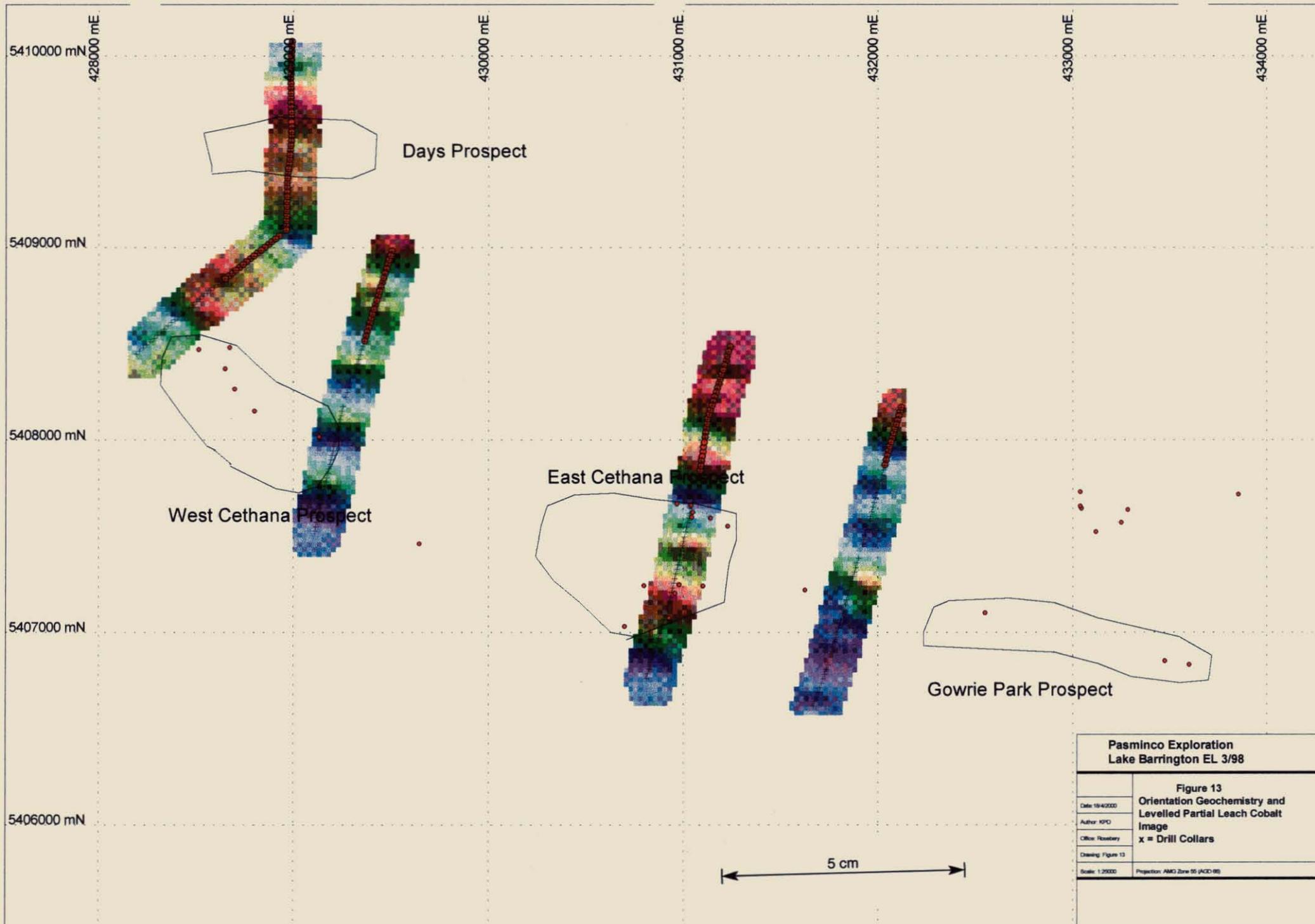
646053



646054

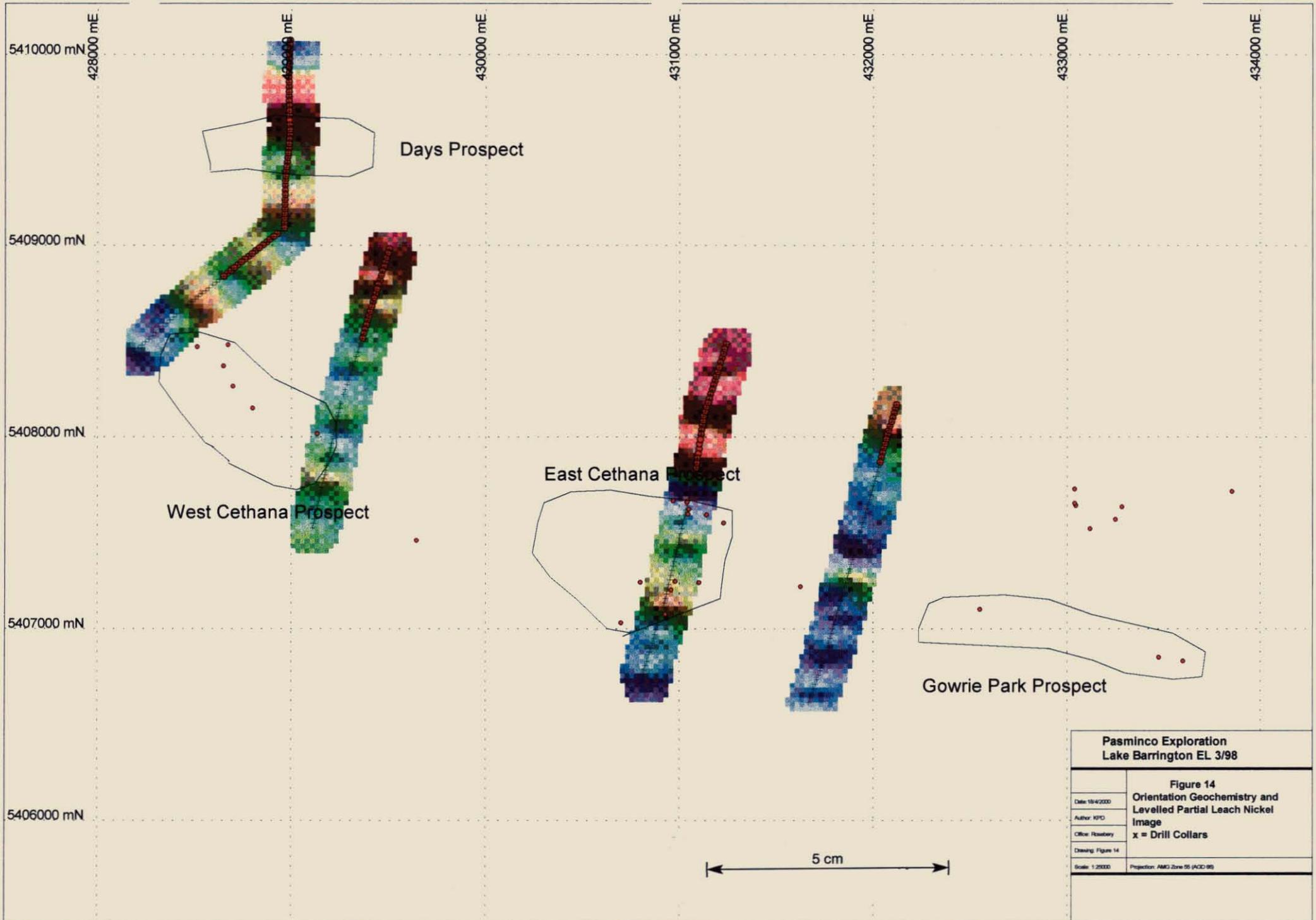


646055

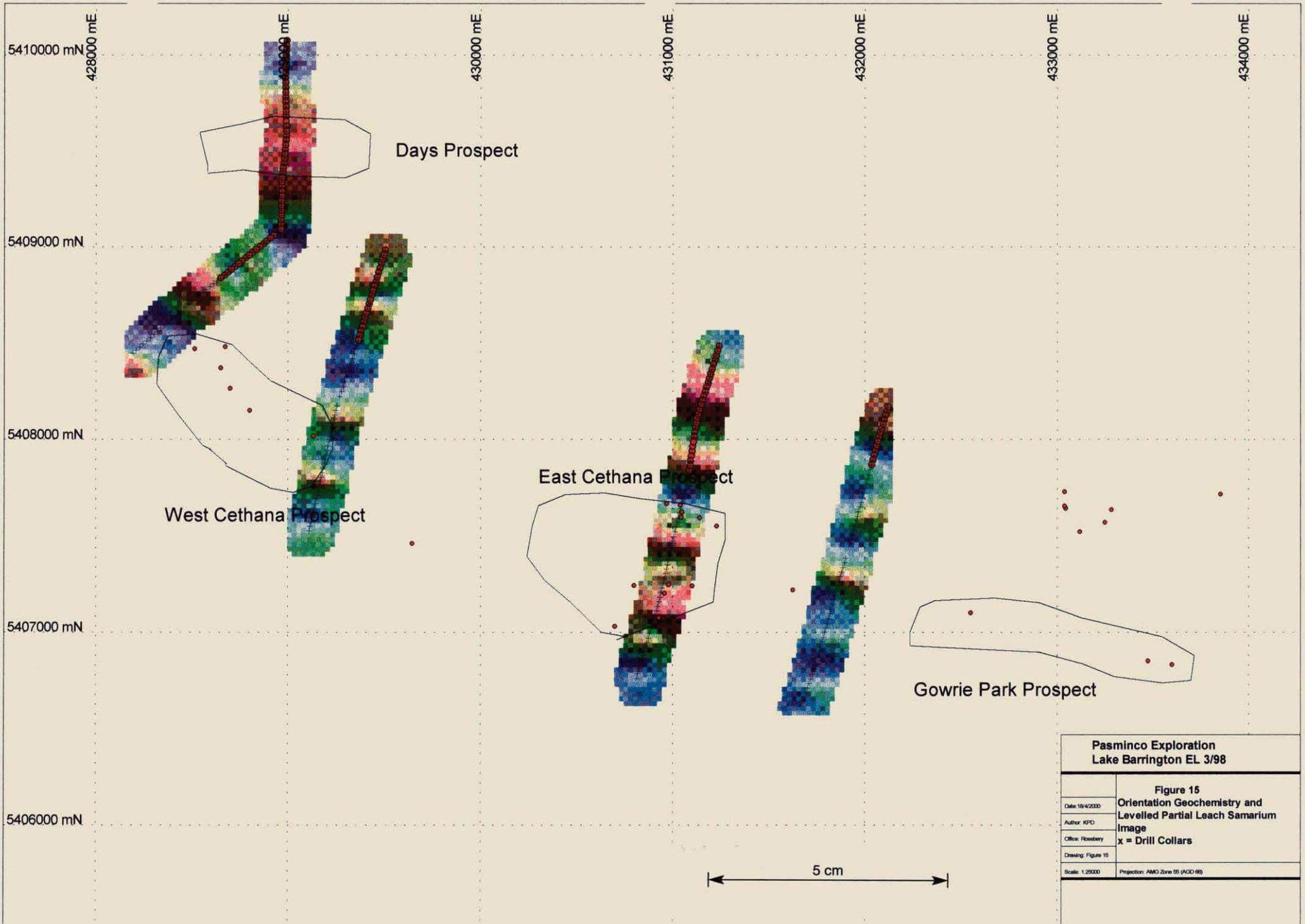


|   |   |
|---|---|
| <b>Pasmenco Exploration<br/>Lake Barrington EL 3/98</b> |   |
| <b>Figure 13</b>  |   |
| Date: 19/4/2000   | <b>Orientation Geochemistry and<br/>Levelled Partial Leach Cobalt<br/>Image</b> |
| Author: KPD   | <b>x = Drill Collars</b>  |
| Client: Rosbery   |   |
| Drawing: Figure 13                                      |   |
| Scale: 1:25000  | Projection: AMG Zone 55 (ACG 95)  |

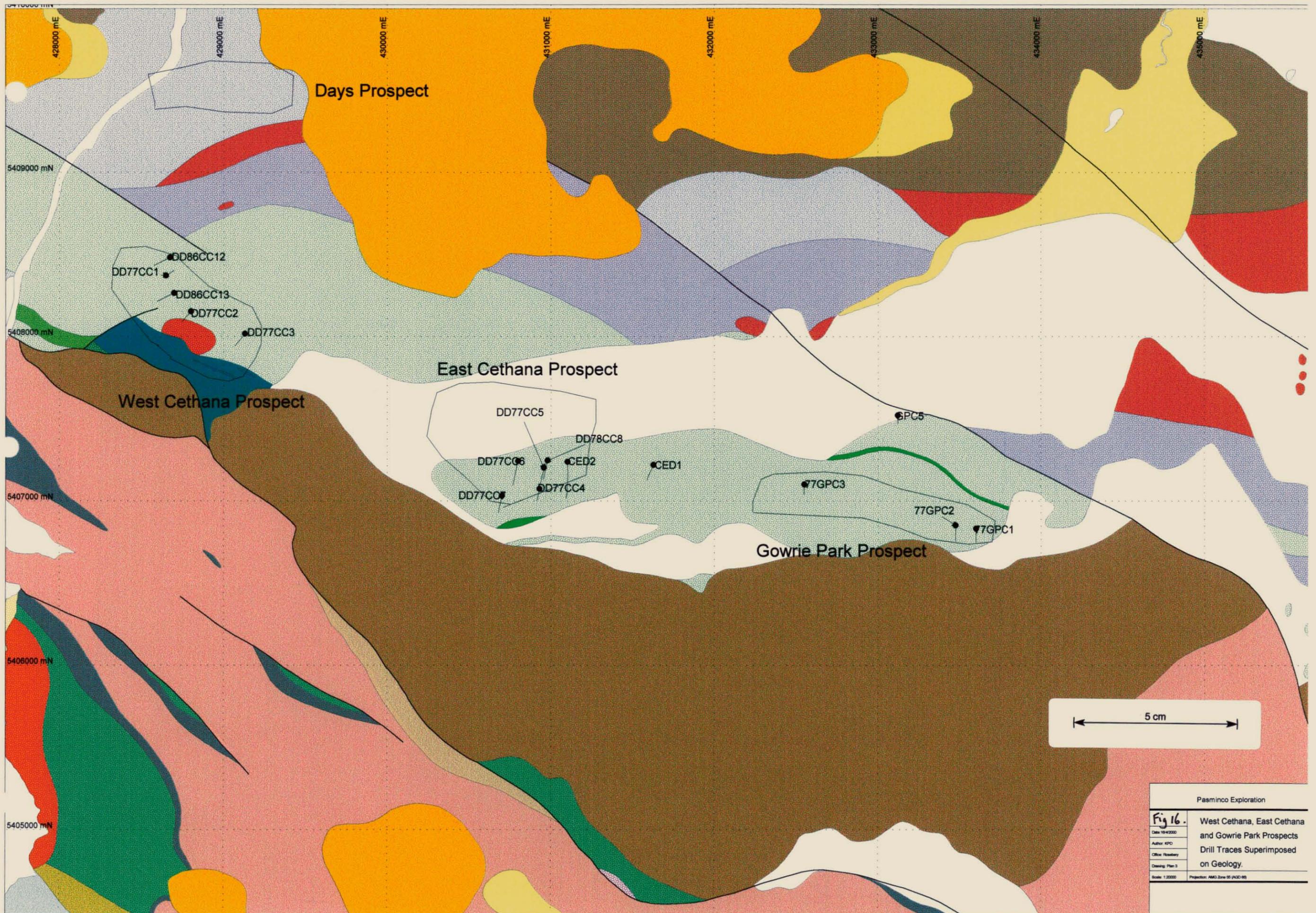
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|                       |  |
|-----------------------|--|
| Pasmaingo Exploration |  |
| <b>Fig 16.</b>        | West Cethana, East Cethana and Gowrie Park Prospects |
| Date: 19/4/2002       | Drill Traces Superimposed on Geology.                |
| Author: KPD           |  |
| Office: Rosebery      |  |
| Drawing: Plan 3       |  |
| Scale: 1:20000        | Projection: AMG Zone 55 (GDA 98)                     |

**APPENDIX 1**

**Orientation Soil Programme**

**Conventional Soil Results**

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|        |          |         |        |         |      |     |        |      |      |     |     |     |        |      |
|--------|----------|---------|--------|---------|------|-----|--------|------|------|-----|-----|-----|--------|------|
| 330001 | 428991.9 | 5410073 | 428900 | 5410000 | 0.2  | 0.5 | 0.004  | 515  | 0.05 | 0.1 | 2.5 | 2.5 | 9950   | 53   |
| 330002 | 428991.1 | 5410048 | 428900 | 5409975 | 0.4  | 1   | 0.002  | 535  | 0.1  | 0.3 | 2.5 | 2.5 | 18800  | 110  |
| 330003 | 428990.3 | 5410024 | 428900 | 5409950 | 0.1  | 1   | 0.001  | 340  | 0.3  | 0.3 | 2.5 | 2.5 | 19800  | 78   |
| 330004 | 428989.4 | 5410000 | 428900 | 5409925 | 0.2  | 1   | 0.002  | 270  | 0.3  | 0.2 | 2.5 | 89  | 20500  | 120  |
| 330005 | 428988.6 | 5409976 | 428900 | 5409900 | 0.2  | 0.5 | 0.002  | 325  | 0.4  | 0.2 | 2.5 | 16  | 15300  | 40   |
| 330006 | 428987.8 | 5409951 | 428900 | 5409875 | 0.3  | 2   | 0.002  | 675  | 0.4  | 0.3 | 2.5 | 2.5 | 17900  | 54   |
| 330007 | 428986.9 | 5409927 | 428900 | 5409850 | 0.2  | 2   | 0.001  | 515  | 0.3  | 0.2 | 2.5 | 2.5 | 21000  | 42   |
| 330008 | 428986.1 | 5409903 | 428900 | 5409825 | 0.05 | 3   | 0.001  | 345  | 0.3  | 0.3 | 11  | 5   | 36500  | 89   |
| 330009 | 428985.3 | 5409879 | 428900 | 5409800 | 0.05 | 2   | 0.001  | 520  | 0.3  | 0.3 | 11  | 2.5 | 34000  | 425  |
| 330010 | 428985.8 | 5409854 | 428900 | 5409775 | 0.4  | 2   | 0.002  | 270  | 0.2  | 0.4 | 95  | 46  | 125000 | 4070 |
| 330011 | 428986.2 | 5409828 | 428900 | 5409750 | 0.3  | 1   | 0.0005 | 215  | 0.2  | 0.2 | 77  | 32  | 85500  | 1920 |
| 330012 | 428986.7 | 5409803 | 428900 | 5409725 | 0.4  | 2   | 0.0005 | 290  | 0.2  | 0.4 | 122 | 26  | 94500  | 2720 |
| 330013 | 428987.2 | 5409778 | 428900 | 5409700 | 0.05 | 2   | 0.0005 | 430  | 0.2  | 0.4 | 97  | 27  | 79500  | 7570 |
| 330014 | 428987.6 | 5409753 | 428900 | 5409675 | 0.05 | 1   | 0.001  | 340  | 0.2  | 0.4 | 88  | 28  | 72000  | 5650 |
| 330015 | 428988.1 | 5409728 | 428900 | 5409650 | 0.3  | 2   | 0.001  | 580  | 0.3  | 0.4 | 43  | 13  | 66500  | 3780 |
| 330016 | 428988.6 | 5409703 | 428900 | 5409625 | 0.1  | 1   | 0.0005 | 1310 | 0.3  | 0.4 | 37  | 7   | 56500  | 5320 |
| 330017 | 428989   | 5409678 | 428900 | 5409600 | 0.05 | 2   | 0.001  | 330  | 0.1  | 0.5 | 39  | 17  | 64000  | 1140 |
| 330018 | 428989.5 | 5409653 | 428900 | 5409575 | 0.05 | 1   | 0.0005 | 925  | 0.1  | 0.4 | 19  | 2.5 | 47000  | 3710 |
| 330019 | 428990   | 5409627 | 428900 | 5409550 | 0.2  | 2   | 0.0005 | 985  | 0.2  | 0.5 | 20  | 10  | 45500  | 4660 |
| 330020 | 428990.4 | 5409602 | 428900 | 5409525 | 0.2  | 2   | 0.001  | 1110 | 0.2  | 1   | 20  | 8   | 56500  | 2030 |
| 330021 | 428990.9 | 5409577 | 428900 | 5409500 | 0.4  | 4   | 0.0005 | 740  | 0.3  | 0.8 | 14  | 13  | 62000  | 2240 |
| 330022 | 428988.6 | 5409553 | 428900 | 5409475 | 0.5  | 3   | 0.0005 | 780  | 0.4  | 0.6 | 15  | 11  | 58500  | 680  |
| 330023 | 428986.3 | 5409529 | 428900 | 5409450 | 0.4  | 3   | 0.0005 | 620  | 0.4  | 0.5 | 18  | 9   | 71000  | 815  |
| 330024 | 428984   | 5409505 | 428900 | 5409425 | 0.5  | 4   | 0.0005 | 740  | 0.4  | 0.5 | 18  | 7   | 72000  | 1450 |
| 330025 | 428981.8 | 5409481 | 428900 | 5409400 | 0.6  | 4   | 0.0005 | 745  | 0.3  | 0.5 | 20  | 8   | 69000  | 1650 |
| 330026 | 428979.4 | 5409457 | 428900 | 5409375 | 0.8  | 5   | 0.0005 | 680  | 0.3  | 0.6 | 20  | 76  | 67500  | 1380 |
| 330027 | 428977.2 | 5409433 | 428900 | 5409350 | 0.4  | 5   | 0.0005 | 480  | 0.3  | 0.5 | 15  | 14  | 64500  | 660  |
| 330028 | 428974.9 | 5409409 | 428900 | 5409325 | 0.4  | 4   | 0.0005 | 690  | 0.3  | 0.5 | 17  | 12  | 61500  | 1110 |
| 330029 | 428972.6 | 5409385 | 428900 | 5409300 | 0.5  | 3   | 0.002  | 370  | 0.3  | 0.4 | 17  | 7   | 60500  | 470  |
| 330030 | 428970.3 | 5409361 | 428900 | 5409275 | 0.4  | 3   | 0.001  | 640  | 0.3  | 0.5 | 27  | 7   | 60500  | 1210 |
| 330031 | 428968   | 5409337 | 428900 | 5409250 | 0.6  | 6   | 0.0005 | 565  | 0.4  | 0.5 | 18  | 9   | 65000  | 1550 |
| 330032 | 428967.5 | 5409312 | 428900 | 5409225 | 0.4  | 4   | 0.0005 | 490  | 0.4  | 0.5 | 21  | 11  | 67500  | 2790 |
| 330033 | 428967   | 5409287 | 428900 | 5409200 | 0.4  | 6   | 0.001  | 325  | 0.3  | 0.5 | 17  | 5   | 66000  | 1050 |
| 330034 | 428966.6 | 5409263 | 428900 | 5409175 | 0.2  | 5   | 0.0005 | 255  | 0.3  | 0.4 | 18  | 8   | 68000  | 1120 |
| 330035 | 428966.1 | 5409238 | 428900 | 5409150 | 0.3  | 9   | 0.0005 | 180  | 0.4  | 0.5 | 22  | 10  | 76000  | 2300 |

|        |          |         |        |         |      |     |        |     |      |     |     |     |        |      |
|--------|----------|---------|--------|---------|------|-----|--------|-----|------|-----|-----|-----|--------|------|
| 330036 | 428965.6 | 5409213 | 428900 | 5409125 | 0.3  | 6   | 0.002  | 180 | 0.5  | 0.4 | 20  | 8   | 69000  | 2530 |
| 330037 | 428965.1 | 5409188 | 428900 | 5409100 | 0.3  | 8   | 0.001  | 165 | 0.4  | 0.4 | 18  | 8   | 66500  | 2710 |
| 330039 | 428964.6 | 5409163 | 428900 | 5409075 | 0.2  | 7   | 0.002  | 145 | 0.3  | 0.4 | 15  | 6   | 70500  | 875  |
| 330040 | 428964.2 | 5409139 | 428900 | 5409050 | 0.2  | 7   | 0.0005 | 225 | 0.2  | 0.4 | 15  | 6   | 59000  | 1310 |
| 330041 | 428963.7 | 5409114 | 428900 | 5409025 | 0.05 | 0.5 | 0.0005 | 77  | 0.1  | 0.1 | 6   | 6   | 5900   | 115  |
| 330042 | 428963.2 | 5409089 | 428900 | 5409000 | 0.05 | 0.5 | 0.0005 | 96  | 0.1  | 0.1 | 6   | 7   | 8980   | 80   |
| 330043 | 431240.8 | 5408483 | 21700  | -2200   | 0.05 | 2   | 0.0005 | 250 | 0.1  | 0.4 | 114 | 36  | 101000 | 2940 |
| 330044 | 431233.6 | 5408459 | 21700  | -2225   | 0.05 | 3   | 0.0005 | 280 | 0.1  | 0.4 | 100 | 32  | 117000 | 2040 |
| 330045 | 431226.4 | 5408435 | 21700  | -2250   | 0.7  | 3   | 0.0005 | 265 | 0.05 | 0.4 | 123 | 31  | 110000 | 2460 |
| 330046 | 431219.3 | 5408412 | 21700  | -2275   | 0.05 | 3   | 0.0005 | 295 | 0.1  | 0.4 | 131 | 35  | 129000 | 2660 |
| 330047 | 431212.1 | 5408388 | 21700  | -2300   | 0.05 | 2   | 0.001  | 275 | 0.1  | 0.4 | 124 | 36  | 120000 | 2890 |
| 330048 | 431204.9 | 5408364 | 21700  | -2325   | 0.05 | 2   | 0.0005 | 295 | 0.05 | 0.4 | 104 | 43  | 112000 | 3280 |
| 330049 | 431197.8 | 5408340 | 21700  | -2350   | 0.05 | 3   | 0.0005 | 265 | 0.1  | 0.4 | 133 | 162 | 121000 | 3190 |
| 330051 | 431190.6 | 5408317 | 21700  | -2375   | 0.05 | 8   | 0.0005 | 280 | 0.1  | 0.4 | 84  | 45  | 101000 | 1560 |
| 330052 | 431183.4 | 5408293 | 21700  | -2400   | 0.3  | 3   | 0.001  | 340 | 0.3  | 0.3 | 35  | 14  | 37000  | 820  |
| 330053 | 431176.2 | 5408270 | 21700  | -2425   | 0.2  | 4   | 0.002  | 355 | 0.3  | 0.3 | 74  | 18  | 67000  | 1910 |
| 330054 | 431169   | 5408247 | 21700  | -2450   | 0.05 | 4   | 0.0005 | 485 | 0.3  | 0.3 | 69  | 25  | 78000  | 2180 |
| 330055 | 431161.8 | 5408224 | 21700  | -2475   | 0.2  | 3   | 0.0005 | 540 | 0.2  | 0.3 | 66  | 20  | 71000  | 2520 |
| 330056 | 431154.7 | 5408201 | 21700  | -2500   | 0.2  | 4   | 0.001  | 545 | 0.2  | 0.3 | 63  | 21  | 68500  | 3300 |
| 330057 | 431147.5 | 5408178 | 21700  | -2525   | 0.2  | 4   | 0.0005 | 545 | 0.2  | 0.4 | 66  | 22  | 70000  | 4060 |
| 330058 | 431140.3 | 5408155 | 21700  | -2550   | 0.2  | 5   | 0.0005 | 540 | 0.2  | 0.4 | 78  | 19  | 66000  | 2580 |
| 330059 | 431133.1 | 5408132 | 21700  | -2575   | 0.2  | 5   | 0.0005 | 410 | 0.3  | 0.2 | 2.5 | 9   | 45500  | 800  |
| 330060 | 431125.9 | 5408109 | 21700  | -2600   | 0.05 | 5   | 0.0005 | 805 | 0.4  | 0.3 | 9   | 6   | 51500  | 305  |
| 330061 | 431122.4 | 5408084 | 21700  | -2625   | 0.1  | 4   | 0.001  | 765 | 0.4  | 0.2 | 8   | 9   | 47500  | 165  |
| 330062 | 431118.8 | 5408060 | 21700  | -2650   | 0.05 | 2   | 0.0005 | 660 | 0.3  | 0.2 | 7   | 6   | 25500  | 180  |
| 330063 | 431115.3 | 5408035 | 21700  | -2675   | 0.05 | 3   | 0.001  | 515 | 0.3  | 0.2 | 12  | 10  | 35500  | 515  |
| 330064 | 431111.8 | 5408011 | 21700  | -2700   | 0.2  | 7   | 0.0005 | 340 | 0.3  | 0.3 | 33  | 22  | 96500  | 515  |
| 330065 | 431108.3 | 5407987 | 21700  | -2725   | 0.2  | 7   | 0.0005 | 340 | 0.3  | 0.3 | 27  | 23  | 92000  | 740  |
| 330066 | 431104.8 | 5407962 | 21700  | -2750   | 0.3  | 5   | 0.0005 | 390 | 0.2  | 0.3 | 16  | 12  | 50500  | 695  |
| 330067 | 431101.3 | 5407937 | 21700  | -2775   | 0.3  | 3   | 0.0005 | 515 | 0.4  | 0.2 | 6   | 7   | 13400  | 49   |
| 330068 | 431097.7 | 5407913 | 21700  | -2800   | 0.3  | 10  | 0.0005 | 295 | 0.6  | 0.4 | 37  | 28  | 106000 | 930  |
| 330069 | 431094.2 | 5407888 | 21700  | -2825   | 0.1  | 7   | 0.0005 | 375 | 0.3  | 0.5 | 50  | 22  | 57500  | 2640 |
| 330070 | 431090.7 | 5407864 | 21700  | -2850   | 0.2  | 12  | 0.0005 | 440 | 0.4  | 0.3 | 38  | 16  | 59000  | 4590 |
| 330072 | 431087.1 | 5407839 | 21700  | -2875   | 0.2  | 1   | 0.0005 | 110 | 0.2  | 0.1 | 6   | 2.5 | 4890   | 125  |
| 330073 | 429364.6 | 5408514 | 19800  | -2500   | 0.05 | 4   | 0.0005 | 360 | 0.3  | 0.2 | 6   | 6   | 34500  | 315  |

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|        |          |         |       |       |      |     |        |      |     |     |     |     |        |      |
|--------|----------|---------|-------|-------|------|-----|--------|------|-----|-----|-----|-----|--------|------|
| 330074 | 429371.7 | 5408538 | 19800 | -2475 | 0.05 | 3   | 0.0005 | 515  | 0.5 | 0.2 | 7   | 2.5 | 41500  | 725  |
| 330075 | 429378.7 | 5408561 | 19800 | -2450 | 0.2  | 3   | 0.0005 | 515  | 0.3 | 0.2 | 2.5 | 2.5 | 29000  | 1040 |
| 330076 | 429385.7 | 5408584 | 19800 | -2425 | 0.2  | 2   | 0.002  | 550  | 0.7 | 0.2 | 2.5 | 2.5 | 34000  | 81   |
| 330077 | 429392.7 | 5408608 | 19800 | -2400 | 0.4  | 1   | 0.004  | 430  | 0.4 | 0.1 | 8   | 2.5 | 27000  | 79   |
| 330078 | 429399.7 | 5408631 | 19800 | -2375 | 0.05 | 2   | 0.001  | 470  | 0.3 | 0.2 | 7   | 2.5 | 32000  | 83   |
| 330079 | 429406.8 | 5408654 | 19800 | -2350 | 0.05 | 4   | 0.003  | 380  | 0.5 | 0.2 | 10  | 2.5 | 51500  | 110  |
| 330080 | 429413.8 | 5408678 | 19800 | -2325 | 0.05 | 3   | 0.002  | 545  | 0.4 | 0.2 | 8   | 7   | 52000  | 845  |
| 330081 | 429420.8 | 5408701 | 19800 | -2300 | 0.05 | 10  | 0.008  | 295  | 0.3 | 0.2 | 8   | 11  | 25500  | 340  |
| 330082 | 429427.8 | 5408724 | 19800 | -2275 | 0.05 | 21  | 0.008  | 365  | 0.3 | 0.2 | 17  | 20  | 30000  | 785  |
| 330083 | 429434.8 | 5408748 | 19800 | -2250 | 0.05 | 3   | 0.002  | 725  | 0.3 | 0.2 | 13  | 2.5 | 27000  | 200  |
| 330084 | 429441.8 | 5408771 | 19800 | -2225 | 0.05 | 4   | 0.003  | 1160 | 0.4 | 0.2 | 19  | 9   | 144000 | 5610 |
| 330085 | 429448.8 | 5408794 | 19800 | -2200 | 0.05 | 5   | 0.003  | 535  | 0.3 | 0.2 | 15  | 8   | 57000  | 2240 |
| 330086 | 429455.9 | 5408818 | 19800 | -2175 | 0.05 | 4   | 0.001  | 270  | 0.2 | 0.2 | 2.5 | 6   | 21000  | 105  |
| 330087 | 429462.9 | 5408841 | 19800 | -2150 | 0.05 | 3   | 0.003  | 310  | 0.3 | 0.2 | 2.5 | 10  | 25000  | 91   |
| 330088 | 429469.9 | 5408864 | 19800 | -2125 | 0.05 | 2   | 0.0005 | 305  | 0.2 | 0.2 | 2.5 | 6   | 16200  | 44   |
| 330089 | 429476.9 | 5408888 | 19800 | -2100 | 0.4  | 1   | 0.003  | 290  | 0.2 | 0.2 | 2.5 | 8   | 9750   | 53   |
| 330090 | 429483.9 | 5408911 | 19800 | -2075 | 0.05 | 1   | 0.0005 | 260  | 0.2 | 0.2 | 2.5 | 7   | 6090   | 130  |
| 330091 | 429491   | 5408934 | 19800 | -2050 | 0.2  | 1   | 0.001  | 290  | 0.2 | 0.2 | 2.5 | 7   | 6140   | 46   |
| 330092 | 429498   | 5408958 | 19800 | -2025 | 0.05 | 1   | 0.001  | 290  | 0.2 | 0.2 | 2.5 | 5   | 19500  | 88   |
| 330093 | 429505   | 5408981 | 19800 | -2000 | 0.05 | 6   | 0.003  | 240  | 0.4 | 0.2 | 2.5 | 12  | 61000  | 230  |
| 330094 | 428650.2 | 5408837 | 400   | 5000  | 0.2  | 5   | 0.0005 | 370  | 0.5 | 0.3 | 2.5 | 2.5 | 49500  | 330  |
| 330095 | 428668.6 | 5408852 | 400   | 5025  | 0.05 | 2   | 0.001  | 720  | 0.7 | 0.3 | 2.5 | 6   | 35500  | 155  |
| 330096 | 428687   | 5408867 | 400   | 5050  | 0.3  | 4   | 0.002  | 340  | 0.3 | 0.2 | 16  | 2.5 | 48000  | 605  |
| 330097 | 428705.5 | 5408881 | 400   | 5075  | 0.05 | 3   | 0.001  | 335  | 0.2 | 0.3 | 11  | 2.5 | 51500  | 725  |
| 330098 | 428723.9 | 5408896 | 400   | 5100  | 0.05 | 0.5 | 0.004  | 310  | 0.2 | 0.1 | 2.5 | 2.5 | 35500  | 160  |
| 330099 | 428742.3 | 5408911 | 400   | 5125  | 0.4  | 6   | 0.0005 | 230  | 0.2 | 0.3 | 8   | 7   | 82500  | 525  |
| 330101 | 428760.7 | 5408926 | 400   | 5150  | 0.4  | 11  | 0.004  | 140  | 0.3 | 0.3 | 11  | 14  | 59500  | 1270 |
| 330102 | 428779.1 | 5408941 | 400   | 5175  | 0.2  | 6   | 0.004  | 140  | 0.3 | 0.3 | 7   | 8   | 60000  | 1310 |
| 330103 | 428797.5 | 5408956 | 400   | 5200  | 0.2  | 5   | 0.004  | 405  | 0.5 | 0.3 | 5   | 9   | 50500  | 1550 |
| 330104 | 428815.9 | 5408970 | 400   | 5225  | 0.1  | 4   | 0.002  | 435  | 0.5 | 0.3 | 2.5 | 7   | 48000  | 895  |
| 330105 | 428834.3 | 5408985 | 400   | 5250  | 0.3  | 6   | 0.001  | 225  | 0.4 | 0.4 | 5   | 7   | 61000  | 1520 |
| 330106 | 428852.8 | 5409000 | 400   | 5275  | 0.1  | 4   | 0.003  | 310  | 0.3 | 0.3 | 2.5 | 8   | 42000  | 1530 |
| 330107 | 428871.2 | 5409015 | 400   | 5300  | 0.3  | 5   | 0.002  | 370  | 0.2 | 0.4 | 9   | 7   | 54000  | 1920 |
| 330109 | 428889.6 | 5409030 | 400   | 5325  | 0.3  | 6   | 0.002  | 315  | 0.3 | 0.4 | 7   | 7   | 54500  | 885  |
| 330110 | 428908   | 5409045 | 400   | 5350  | 0.2  | 5   | 0.004  | 390  | 0.5 | 0.3 | 2.5 | 6   | 42500  | 165  |

|        |          |         |       |       |      |     |        |     |      |      |     |     |       |      |
|--------|----------|---------|-------|-------|------|-----|--------|-----|------|------|-----|-----|-------|------|
| 330111 | 428926.4 | 5409060 | 400   | 5375  | 0.05 | 1   | 0.002  | 130 | 0.2  | 0.1  | 2.5 | 7   | 5630  | 58   |
| 330112 | 432119.9 | 5408168 | 22600 | -2225 | 0.05 | 6   | 0.003  | 395 | 0.2  | 0.3  | 13  | 6   | 61000 | 1310 |
| 330113 | 432113.3 | 5408146 | 22600 | -2250 | 0.4  | 4   | 0.001  | 425 | 0.2  | 0.3  | 8   | 2.5 | 59000 | 755  |
| 330114 | 432106.8 | 5408124 | 22600 | -2275 | 0.05 | 0.5 | 0.002  | 675 | 0.1  | 0.4  | 2.5 | 6   | 14200 | 170  |
| 330115 | 432100.3 | 5408101 | 22600 | 2300  | 0.05 | 5   | 0.001  | 420 | 0.2  | 0.3  | 2.5 | 2.5 | 55500 | 275  |
| 330116 | 432093.7 | 5408079 | 22600 | -2325 | 0.2  | 3   | 0.002  | 345 | 0.3  | 0.4  | 20  | 10  | 28000 | 1740 |
| 330117 | 432087.2 | 5408056 | 22600 | -2350 | 0.3  | 5   | 0.002  | 315 | 0.3  | 0.2  | 11  | 13  | 58000 | 410  |
| 330118 | 432080.6 | 5408034 | 22600 | -2375 | 0.2  | 4   | 0.005  | 570 | 0.3  | 0.2  | 2.5 | 42  | 30500 | 350  |
| 330119 | 432074.1 | 5408012 | 22600 | -2400 | 0.05 | 1   | 0.006  | 200 | 0.2  | 0.2  | 2.5 | 14  | 7630  | 86   |
| 330120 | 432067.5 | 5407989 | 22600 | -2425 | 0.05 | 0.5 | 0.002  | 215 | 0.1  | 0.1  | 2.5 | 8   | 7680  | 57   |
| 330121 | 432061   | 5407965 | 22600 | -2450 | 0.05 | 0.5 | 0.0005 | 23  | 0.05 | 0.05 | 2.5 | 5   | 3230  | 33   |
| 330122 | 432054.5 | 5407941 | 22600 | -2475 | 0.05 | 0.5 | 0.0005 | 18  | 0.05 | 0.05 | 2.5 | 5   | 3520  | 42   |
| 330123 | 432048.1 | 5407917 | 22600 | -2500 | 0.05 | 0.5 | 0.0005 | 11  | 0.05 | 0.05 | 2.5 | 2.5 | 2140  | 26   |
| 330124 | 432041.6 | 5407893 | 22600 | -2525 | 0.1  | 0.5 | 0.0005 | 27  | 0.05 | 0.05 | 2.5 | 6   | 4630  | 39   |
| 330125 | 432035.1 | 5407868 | 22600 | -2550 | 0.1  | 5   | 0.002  | 110 | 0.4  | 0.2  | 2.5 | 2.5 | 36500 | 96   |

|        |     |     |     |     |     |
|--------|-----|-----|-----|-----|-----|
| 330001 | 5   | 5   | 1.8 | 2.2 | 29  |
| 330002 | 5   | 22  | 2.8 | 4   | 54  |
| 330003 | 5   | 58  | 3   | 4   | 68  |
| 330004 | 5   | 74  | 3   | 4.1 | 76  |
| 330005 | 5   | 38  | 2.7 | 3.2 | 63  |
| 330006 | 12  | 43  | 3   | 3.6 | 59  |
| 330007 | 5   | 33  | 2.6 | 3.6 | 46  |
| 330008 | 31  | 35  | 3   | 4.8 | 90  |
| 330009 | 36  | 27  | 2.1 | 3.2 | 51  |
| 330010 | 180 | 18  | 1.5 | 4.5 | 184 |
| 330011 | 100 | 15  | 1.3 | 3.2 | 104 |
| 330012 | 120 | 17  | 1.4 | 4   | 123 |
| 330013 | 125 | 19  | 1.3 | 3.5 | 116 |
| 330014 | 97  | 19  | 1.3 | 3.4 | 121 |
| 330015 | 45  | 120 | 1.9 | 3.2 | 240 |
| 330016 | 24  | 188 | 1.7 | 3.3 | 631 |
| 330017 | 58  | 211 | 3   | 3.3 | 189 |
| 330018 | 5   | 205 | 2.7 | 2.7 | 428 |
| 330019 | 5   | 210 | 3.1 | 2.5 | 440 |
| 330020 | 13  | 208 | 2.1 | 2.6 | 761 |
| 330021 | 13  | 250 | 1.9 | 2.7 | 369 |
| 330022 | 19  | 294 | 2.2 | 2.7 | 382 |
| 330023 | 14  | 262 | 2.5 | 3   | 512 |
| 330024 | 13  | 214 | 2.5 | 3.1 | 490 |
| 330025 | 18  | 214 | 2.4 | 3.1 | 520 |
| 330026 | 51  | 234 | 3.2 | 3.3 | 491 |
| 330027 | 16  | 176 | 2.8 | 3.1 | 286 |
| 330028 | 13  | 205 | 2.4 | 3.1 | 409 |
| 330029 | 10  | 265 | 4.1 | 2.9 | 372 |
| 330030 | 11  | 279 | 2.9 | 2.8 | 640 |
| 330031 | 17  | 280 | 4.1 | 3.2 | 496 |
| 330032 | 16  | 194 | 4.2 | 2.7 | 431 |
| 330033 | 17  | 129 | 2.1 | 3.4 | 187 |
| 330034 | 19  | 133 | 2.3 | 3.3 | 217 |
| 330035 | 42  | 90  | 2.2 | 4.1 | 161 |

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|        |     |     |     |     |     |
|--------|-----|-----|-----|-----|-----|
| 330036 | 31  | 92  | 2   | 3.2 | 150 |
| 330037 | 27  | 90  | 2.9 | 3.7 | 148 |
| 330039 | 18  | 74  | 2.5 | 3.4 | 132 |
| 330040 | 14  | 91  | 2.5 | 3.2 | 105 |
| 330041 | 5   | 11  | 1.2 | 1.6 | 13  |
| 330042 | 11  | 12  | 1.3 | 1.7 | 19  |
| 330043 | 190 | 10  | 0.7 | 3.5 | 175 |
| 330044 | 240 | 11  | 0.6 | 3.2 | 171 |
| 330045 | 215 | 8   | 0.6 | 3.2 | 166 |
| 330046 | 260 | 9   | 0.6 | 3.8 | 163 |
| 330047 | 235 | 9   | 0.5 | 3.2 | 173 |
| 330048 | 270 | 8   | 0.5 | 3.1 | 183 |
| 330049 | 425 | 10  | 0.6 | 3.2 | 169 |
| 330051 | 250 | 14  | 0.9 | 3.1 | 152 |
| 330052 | 63  | 34  | 2.1 | 3   | 56  |
| 330053 | 100 | 74  | 1.9 | 3.6 | 104 |
| 330054 | 125 | 57  | 3.6 | 3.4 | 199 |
| 330055 | 110 | 57  | 2.7 | 3.1 | 202 |
| 330056 | 105 | 60  | 3.3 | 2.8 | 241 |
| 330057 | 105 | 88  | 3.2 | 2.9 | 249 |
| 330058 | 100 | 91  | 4.2 | 3.1 | 182 |
| 330059 | 19  | 24  | 1.3 | 3   | 37  |
| 330060 | 10  | 30  | 1.3 | 3.2 | 30  |
| 330061 | 5   | 23  | 1.3 | 3.6 | 21  |
| 330062 | 5   | 13  | 1.2 | 2.7 | 21  |
| 330063 | 23  | 15  | 1.1 | 2.9 | 27  |
| 330064 | 78  | 22  | 1.3 | 3.8 | 66  |
| 330065 | 72  | 31  | 1.9 | 3.4 | 92  |
| 330066 | 43  | 46  | 1.9 | 3.1 | 45  |
| 330067 | 10  | 22  | 1.8 | 2.2 | 15  |
| 330068 | 105 | 77  | 1.8 | 4.3 | 140 |
| 330069 | 92  | 80  | 1.5 | 3.2 | 151 |
| 330070 | 63  | 101 | 1.8 | 3.7 | 168 |
| 330072 | 5   | 15  | 1.1 | 2   | 13  |
| 330073 | 12  | 11  | 2.1 | 5.6 | 35  |

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|        |    |    |     |     |     |
|--------|----|----|-----|-----|-----|
| 330074 | 5  | 7  | 1.6 | 4.1 | 29  |
| 330075 | 13 | 8  | 1.5 | 3.9 | 29  |
| 330076 | 5  | 7  | 1.8 | 3.3 | 29  |
| 330077 | 5  | 9  | 1.6 | 2.8 | 17  |
| 330078 | 5  | 8  | 1.5 | 2.9 | 18  |
| 330079 | 14 | 12 | 1.6 | 3.7 | 23  |
| 330080 | 17 | 11 | 1.4 | 3.6 | 36  |
| 330081 | 12 | 11 | 1.4 | 3.1 | 21  |
| 330082 | 18 | 9  | 1.6 | 2.7 | 30  |
| 330083 | 5  | 7  | 2.9 | 2.1 | 26  |
| 330084 | 5  | 17 | 4   | 1.7 | 72  |
| 330085 | 5  | 10 | 2.3 | 2.2 | 33  |
| 330086 | 5  | 15 | 1.7 | 1.9 | 26  |
| 330087 | 5  | 39 | 2.3 | 2.4 | 49  |
| 330088 | 5  | 20 | 1.9 | 2.1 | 31  |
| 330089 | 5  | 19 | 1.7 | 2.3 | 18  |
| 330090 | 5  | 51 | 2.1 | 2.4 | 79  |
| 330091 | 5  | 28 | 2   | 2.6 | 18  |
| 330092 | 5  | 19 | 1.5 | 1.9 | 23  |
| 330093 | 38 | 19 | 1.7 | 3.4 | 42  |
| 330094 | 5  | 23 | 2.5 | 3.7 | 53  |
| 330095 | 5  | 48 | 1.3 | 4.7 | 40  |
| 330096 | 5  | 45 | 2   | 2.4 | 85  |
| 330097 | 5  | 42 | 1.3 | 2.7 | 90  |
| 330098 | 5  | 24 | 0.8 | 1.8 | 43  |
| 330099 | 5  | 87 | 2.3 | 2.7 | 107 |
| 330101 | 19 | 34 | 2.8 | 2.9 | 50  |
| 330102 | 11 | 31 | 2.2 | 2.7 | 37  |
| 330103 | 11 | 38 | 2.4 | 3.6 | 55  |
| 330104 | 5  | 36 | 1.6 | 3.8 | 45  |
| 330105 | 13 | 76 | 1.9 | 3.6 | 79  |
| 330106 | 5  | 71 | 2   | 3.1 | 66  |
| 330107 | 5  | 56 | 1.6 | 2.6 | 91  |
| 330109 | 5  | 52 | 2.3 | 2.9 | 86  |
| 330110 | 5  | 35 | 2.4 | 3.7 | 86  |

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|        |    |    |     |     |     |
|--------|----|----|-----|-----|-----|
| 330111 | 17 | 12 | 1.5 | 2.1 | 13  |
| 330112 | 5  | 27 | 1.1 | 3.1 | 92  |
| 330113 | 5  | 31 | 1   | 3.2 | 71  |
| 330114 | 5  | 21 | 1   | 2.5 | 72  |
| 330115 | 5  | 26 | 1.3 | 3   | 87  |
| 330116 | 27 | 68 | 1.6 | 4   | 124 |
| 330117 | 39 | 85 | 1.5 | 3.3 | 123 |
| 330118 | 23 | 27 | 2.2 | 2.9 | 58  |
| 330119 | 11 | 9  | 1.4 | 2.3 | 16  |
| 330120 | 11 | 6  | 1.5 | 2.5 | 26  |
| 330121 | 5  | 4  | 0.8 | 1.2 | 5   |
| 330122 | 5  | 3  | 0.8 | 1.4 | 2.5 |
| 330123 | 5  | 3  | 0.7 | 1   | 6   |
| 330124 | 11 | 4  | 0.8 | 1.6 | 8   |
| 330125 | 5  | 36 | 1.9 | 2.3 | 27  |

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**APPENDIX 2**

**Orientation Soil Programme**

**and**

**Partial Leach Soil Results**

| SampleID | UTM East | UTM North | UTM Grid | Local East | Local North | pH Soil | Ag     | As     | Au       | Ba      | Bi      | Cd     | Co     |
|----------|----------|-----------|----------|------------|-------------|---------|--------|--------|----------|---------|---------|--------|--------|
| 274118   | 431840.1 | 5407168   | AMG66_5  | 22600      | -3275       | 9       | 0.0093 | 0.281  | 0.00077  | 7.4     | 0.016   | 0.007  | 0.816  |
| 274119   | 431970   | 5407627   | AMG66_5  | 22600      | -2800       | 9.5     | 0.0055 | 0.14   | 0.00025  | 2.7     | 0.011   | 0.006  | 0.227  |
| 274120   | 430941.8 | 5407207   | AMG66_5  | 21700      | -3525       | 7.5     | 0.0082 | 0.033  | -0.00001 | 9.3     | -0.0001 | 0.003  | 0.022  |
| 274121   | 431090.7 | 5407864   | AMG66_5  | 21700      | -2850       | 9       | 0.0057 | 0.443  | 0.00042  | 17.5    | 0.0017  | 0.021  | 2.5    |
| 274122   | 429336.6 | 5408421   | AMG66_5  | 19800      | -2600       | 9       | 0.003  | 0.073  | 0.00026  | 9.7     | 0.001   | 0.019  | 1.1    |
| 274123   | 429204.5 | 5407944   | AMG66_5  | 19800      | -3100       | 8.5     | 0.027  | 0.048  | 0.00027  | 15      | 0.0001  | 0.009  | 0.032  |
| 274124   | 429121.8 | 5407574   | AMG66_5  | 19800      | -3500       | 8       | 0.0087 | 0.026  | 0.00004  | 3       | 0.0005  | 0.003  | 0.014  |
| 274125   | 428631.8 | 5408822   | AMG66_5  | 400        | 4975        | 9       | 0.006  | 0.273  | 0.00018  | 21      | 0.0081  | 0.009  | 0.783  |
| 274126   | 428990.9 | 5409577   | AMG66_5  | 428900     | 5409500     | 8.5     | 0.007  | 0.148  | 0.00021  | 29.5    | -0.0001 | 0.054  | 0.337  |
| 305501   | 431853.8 | 5407216   | AMG66_5  | 22600      | -3225       | 6.02    | 0.0059 | 0.1640 | 0.0003   | 4.5000  | 0.0230  | 0.0020 | 0.0550 |
| 305502   | 431894.8 | 5407361   | AMG66_5  | 22600      | -3075       | 5.8     | 0.0170 | 0.2310 | 0.0012   | 5.5000  | 0.0140  | 0.0070 | 0.3170 |
| 305503   | 431677.4 | 5406640   | AMG66_5  | 22600      | -3825       | 5.54    | 0.0021 | 0.0160 | 0.0002   | 0.6330  | 0.0003  | 0.0060 | 0.0130 |
| 305504   | 431922.1 | 5407458   | AMG66_5  | 22600      | -2975       | 5.6     | 0.0029 | 0.0050 | 0.0000   | 5.3000  | 0.0001  | 0.0100 | 0.0250 |
| 305505   | 431949.5 | 5407555   | AMG66_5  | 22600      | -2875       | 5.58    | 0.0027 | 0.0090 | 0.0000   | 4.9000  | -0.0001 | 0.0050 | 0.0190 |
| 305506   | 430820.1 | 5406785   | AMG66_5  | 21700      | -3975       | 5.37    | 0.0014 | 0.0240 | 0.0001   | 4.9000  | -0.0001 | 0.0050 | 0.0210 |
| 305507   | 431792.3 | 5406999   | AMG66_5  | 22600      | -3450       | 5.62    | 0.0010 | 0.0580 | 0.0000   | 8.9000  | 0.0044  | 0.0040 | 0.0230 |
| 305508   | 431887.9 | 5407337   | AMG66_5  | 22600      | -3100       | 6.57    | 0.0036 | 0.2210 | 0.0003   | 5.7000  | 0.0034  | 0.0150 | 0.8790 |
| 305509   | 430910   | 5407088   | AMG66_5  | 21700      | -3650       | 6.41    | 0.0150 | 0.1160 | 0.0001   | 16.5000 | 0.0120  | 0.0140 | 0.7970 |
| 305510   | 431778.6 | 5406951   | AMG66_5  | 22600      | -3500       | 5.7     | 0.0110 | 0.0180 | 0.0000   | 3.8000  | 0.0006  | 0.0030 | 0.0130 |
| 305511   | 430992   | 5407425   | AMG66_5  | 21700      | -3300       | 6.36    | 0.0095 | 0.1500 | 0.0004   | 9.6000  | 0.0083  | 0.0080 | 0.3640 |
| 305512   | 431003.1 | 5407474   | AMG66_5  | 21700      | -3250       | 6.31    | 0.0051 | 0.148  | 0.00095  | 19.5    | 0.012   | 0.023  | 1.6    |
| 305513   | 431976.8 | 5407651   | AMG66_5  | 22600      | -2775       | 5.8     | 0.0090 | 0.2190 | 0.0010   | 6.8000  | 0.0120  | 0.0060 | 0.2010 |
| 305514   | 431989.8 | 5407700   | AMG66_5  | 22600      | -2725       | 5.61    | 0.0038 | 0.0480 | 0.0000   | 7.9000  | -0.0001 | 0.0100 | 0.1070 |
| 305515   | 431942.6 | 5407530   | AMG66_5  | 22600      | -2900       | 5.33    | 0.0031 | 0.0140 | 0.0000   | 5.3000  | -0.0001 | 0.0070 | 0.0230 |
| 305516   | 430827   | 5406808   | AMG66_5  | 21700      | -3950       | 5.42    | 0.0009 | 0.0160 | 0.0000   | 2.4000  | -0.0001 | 0.0020 | 0.0200 |
| 305517   | 431727.6 | 5406782   | AMG66_5  | 22600      | -3675       | 6.11    | 0.0047 | 0.0040 | 0.0000   | 1.4000  | -0.0001 | 0.0030 | 0.0060 |
| 305518   | 430941.8 | 5407207   | AMG66_5  | 21700      | -3525       | 5.87    | 0.0036 | 0.5790 | 0.0008   | 39.0000 | 0.0150  | 0.0100 | 3.6000 |
| 305520   | 430868.5 | 5406948   | AMG66_5  | 21700      | -3800       | 6.13    | 0.0170 | 0.3230 | 0.0000   | 8.8000  | 0.0580  | 0.0030 | 0.0960 |
| 305521   | 430854.7 | 5406901   | AMG66_5  | 21700      | -3850       | 5.41    | 0.0084 | 0.009  | -0.00001 | 15      | -0.0001 | 0.006  | 0.021  |
| 305522   | 432035.1 | 5407868   | AMG66_5  | 22600      | -2550       | 6.58    | 0.0014 | 0.1940 | 0.0000   | 2.3000  | 0.0048  | 0.0050 | 0.1640 |
| 305523   | 431963.1 | 5407603   | AMG66_5  | 22600      | -2825       | 6.62    | 0.0013 | 0.1520 | 0.0000   | 4.4000  | 0.0270  | 0.0040 | 0.0730 |
| 305524   | 430969.7 | 5407328   | AMG66_5  | 21700      | -3400       | 7.04    | 0.0057 | 0.1340 | 0.0005   | 6.5000  | 0.0047  | 0.0260 | 0.1870 |
| 305525   | 431008.7 | 5407498   | AMG66_5  | 21700      | -3225       | 6.47    | 0.0091 | 0.1830 | 0.0007   | 14.0000 | 0.0130  | 0.0270 | 0.8950 |
| 305526   | 432067.5 | 5407989   | AMG66_5  | 22600      | -2425       | 5.71    | 0.0015 | 0.0250 | 0.0000   | 7.2000  | -0.0001 | 0.0050 | 0.0320 |
| 305527   | 430997.6 | 5407450   | AMG66_5  | 21700      | -3275       | 6.12    | 0.0100 | 0.0670 | 0.0000   | 15.5000 | -0.0001 | 0.0380 | 0.5840 |
| 305528   | 432041.6 | 5407893   | AMG66_5  | 22600      | -2525       | 5.66    | 0.0021 | 0.0310 | 0.0000   | 2.1000  | -0.0001 | 0.0040 | 0.0350 |
| 305529   | 432048.1 | 5407917   | AMG66_5  | 22600      | -2500       | 5.93    | 0.0017 | 0.0140 | 0.0000   | 3.5000  | -0.0001 | 0.0040 | 0.0190 |

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| SampleID | UTM East | UTM North | UTM Grid | Local East | Local North | pH Soil | Ag     | As     | Au      | Ba      | Bi      | Cd     | Co     |
|----------|----------|-----------|----------|------------|-------------|---------|--------|--------|---------|---------|---------|--------|--------|
| 305530   | 431874.3 | 5407289   | AMG66_5  | 22600      | -3150       | 6.94    | 0.0036 | 0.2400 | 0.0005  | 7.1000  | 0.0032  | 0.0230 | 0.3400 |
| 305531   | 431669   | 5406616   | AMG66_5  | 22600      | -3850       | 5.62    | 0.0011 | 0.058  | 0.00006 | 0.47    | -0.0001 | 0.009  | 0.023  |
| 305532   | 430847.8 | 5406878   | AMG66_5  | 21700      | -3875       | 5.62    | 0.0160 | 0.0280 | 0.0001  | 18.5000 | 0.0006  | 0.0060 | 0.0220 |
| 305533   | 431833.3 | 5407144   | AMG66_5  | 22600      | -3300       | 5.92    | 0.0059 | 0.1300 | 0.0002  | 6.8000  | 0.0091  | 0.0030 | 0.0200 |
| 305534   | 431736   | 5406806   | AMG66_5  | 22600      | -3650       | 5.65    | 0.0100 | 0.0190 | 0.0000  | 3.1000  | -0.0001 | 0.0040 | 0.0110 |
| 305535   | 430916.9 | 5407111   | AMG66_5  | 21700      | -3625       | 6.46    | 0.0062 | 0.2870 | 0.0007  | 24.5000 | 0.0120  | 0.0270 | 1.5000 |
| 305536   | 430975.3 | 5407352   | AMG66_5  | 21700      | -3375       | 6.27    | 0.0068 | 0.0950 | 0.0001  | 6.0000  | 0.0021  | 0.0120 | 0.7430 |
| 305537   | 430980.8 | 5407377   | AMG66_5  | 21700      | -3350       | 6.35    | 0.0110 | 0.2170 | 0.0006  | 6.7000  | 0.0093  | 0.0070 | 0.2790 |
| 305538   | 430882.3 | 5406995   | AMG66_5  | 21700      | -3750       | 5.93    | 0.0150 | 0.1050 | 0.0018  | 6.0000  | 0.0018  | 0.0060 | 2.2000 |
| 305539   | 431819.6 | 5407096   | AMG66_5  | 22600      | -3350       | 6.25    | 0.0032 | 0.2560 | 0.0007  | 7.1000  | 0.0110  | 0.0030 | 0.0620 |
| 305540   | 430958.6 | 5407280   | AMG66_5  | 21700      | -3450       | 6.23    | 0.0032 | 0.2640 | 0.0020  | 17.0000 | 0.0097  | 0.0150 | 1.2000 |
| 305541   | 431860.6 | 5407240   | AMG66_5  | 22600      | -3200       | 5.75    | 0.0023 | 0.0360 | 0.0000  | 4.4000  | 0.0003  | 0.0060 | 0.0310 |
| 305542   | 431799.1 | 5407023   | AMG66_5  | 22600      | -3425       | 5.71    | 0.0067 | 0.0730 | 0.0001  | 4.6000  | 0.0120  | 0.0030 | 0.0130 |
| 305543   | 432080.6 | 5408034   | AMG66_5  | 22600      | -2375       | 5.74    | 0.0012 | 0.0750 | 0.0000  | 8.4000  | -0.0001 | 0.0120 | 0.1320 |
| 305544   | 431785.4 | 5406975   | AMG66_5  | 22600      | -3475       | 5.61    | 0.0045 | 0.0410 | 0.0000  | 7.7000  | -0.0001 | 0.0050 | 0.0290 |
| 305545   | 431867.4 | 5407265   | AMG66_5  | 22600      | -3175       | 6.72    | 0.0049 | 0.262  | 0.0012  | 7.4     | 0.0026  | 0.021  | 1.8    |
| 305546   | 430953   | 5407255   | AMG66_5  | 21700      | -3475       | 6.12    | 0.0078 | 0.5020 | 0.0007  | 16.0000 | 0.0140  | 0.0220 | 5.1000 |
| 305547   | 430813.2 | 5406761   | AMG66_5  | 21700      | -4000       | 5.87    | 0.0023 | 0.0960 | 0.0000  | 1.2000  | 0.0001  | 0.0030 | 0.0330 |
| 305548   | 431935.8 | 5407506   | AMG66_5  | 22600      | -2925       | 5.86    | 0.0023 | 0.0150 | 0.0000  | 12.5000 | -0.0001 | 0.0080 | 0.0370 |
| 305549   | 430875.4 | 5406971   | AMG66_5  | 21700      | -3775       | 6.54    | 0.0140 | 0.2090 | 0.0009  | 2.1000  | 0.0078  | 0.0050 | 0.4880 |
| 305550   | 430923.8 | 5407135   | AMG66_5  | 21700      | -3600       | 6.72    | 0.0078 | 0.2370 | 0.0007  | 17.5000 | 0.0093  | 0.0430 | 0.5190 |
| 305551   | 430889.2 | 5407018   | AMG66_5  | 21700      | -3725       | 6.21    | 0.0220 | 0.0740 | 0.0000  | 13.0000 | -0.0001 | 0.0080 | 0.0420 |
| 305552   | 431805.9 | 5407047   | AMG66_5  | 22600      | -3400       | 5.93    | 0.0110 | 0.2040 | 0.0007  | 9.2000  | 0.0290  | 0.0030 | 0.0210 |
| 305553   | 431970   | 5407627   | AMG66_5  | 22600      | -2800       | 6.55    | 0.0038 | 0.1130 | 0.0008  | 1.4000  | 0.0100  | 0.0130 | 0.1370 |
| 305554   | 430947.4 | 5407231   | AMG66_5  | 21700      | -3500       | 6.64    | 0.0040 | 0.1560 | 0.0032  | 7.7000  | 0.0024  | 0.0400 | 1.1000 |
| 305555   | 431669   | 5406616   | AMG66_5  | 22600      | -3850       | 5.88    | 0.0024 | 0.0370 | 0.0007  | 1.9000  | -0.0001 | 0.0110 | 0.0240 |
| 305556   | 430941.8 | 5407207   | AMG66_5  | 21700      | -3525       | 8       | 0.011  | 0.031  | 0.00004 | 8.8     | 0.0004  | 0.006  | 0.016  |
| 305557   | 431710.9 | 5406735   | AMG66_5  | 22600      | -3725       | 5.71    | 0.0022 | 0.0370 | 0.0000  | 5.5000  | -0.0001 | 0.0110 | 0.0450 |
| 305558   | 431826.4 | 5407120   | AMG66_5  | 22600      | -3325       | 6.28    | 0.0110 | 0.3020 | 0.0007  | 6.3000  | 0.0220  | 0.0040 | 0.0250 |
| 305559   | 432074.1 | 5408012   | AMG66_5  | 22600      | -2400       | 5.6     | 0.0025 | 0.0440 | 0.0004  | 3.4000  | 0.0013  | 0.0060 | 0.0310 |
| 305560   | 432022.2 | 5407820   | AMG66_5  | 22600      | -2600       | 6.77    | 0.013  | 0.433  | 0.00049 | 6.2     | 0.012   | 0.009  | 0.107  |
| 305561   | 431983.3 | 5407675   | AMG66_5  | 22600      | -2750       | 5.99    | 0.0026 | 0.0140 | 0.0002  | 10.5000 | 0.0004  | 0.0400 | 0.0250 |
| 305562   | 431881.1 | 5407313   | AMG66_5  | 22600      | -3125       | 6.85    | 0.0130 | 0.3140 | 0.0009  | 8.1000  | 0.0067  | 0.0180 | 0.5310 |
| 305563   | 430964.1 | 5407304   | AMG66_5  | 21700      | -3425       | 6.45    | 0.0110 | 0.3320 | 0.0022  | 8.6000  | 0.0086  | 0.0120 | 0.3520 |
| 305564   | 432028.6 | 5407844   | AMG66_5  | 22600      | -2575       | 6.54    | 0.0150 | 0.4680 | 0.0003  | 1.9000  | 0.0110  | 0.0030 | 0.0530 |
| 305565   | 430896.1 | 5407041   | AMG66_5  | 21700      | -3700       | 5.96    | 0.0081 | 0.0980 | 0.0001  | 5.3000  | 0.0054  | 0.0030 | 0.0730 |
| 305566   | 431719.3 | 5406759   | AMG66_5  | 22600      | -3700       | 5.74    | 0.0048 | 0.0340 | 0.0000  | 4.8000  | 0.0003  | 0.0080 | 0.0280 |

646071

| SampleID | UTM East | UTM North | UTM Grid | Local East | Local North | pH Soil | Ag     | As     | Au      | Ba      | Bi      | Cd     | Co     |
|----------|----------|-----------|----------|------------|-------------|---------|--------|--------|---------|---------|---------|--------|--------|
| 305567   | 431812.8 | 5407071   | AMG66_5  | 22600      | -3375       | 6.28    | 0.0390 | 0.2300 | 0.0006  | 7.9000  | 0.0220  | 0.0040 | 0.0130 |
| 305568   | 430986.4 | 5407401   | AMG66_5  | 21700      | -3325       | 6.27    | 0.0180 | 0.2370 | 0.0004  | 8.0000  | 0.0150  | 0.0190 | 0.1750 |
| 305569   | 432015.7 | 5407796   | AMG66_5  | 22600      | -2625       | 6.51    | 0.0077 | 0.3880 | 0.0002  | 4.0000  | 0.0090  | 0.0050 | 0.0860 |
| 305570   | 431702.5 | 5406711   | AMG66_5  | 22600      | -3750       | 5.97    | 0.0048 | 0.0230 | 0.0000  | 7.6000  | 0.0003  | 0.0070 | 0.0210 |
| 305572   | 431956.3 | 5407579   | AMG66_5  | 22600      | -2850       | 5.96    | 0.0095 | 0.1400 | 0.0000  | 5.0000  | 0.0120  | 0.0040 | 0.0210 |
| 305573   | 431019.8 | 5407547   | AMG66_5  | 21700      | -3175       | 5.61    | 0.011  | 0.021  | 0.00023 | 8.3     | -0.0001 | 0.009  | 0.01   |
| 305574   | 432113.3 | 5408146   | AMG66_5  | 22600      | -2250       | 6.06    | 0.0040 | 0.1780 | 0.0000  | 9.9000  | 0.0015  | 0.0140 | 0.4210 |
| 305575   | 432002.7 | 5407748   | AMG66_5  | 22600      | -2675       | 5.62    | 0.0025 | 0.0430 | 0.0001  | 3.1000  | 0.0003  | 0.0040 | 0.0220 |
| 305576   | 431744.4 | 5406830   | AMG66_5  | 22600      | -3625       | 5.83    | 0.0150 | 0.0180 | 0.0002  | 5.2000  | -0.0001 | 0.0050 | 0.0110 |
| 305577   | 432061   | 5407965   | AMG66_5  | 22600      | -2450       | 5.8     | 0.0020 | 0.0150 | 0.0000  | 5.2000  | -0.0001 | 0.0050 | 0.0170 |
| 305578   | 431840.1 | 5407168   | AMG66_5  | 22600      | -3275       | 6.26    | 0.0160 | 0.3610 | 0.0005  | 10.0000 | 0.0160  | 0.0090 | 0.4100 |
| 305579   | 431694.1 | 5406687   | AMG66_5  | 22600      | -3775       | 5.95    | 0.0055 | 0.1280 | 0.0000  | 3.2000  | 0.0054  | 0.0050 | 0.0200 |
| 305580   | 431928.9 | 5407482   | AMG66_5  | 22600      | -2950       | 5.74    | 0.0008 | 0.0050 | 0.0000  | 10.0000 | -0.0001 | 0.0050 | 0.0130 |
| 305581   | 430936.3 | 5407182   | AMG66_5  | 21700      | -3550       | 6.4     | 0.0190 | 0.4700 | 0.0005  | 18.0000 | 0.0190  | 0.0190 | 1.3000 |
| 305582   | 432087.2 | 5408056   | AMG66_5  | 22600      | -2350       | 6.24    | 0.0017 | 0.2410 | 0.0002  | 7.9000  | 0.0023  | 0.0190 | 0.4610 |
| 305583   | 432054.5 | 5407941   | AMG66_5  | 22600      | -2475       | 5.81    | 0.0031 | 0.0320 | 0.0000  | 2.7000  | -0.0001 | 0.0080 | 0.0290 |
| 305584   | 431901.6 | 5407385   | AMG66_5  | 22600      | -3050       | 6.24    | 0.0190 | 0.1170 | 0.0004  | 4.2000  | 0.0089  | 0.0060 | 0.1220 |
| 305585   | 431025.4 | 5407571   | AMG66_5  | 21700      | -3150       | 5.75    | 0.0160 | 0.0330 | 0.0000  | 6.1000  | 0.0006  | 0.0050 | 0.0170 |
| 305586   | 431846.9 | 5407192   | AMG66_5  | 22600      | -3250       | 5.96    | 0.0140 | 0.4090 | 0.0001  | 7.3000  | 0.0200  | 0.0050 | 0.0400 |
| 305587   | 431014.3 | 5407522   | AMG66_5  | 21700      | -3200       | 6.65    | 0.0160 | 0.1990 | 0.0009  | 28.5000 | 0.0180  | 0.0270 | 3.2000 |
| 305588   | 432106.8 | 5408124   | AMG66_5  | 22600      | -2275       | 6.18    | 0.0022 | 0.147  | 0.00001 | 64      | 0.0004  | 0.079  | 2.5    |
| 305589   | 432119.9 | 5408168   | AMG66_5  | 22600      | -2225       | 5.92    | 0.0008 | 0.1860 | 0.0000  | 25.0000 | 0.0010  | 0.0130 | 1.0000 |
| 305590   | 431996.3 | 5407724   | AMG66_5  | 22600      | -2700       | 5.45    | 0.0004 | 0.0120 | 0.0001  | 0.6050  | -0.0001 | 0.0050 | 0.0230 |
| 305591   | 432093.7 | 5408079   | AMG66_5  | 22600      | -2325       | 6.41    | 0.0009 | 0.3440 | 0.0001  | 44.0000 | 0.0047  | 0.1080 | 3.6000 |
| 305592   | 432100.3 | 5408101   | AMG66_5  | 22600      | -2300       | 5.99    | 0.0006 | 0.2080 | 0.0000  | 21.5000 | 0.0035  | 0.0180 | 0.2960 |
| 305593   | 432009.2 | 5407772   | AMG66_5  | 22600      | -2650       | 5.89    | 0.0007 | 0.0140 | 0.0000  | 3.1000  | -0.0001 | 0.0070 | 0.0200 |
| 305594   | 430833.9 | 5406831   | AMG66_5  | 21700      | -3925       | 5.61    | 0.0004 | 0.0100 | 0.0001  | 1.9000  | -0.0001 | 0.0040 | 0.0110 |
| 305595   | 431771.8 | 5406926   | AMG66_5  | 22600      | -3525       | 5.59    | 0.0083 | 0.0370 | 0.0002  | 5.9000  | 0.0007  | 0.0040 | 0.0150 |
| 305596   | 430930.7 | 5407158   | AMG66_5  | 21700      | -3575       | 6.53    | 0.0610 | 0.3360 | 0.0001  | 36.5000 | 0.0007  | 0.0620 | 1.1000 |
| 305597   | 431764.9 | 5406902   | AMG66_5  | 22600      | -3550       | 5.84    | 0.0079 | 0.0070 | 0.0002  | 2.9000  | -0.0001 | 0.0020 | 0.0090 |
| 305598   | 430903.1 | 5407065   | AMG66_5  | 21700      | -3675       | 5.8     | 0.009  | 0.119  | 0.00006 | 33      | 0.0025  | 0.018  | 0.869  |
| 305599   | 430861.6 | 5406925   | AMG66_5  | 21700      | -3825       | 5.75    | 0.0360 | 0.0350 | 0.0002  | 10.5000 | 0.0029  | 0.0070 | 0.0220 |
| 305601   | 431169   | 5408247   | AMG66_5  | 21700      | -2450       | 6.94    | 0.0021 | 0.0590 | 0.0003  | 9.8000  | 0.0003  | 0.0320 | 1.9000 |
| 305602   | 431219.3 | 5408412   | AMG66_5  | 21700      | -2275       | 6.84    | 0.0025 | 0.0330 | 0.0001  | 9.9000  | -0.0001 | 0.0150 | 3.2000 |
| 305603   | 431036.6 | 5407620   | AMG66_5  | 21700      | -3100       | 5.85    | 0.0008 | 0.0980 | 0.0000  | 9.4000  | 0.0001  | 0.0110 | 0.0820 |
| 305604   | 431226.4 | 5408435   | AMG66_5  | 21700      | -2250       | 6.93    | 0.0015 | 0.0510 | 0.0001  | 4.1000  | 0.0002  | 0.0090 | 8.7000 |
| 305605   | 429498   | 5408958   | AMG66_5  | 19800      | -2025       | 6.23    | 0.0005 | 0.2120 | 0.0000  | 19.5000 | 0.0011  | 0.0100 | 0.4880 |

646072

| SampleID | UTM East | UTM North | UTM Grid | Local East | Local North | pH Soil | Ag     | As     | Au      | Ba      | Bi      | Cd     | Co     |
|----------|----------|-----------|----------|------------|-------------|---------|--------|--------|---------|---------|---------|--------|--------|
| 305606   | 429297.5 | 5408300   | AMG66_5  | 19800      | -2725       | 5.66    | 0.0009 | 0.0230 | 0.0000  | 3.5000  | -0.0001 | 0.0050 | 0.0230 |
| 305607   | 431111.8 | 5408011   | AMG66_5  | 21700      | -2700       | 6.36    | 0.0016 | 0.1490 | 0.0000  | 9.8000  | 0.0006  | 0.0180 | 0.8110 |
| 305608   | 431204.9 | 5408364   | AMG66_5  | 21700      | -2325       | 6.68    | 0.0021 | 0.0270 | 0.0000  | 6.7000  | -0.0001 | 0.0280 | 1.5000 |
| 305609   | 429209.7 | 5407967   | AMG66_5  | 19800      | -3075       | 5.88    | 0.0420 | 0.0930 | 0.0000  | 10.5000 | 0.0005  | 0.0030 | 0.0160 |
| 305610   | 431090.7 | 5407864   | AMG66_5  | 21700      | -2850       | 6.39    | 0.0073 | 0.3880 | 0.0001  | 26.0000 | 0.0015  | 0.0290 | 2.3000 |
| 305611   | 429137.3 | 5407643   | AMG66_5  | 19800      | -3425       | 5.84    | 0.0005 | 0.0230 | 0.0001  | 4.0000  | 0.0005  | 0.0050 | 0.0160 |
| 305612   | 429127   | 5407597   | AMG66_5  | 19800      | -3475       | 5.86    | 0.0037 | 0.0140 | 0.0000  | 1.4000  | -0.0001 | 0.0040 | 0.0070 |
| 305613   | 429462.9 | 5408841   | AMG66_5  | 19800      | -2150       | 6.55    | 0.0013 | 0.0960 | 0.0000  | 5.6000  | 0.0015  | 0.0100 | 0.0770 |
| 305614   | 429448.8 | 5408794   | AMG66_5  | 19800      | -2200       | 6.53    | 0.0021 | 0.1550 | 0.0010  | 14.0000 | 0.0016  | 0.0090 | 1.8000 |
| 305615   | 429505   | 5408981   | AMG66_5  | 19800      | -2000       | 6.47    | 0.0014 | 0.2310 | 0.0002  | 31.5000 | 0.0009  | 0.0290 | 1.9000 |
| 305616   | 429288.4 | 5408275   | AMG66_5  | 19800      | -2750       | 5.97    | 0.0000 | 0.0670 | 0.0000  | 14.5000 | 0.0010  | 0.0070 | 0.0360 |
| 305617   | 431071.6 | 5407766   | AMG66_5  | 21700      | -2950       | 5.55    | 0.0007 | 0.2910 | 0.0000  | 3.2000  | 0.0004  | 0.0060 | 0.0480 |
| 305618   | 429189   | 5407874   | AMG66_5  | 19800      | -3175       | 5.88    | 0.0110 | 0.2580 | 0.0000  | 4.8000  | 0.0070  | 0.0040 | 0.0280 |
| 305619   | 429270.4 | 5408224   | AMG66_5  | 19800      | -2800       | 5.75    | 0.0043 | 0.0500 | 0.0000  | 7.0000  | 0.0005  | 0.0090 | 0.0310 |
| 305620   | 429240.7 | 5408106   | AMG66_5  | 19800      | -2925       | 6.46    | 0.0270 | 0.2460 | 0.0005  | 11.0000 | 0.0059  | 0.0120 | 0.1120 |
| 305621   | 429251.1 | 5408152   | AMG66_5  | 19800      | -2875       | 6.2     | 0.0160 | 0.0960 | 0.0015  | 9.1000  | 0.0007  | 0.0420 | 0.2940 |
| 305622   | 429399.7 | 5408631   | AMG66_5  | 19800      | -2375       | 6       | 0.0027 | 0.143  | 0.00008 | 9.8     | 0.0034  | 0.006  | 0.087  |
| 305623   | 429483.9 | 5408911   | AMG66_5  | 19800      | -2075       | 5.61    | 0.0010 | 0.1430 | 0.0001  | 8.7000  | 0.0003  | 0.0070 | 0.0700 |
| 305624   | 429158   | 5407736   | AMG66_5  | 19800      | -3325       | 5.63    | 0.0005 | 0.0730 | 0.0000  | 10.5000 | -0.0001 | 0.0030 | 0.0240 |
| 305625   | 429121.8 | 5407574   | AMG66_5  | 19800      | -3500       | 5.51    | 0.0031 | 0.0450 | 0.0000  | 3.7000  | -0.0001 | 0.0040 | 0.0160 |
| 305626   | 429364.6 | 5408514   | AMG66_5  | 19800      | -2500       | 6.41    | 0.0038 | 0.1750 | 0.0001  | 7.4000  | 0.0028  | 0.0020 | 0.1120 |
| 305627   | 429132.2 | 5407620   | AMG66_5  | 19800      | -3450       | 5.93    | 0.0073 | 0.0380 | 0.0000  | 1.6000  | -0.0001 | 0.0030 | 0.0070 |
| 305628   | 429392.7 | 5408608   | AMG66_5  | 19800      | -2400       | 6.2     | 0.0044 | 0.2410 | 0.0001  | 9.0000  | 0.0140  | 0.0030 | 0.0860 |
| 305629   | 429385.7 | 5408584   | AMG66_5  | 19800      | -2425       | 6.14    | 0.0022 | 0.1750 | 0.0000  | 7.9000  | 0.0130  | 0.0030 | 0.0280 |
| 305630   | 431190.6 | 5408317   | AMG66_5  | 21700      | -2375       | 6.84    | 0.0027 | 0.0690 | 0.0003  | 7.7000  | -0.0001 | 0.0330 | 2.1000 |
| 305631   | 431031   | 5407595   | AMG66_5  | 21700      | -3125       | 6.49    | 0.0052 | 0.2470 | 0.0007  | 5.9000  | 0.0072  | 0.0120 | 0.9390 |
| 305632   | 429256.2 | 5408175   | AMG66_5  | 19800      | -2850       | 6.06    | 0.0078 | 0.3120 | 0.0003  | 5.5000  | 0.0013  | 0.0280 | 0.0890 |
| 305633   | 431140.3 | 5408155   | AMG66_5  | 21700      | -2550       | 6.39    | 0.0031 | 0.1190 | 0.0001  | 10.5000 | 0.0005  | 0.0290 | 5.7000 |
| 305634   | 431077.6 | 5407790   | AMG66_5  | 21700      | -2925       | 5.63    | 0.0025 | 0.0330 | 0.0000  | 4.8000  | -0.0001 | 0.0040 | 0.0500 |
| 305635   | 429204.5 | 5407944   | AMG66_5  | 19800      | -3100       | 5.82    | 0.0220 | 0.0520 | 0.0000  | 20.5000 | -0.0001 | 0.0080 | 0.0290 |
| 305636   | 429152.8 | 5407712   | AMG66_5  | 19800      | -3350       | 5.8     | 0.0046 | 0.0380 | 0.0001  | 5.9000  | -0.0001 | 0.0030 | 0.0090 |
| 305637   | 429147.7 | 5407689   | AMG66_5  | 19800      | -3375       | 5.73    | 0.0028 | 0.0260 | 0.0000  | 6.0000  | -0.0001 | 0.0040 | 0.0070 |
| 305638   | 429230.4 | 5408060   | AMG66_5  | 19800      | -2975       | 5.82    | 0.0800 | 0.0330 | 0.0001  | 8.6000  | -0.0001 | 0.0050 | 0.0130 |
| 305639   | 431125.9 | 5408109   | AMG66_5  | 21700      | -2600       | 5.93    | 0.0051 | 0.2140 | 0.0001  | 10.0000 | 0.0018  | 0.0080 | 0.0830 |
| 305640   | 429168.3 | 5407782   | AMG66_5  | 19800      | -3275       | 6.67    | 0.0067 | 0.5020 | 0.0009  | 6.1000  | 0.0055  | 0.0050 | 0.1340 |
| 305641   | 431176.2 | 5408270   | AMG66_5  | 21700      | -2425       | 6.82    | 0.0042 | 0.09   | 0.00028 | 9.5     | -0.0001 | 0.032  | 3      |
| 305642   | 431115.3 | 5408035   | AMG66_5  | 21700      | -2675       | 6.43    | 0.0029 | 0.2120 | 0.0000  | 6.2000  | 0.0007  | 0.0140 | 0.2690 |

646073

| SampleID | UTM East | UTM North | UTM Grid | Local East | Local North | pH_Soil | Ag     | As      | Au       | Ba      | Bi      | Cd      | Co     |
|----------|----------|-----------|----------|------------|-------------|---------|--------|---------|----------|---------|---------|---------|--------|
| 305643   | 429350.6 | 5408468   | AMG66_5  | 19800      | -2550       | 6.38    | 0.0034 | 0.1270  | 0.0000   | 9.7000  | 0.0021  | 0.0010  | 0.0530 |
| 305644   | 431094.2 | 5407888   | AMG66_5  | 21700      | -2825       | 6.59    | 0.0010 | 0.3780  | 0.0002   | 42.0000 | 0.0048  | 0.0550  | 3.1000 |
| 305645   | 431183.4 | 5408293   | AMG66_5  | 21700      | -2400       | 6.96    | 0.0022 | 0.0480  | 0.0003   | 6.2000  | 0.0013  | 0.0290  | 2.1000 |
| 305646   | 429173.5 | 5407805   | AMG66_5  | 19800      | -3250       | 6.41    | 0.0170 | 0.5810  | 0.0004   | 14.0000 | 0.0068  | 0.0110  | 0.3830 |
| 305647   | 429306.5 | 5408326   | AMG66_5  | 19800      | -2700       | 5.71    | 0.0044 | 0.0290  | 0.0001   | 4.6000  | 0.0018  | 0.0030  | 0.0240 |
| 305648   | 431240.8 | 5408483   | AMG66_5  | 21700      | -2200       | 6.95    | 0.0028 | 0.0400  | 0.0004   | 1.4000  | 0.0003  | 0.0140  | 3.8000 |
| 305649   | 429235.6 | 5408083   | AMG66_5  | 19800      | -2950       | 5.82    | 0.0400 | 0.1430  | 0.0007   | 4.2000  | 0.0069  | 0.0150  | 0.0800 |
| 305651   | 429225.2 | 5408036   | AMG66_5  | 19800      | -3000       | 6.09    | 0.1870 | 0.0160  | 0.0000   | 8.7000  | 0.0004  | 0.0050  | 0.0160 |
| 305652   | 431118.8 | 5408060   | AMG66_5  | 21700      | -2650       | 6.06    | 0.0074 | 0.1660  | 0.0000   | 11.0000 | 0.0031  | 0.0110  | 0.1960 |
| 305653   | 429476.9 | 5408888   | AMG66_5  | 19800      | -2100       | 5.54    | 0.0016 | 0.0260  | 0.0000   | 5.6000  | -0.0001 | 0.0040  | 0.0370 |
| 305654   | 429178.7 | 5407828   | AMG66_5  | 19800      | -3225       | 6.26    | 0.0095 | 0.7200  | 0.0002   | 32.0000 | 0.0220  | 0.0270  | 1.9000 |
| 305655   | 431042.1 | 5407644   | AMG66_5  | 21700      | -3075       | 5.59    | 0.0007 | 0.0360  | 0.0000   | 1.5000  | -0.0001 | 0.0050  | 0.0350 |
| 305656   | 429183.9 | 5407851   | AMG66_5  | 19800      | -3200       | 5.73    | 0.0013 | 0.2030  | 0.0000   | 10.5000 | 0.0038  | 0.0100  | 0.0640 |
| 305657   | 431059.7 | 5407717   | AMG66_5  | 21700      | -3000       | 5.59    | 0.0000 | 0.0180  | 0.0000   | 1.4000  | -0.0001 | 0.0030  | 0.0220 |
| 305658   | 431133.1 | 5408132   | AMG66_5  | 21700      | -2575       | 6.32    | 0.0021 | 0.2910  | 0.0000   | 23.5000 | 0.0021  | 0.0110  | 0.3230 |
| 305659   | 429357.6 | 5408491   | AMG66_5  | 19800      | -2525       | 5.94    | 0.0020 | 0.0330  | 0.0000   | 3.4000  | 0.0009  | 0.0030  | 0.0270 |
| 305660   | 429413.8 | 5408678   | AMG66_5  | 19800      | -2325       | 6.25    | 0.0036 | 0.1660  | 0.0001   | 35.5000 | 0.0021  | 0.0070  | 0.2610 |
| 305661   | 429455.9 | 5408818   | AMG66_5  | 19800      | -2175       | 5.74    | 0.0037 | 0.0270  | 0.0000   | 4.0000  | -0.0001 | 0.0280  | 2.6000 |
| 305662   | 431197.8 | 5408340   | AMG66_5  | 21700      | -2350       | 6.77    | 0.0019 | 0.0380  | 0.0000   | 7.6000  | 0.0006  | 0.0080  | 0.0530 |
| 305663   | 429163.2 | 5407759   | AMG66_5  | 19800      | -3300       | 6.06    | 0.0190 | 0.3120  | 0.0000   | 8.9000  | 0.0180  | 0.0030  | 0.0420 |
| 305664   | 429406.8 | 5408654   | AMG66_5  | 19800      | -2350       | 6.51    | 0.0029 | 0.145   | -0.00001 | 13      | 0.005   | 0.005   | 0.127  |
| 305665   | 429220.1 | 5408013   | AMG66_5  | 19800      | -3025       | 6.51    | 0.1030 | 0.0090  | 0.0000   | 20.0000 | -0.0001 | 0.0060  | 0.0110 |
| 305666   | 431065.7 | 5407742   | AMG66_5  | 21700      | -2975       | 5.52    | 0.0057 | 0.0300  | 0.0000   | 4.9000  | -0.0001 | 0.0050  | 0.0490 |
| 305667   | 431122.4 | 5408084   | AMG66_5  | 21700      | -2625       | 5.95    | 0.0026 | 0.1570  | 0.0000   | 16.5000 | 0.0026  | 0.0130  | 0.0920 |
| 305668   | 429142.5 | 5407666   | AMG66_5  | 19800      | -3400       | 5.81    | 0.0014 | 0.046   | -0.00001 | 3.4     | 0.001   | 0.006   | 0.022  |
| 305669   | 429420.8 | 5408701   | AMG66_5  | 19800      | -2300       | 6.22    | 0.0033 | 0.3460  | 0.0024   | 44.0000 | 0.0076  | 0.0370  | 0.6880 |
| 305670   | 431053.7 | 5407693   | AMG66_5  | 21700      | -3025       | 5.66    | 0.0000 | -0.0010 | 0.0000   | 0.4180  | -0.0001 | -0.0010 | 0.0020 |
| 305671   | 429469.9 | 5408864   | AMG66_5  | 19800      | -2125       | 5.76    | 0.0011 | 0.0870  | 0.0000   | 7.1000  | 0.0009  | 0.0050  | 0.0350 |
| 305672   | 429491   | 5408934   | AMG66_5  | 19800      | -2050       | 5.74    | 0.0005 | 0.0180  | 0.0000   | 5.8000  | -0.0001 | 0.0050  | 0.0390 |
| 305673   | 429116.7 | 5407550   | AMG66_5  | 19800      | -3525       | 5.56    | 0.0011 | 0.0260  | 0.0004   | 4.7000  | 0.0046  | 0.0060  | 0.0180 |
| 305674   | 429322.5 | 5408374   | AMG66_5  | 19800      | -2650       | 6.25    | 0.0024 | 0.0280  | 0.0003   | 6.4000  | 0.0071  | 0.0020  | 0.0190 |
| 305675   | 429434.8 | 5408748   | AMG66_5  | 19800      | -2250       | 5.97    | 0.0018 | 0.0880  | 0.0002   | 8.0000  | 0.0140  | 0.0050  | 0.1370 |
| 305676   | 431083.6 | 5407815   | AMG66_5  | 21700      | -2900       | 6.23    | 0.0037 | 0.1550  | 0.0002   | 0.9830  | 0.0062  | 0.0040  | 0.3000 |
| 305677   | 429371.7 | 5408538   | AMG66_5  | 19800      | -2475       | 6.66    | 0.0030 | 0.0540  | 0.0001   | 9.5000  | 0.0031  | 0.0070  | 0.2430 |
| 305678   | 431154.7 | 5408201   | AMG66_5  | 21700      | -2500       | 6.72    | 0.0056 | 0.0470  | 0.0000   | 2.5000  | 0.0012  | 0.0350  | 0.9350 |
| 305679   | 431047.7 | 5407668   | AMG66_5  | 21700      | -3050       | 5.64    | 0.0030 | 0.0160  | 0.0000   | 0.7640  | -0.0001 | 0.0050  | 0.0240 |
| 305680   | 431233.6 | 5408459   | AMG66_5  | 21700      | -2225       | 6.82    | 0.0026 | 0.0180  | 0.0001   | 3.9000  | -0.0001 | 0.0080  | 1.7000 |

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| SampleID | UTM East | UTM North | UTM Grid | Local East | Local North | pH Soil | Ag     | As     | Au       | Ba      | Bi      | Cd     | Co     |
|----------|----------|-----------|----------|------------|-------------|---------|--------|--------|----------|---------|---------|--------|--------|
| 305681   | 429194.2 | 5407898   | AMG66_5  | 19800      | -3150       | 6.38    | 0.0210 | 0.2500 | 0.0003   | 9.5000  | 0.0520  | 0.0030 | 0.1440 |
| 305682   | 429343.6 | 5408444   | AMG66_5  | 19800      | -2575       | 6.25    | 0.0045 | 0.0960 | 0.0000   | 14.5000 | 0.0084  | 0.0080 | 0.6510 |
| 305683   | 429378.7 | 5408561   | AMG66_5  | 19800      | -2450       | 6.48    | 0.0024 | 0.1940 | 0.0000   | 28.0000 | 0.0064  | 0.0060 | 0.2240 |
| 305684   | 431212.1 | 5408388   | AMG66_5  | 21700      | -2300       | 6.65    | 0.0035 | 0.0420 | 0.0000   | 11.5000 | -0.0001 | 0.0170 | 2.5000 |
| 305685   | 429111.5 | 5407527   | AMG66_5  | 19800      | -3550       | 5.7     | 0.0023 | 0.0480 | 0.0000   | 1.5000  | 0.0008  | 0.0090 | 0.0320 |
| 305686   | 431161.8 | 5408224   | AMG66_5  | 21700      | -2475       | 6.62    | 0.0027 | 0.0730 | 0.0000   | 12.5000 | 0.0007  | 0.0320 | 1.8000 |
| 305688   | 429329.5 | 5408398   | AMG66_5  | 19800      | -2625       | 6.62    | 0.0063 | 0.0610 | 0.0000   | 2.1000  | 0.0019  | 0.0110 | 2.2000 |
| 305689   | 429315.5 | 5408351   | AMG66_5  | 19800      | -2675       | 6.39    | 0.0035 | 0.0740 | 0.0000   | 4.9000  | 0.0091  | 0.0060 | 0.0980 |
| 305690   | 429441.8 | 5408771   | AMG66_5  | 19800      | -2225       | 6.07    | 0.0034 | 0.092  | 0.00001  | 6.8     | 0.0032  | 0.005  | 0.091  |
| 305691   | 429336.6 | 5408421   | AMG66_5  | 19800      | -2600       | 6.34    | 0.0048 | 0.0400 | 0.0000   | 7.6000  | 0.0016  | 0.0070 | 0.7370 |
| 305693   | 429427.8 | 5408724   | AMG66_5  | 19800      | -2275       | 6.5     | 0.0039 | 1.1000 | 0.0033   | 24.0000 | 0.0038  | 0.0080 | 3.5000 |
| 305694   | 429279.4 | 5408249   | AMG66_5  | 19800      | -2775       | 5.75    | 0.0046 | 0.0490 | 0.0000   | 5.5000  | 0.0010  | 0.0040 | 0.0340 |
| 305696   | 429199.4 | 5407921   | AMG66_5  | 19800      | -3125       | 5.61    | 0.0035 | 0.0290 | 0.0000   | 8.4000  | 0.0005  | 0.0060 | 0.0360 |
| 305697   | 431087.1 | 5407839   | AMG66_5  | 21700      | -2875       | 5.68    | 0.0035 | 0.3700 | 0.0000   | 13.5000 | 0.0064  | 0.0070 | 0.6010 |
| 305698   | 429214.9 | 5407990   | AMG66_5  | 19800      | -3050       | 6.61    | 0.1480 | 0.0220 | 0.0000   | 8.2000  | -0.0001 | 0.0020 | 0.0200 |
| 305699   | 429245.9 | 5408129   | AMG66_5  | 19800      | -2900       | 6.53    | 0.0100 | 0.1170 | 0.0010   | 16.0000 | 0.0069  | 0.0140 | 3.0000 |
| 305700   | 431147.5 | 5408178   | AMG66_5  | 21700      | -2525       | 6.66    | 0.0037 | 0.0600 | 0.0000   | 11.5000 | 0.0001  | 0.0370 | 2.5000 |
| 305701   | 428650.2 | 5408837   | AMG66_5  | 400        | 5000        | 5.88    | 0.0086 | 0.206  | -0.00001 | 11.5    | 0.0085  | 0.005  | 0.435  |
| 305702   | 428779.1 | 5408941   | AMG66_5  | 400        | 5175        | 6.18    | 0.0038 | 0.2320 | 0.0002   | 12.0000 | 0.0031  | 0.0070 | 0.6470 |
| 305703   | 428212.5 | 5408463   | AMG66_5  | 400        | 4400        | 5.7     | 0.0170 | 0.2880 | 0.0000   | 7.0000  | 0.0090  | 0.0030 | 0.0400 |
| 305704   | 428797.5 | 5408956   | AMG66_5  | 400        | 5200        | 6.21    | 0.0028 | 0.237  | 0.00003  | 31.5    | 0.0074  | 0.006  | 0.509  |
| 305705   | 428871.2 | 5409015   | AMG66_5  | 400        | 5300        | 6.46    | 0.0046 | 0.1640 | 0.0001   | 15.0000 | 0.0018  | 0.0060 | 0.4990 |
| 305706   | 428989   | 5409678   | AMG66_5  | 428900     | 5409600     | 6.58    | 0.0066 | 0.0860 | 0.0000   | 20.0000 | 0.0003  | 0.0170 | 2.2000 |
| 305707   | 428484.5 | 5408703   | AMG66_5  | 400        | 4775        | 6.15    | 0.0150 | 2.0000 | 0.0010   | 15.5000 | 0.0290  | 0.0080 | 0.8920 |
| 305708   | 428742.3 | 5408911   | AMG66_5  | 400        | 5125        | 6.16    | 0.0039 | 0.2680 | 0.0001   | 16.5000 | 0.0035  | 0.0070 | 0.8070 |
| 305709   | 428989.4 | 5410000   | AMG66_5  | 428900     | 5409925     | 6.15    | 0.0054 | 0.2000 | 0.0004   | 5.1000  | 0.0043  | 0.0080 | 0.5170 |
| 305710   | 428411.2 | 5408642   | AMG66_5  | 400        | 4675        | 5.97    | 0.0130 | 0.8870 | 0.0001   | 3.5000  | 0.0350  | 0.0040 | 0.0140 |
| 305713   | 428963.2 | 5409089   | AMG66_5  | 428900     | 5409000     | 5.8     | 0.0070 | 0.0240 | 0.0000   | 6.7000  | 0.0006  | 0.0050 | 0.0180 |
| 305714   | 428964.2 | 5409139   | AMG66_5  | 428900     | 5409050     | 6.36    | 0.0034 | 0.2250 | 0.0000   | 24.0000 | 0.0014  | 0.0100 | 0.3580 |
| 305715   | 428852.8 | 5409000   | AMG66_5  | 400        | 5275        | 6.48    | 0.0031 | 0.187  | 0.00002  | 14.5    | 0.0013  | 0.007  | 0.23   |
| 305716   | 428988.6 | 5409703   | AMG66_5  | 428900     | 5409625     | 6.57    | 0.0072 | 0.0790 | 0.0001   | 28.5000 | 0.0016  | 0.0280 | 1.5000 |
| 305717   | 428320.9 | 5408561   | AMG66_5  | 400        | 4550        | 6.68    | 0.0110 | 0.4700 | 0.0002   | 9.0000  | 0.0150  | 0.0080 | 0.1300 |
| 305719   | 428987.6 | 5409753   | AMG66_5  | 428900     | 5409675     | 6.86    | 0.0035 | 0.0580 | 0.0001   | 11.5000 | -0.0001 | 0.0120 | 1.9000 |
| 305720   | 428985.8 | 5409854   | AMG66_5  | 428900     | 5409775     | 6.8     | 0.0039 | 0.0530 | 0.0001   | 8.2000  | -0.0001 | 0.0150 | 1.8000 |
| 305721   | 428986.7 | 5409803   | AMG66_5  | 428900     | 5409725     | 6.5     | 0.0030 | 0.0740 | 0.0001   | 7.4000  | -0.0001 | 0.0120 | 3.5000 |
| 305722   | 428967.5 | 5409312   | AMG66_5  | 428900     | 5409225     | 6.38    | 0.0084 | 0.2170 | 0.0001   | 21.5000 | 0.0027  | 0.0220 | 0.9130 |
| 305723   | 428908   | 5409045   | AMG66_5  | 400        | 5350        | 6.06    | 0.0070 | 0.2070 | 0.0000   | 16.5000 | 0.0050  | 0.0060 | 0.1990 |

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| SampleID | UTM East | UTM North | UTM Grid | Local East | Local North | pH Soil | Ag     | As     | Au       | Ba      | Bi      | Cd     | Co     |
|----------|----------|-----------|----------|------------|-------------|---------|--------|--------|----------|---------|---------|--------|--------|
| 305726   | 428977.2 | 5409433   | AMG66_5  | 428900     | 5409350     | 6.56    | 0.0074 | 0.1530 | 0.0001   | 17.5000 | 0.0009  | 0.0260 | 0.3670 |
| 305728   | 428968   | 5409337   | AMG66_5  | 428900     | 5409250     | 6.34    | 0.0068 | 0.2370 | 0.0000   | 32.5000 | 0.0016  | 0.0350 | 0.5960 |
| 305729   | 428970.3 | 5409361   | AMG66_5  | 428900     | 5409275     | 6.95    | 0.0091 | 0.2130 | 0.0000   | 17.5000 | 0.0027  | 0.0230 | 2.8000 |
| 305730   | 428705.5 | 5408881   | AMG66_5  | 400        | 5075        | 6.09    | 0.0040 | 0.2060 | 0.0001   | 18.0000 | 0.0028  | 0.0060 | 0.5820 |
| 305731   | 428194.4 | 5408447   | AMG66_5  | 400        | 4375        | 6.22    | 0.0160 | 0.1840 | 0.0003   | 1.6000  | 0.0036  | 0.0050 | 0.4390 |
| 305732   | 428987.2 | 5409778   | AMG66_5  | 428900     | 5409700     | 6.39    | 0.0035 | 0.1190 | 0.0001   | 16.5000 | -0.0001 | 0.0180 | 2.5000 |
| 305733   | 428595   | 5408792   | AMG66_5  | 400        | 4925        | 6.28    | 0.0041 | 0.2920 | 0.0000   | 26.0000 | 0.0005  | 0.0360 | 0.8360 |
| 305734   | 428338.9 | 5408577   | AMG66_5  | 400        | 4575        | 5.53    | 0.0042 | 0.1750 | 0.0001   | 3.1000  | 0.0033  | 0.0030 | 0.0330 |
| 305735   | 428990.3 | 5410024   | AMG66_5  | 428900     | 5409950     | 6.11    | 0.0073 | 0.1300 | 0.0001   | 5.5000  | 0.0041  | 0.0060 | 0.2250 |
| 305738   | 428986.1 | 5409903   | AMG66_5  | 428900     | 5409825     | 6.29    | 0.0072 | 0.1460 | 0.0000   | 10.0000 | 0.0037  | 0.0070 | 0.3080 |
| 305739   | 428558.2 | 5408763   | AMG66_5  | 400        | 4875        | 6.04    | 0.0028 | 0.3370 | 0.0002   | 23.0000 | 0.0009  | 0.0370 | 1.2000 |
| 305741   | 428668.6 | 5408852   | AMG66_5  | 400        | 5025        | 5.9     | 0.0068 | 0.1450 | 0.0000   | 3.2000  | 0.0230  | 0.0050 | 0.4850 |
| 305742   | 428502.9 | 5408718   | AMG66_5  | 400        | 4800        | 6.2     | 0.0081 | 2.9000 | 0.0005   | 17.0000 | 0.0082  | 0.0180 | 1.0000 |
| 305743   | 428981.8 | 5409481   | AMG66_5  | 428900     | 5409400     | 6.29    | 0.0110 | 0.2240 | 0.0000   | 17.0000 | 0.0023  | 0.0260 | 1.0000 |
| 305744   | 428466.1 | 5408688   | AMG66_5  | 400        | 4750        | 5.95    | 0.0060 | 2.2000 | 0.0043   | 9.8000  | 0.0960  | 0.0090 | 0.6480 |
| 305745   | 428687   | 5408867   | AMG66_5  | 400        | 5050        | 6.23    | 0.0034 | 0.381  | -0.00001 | 14      | 0.0037  | 0.007  | 3.4    |
| 305747   | 428990   | 5409627   | AMG66_5  | 428900     | 5409550     | 6.4     | 0.0056 | 0.0690 | 0.0000   | 52.0000 | -0.0001 | 0.0560 | 0.5950 |
| 305748   | 428834.3 | 5408985   | AMG66_5  | 400        | 5250        | 6.32    | 0.0030 | 0.2370 | 0.0000   | 10.5000 | 0.0013  | 0.0040 | 0.3000 |
| 305749   | 428985.3 | 5409879   | AMG66_5  | 428900     | 5409800     | 6.2     | 0.0018 | 0.1640 | 0.0000   | 18.5000 | 0.0014  | 0.0080 | 0.6170 |
| 305750   | 428991.1 | 5410048   | AMG66_5  | 428900     | 5409975     | 5.65    | 0.0015 | 0.1240 | 0.0000   | 6.6000  | 0.0015  | 0.0030 | 0.0330 |
| 305751   | 428986.9 | 5409927   | AMG66_5  | 428900     | 5409850     | 5.98    | 0.0012 | 0.1290 | 0.0000   | 8.5000  | 0.0038  | 0.0040 | 0.0300 |
| 305752   | 428521.3 | 5408733   | AMG66_5  | 400        | 4825        | 6.03    | 0.004  | 1.1    | 0.00107  | 36      | 0.0012  | 0.029  | 2.5    |
| 305753   | 428926.4 | 5409060   | AMG66_5  | 400        | 5375        | 5.64    | 0.0071 | 0.0180 | 0.0000   | 2.7000  | -0.0001 | 0.0030 | 0.0270 |
| 305755   | 428230.5 | 5408479   | AMG66_5  | 400        | 4425        | 5.41    | 0.0130 | 0.1230 | 0.0000   | 6.0000  | -0.0001 | 0.0050 | 0.0240 |
| 305757   | 428284.8 | 5408528   | AMG66_5  | 400        | 4500        | 5.58    | 0.0410 | 1.1000 | 0.0180   | 4.1000  | 0.0890  | 0.0020 | 0.1980 |
| 305758   | 428576.6 | 5408778   | AMG66_5  | 400        | 4900        | 5.91    | 0.0061 | 0.3470 | 0.0001   | 26.0000 | 0.0022  | 0.0570 | 1.2000 |
| 305759   | 428979.4 | 5409457   | AMG66_5  | 428900     | 5409375     | 6.26    | 0.0078 | 0.1750 | 0.0000   | 10.5000 | 0.0011  | 0.0360 | 0.6570 |
| 305760   | 428966.6 | 5409263   | AMG66_5  | 428900     | 5409175     | 5.98    | 0.0041 | 0.1610 | 0.0002   | 8.7000  | 0.0007  | 0.0060 | 0.5890 |
| 305761   | 428963.7 | 5409114   | AMG66_5  | 428900     | 5409025     | 5.67    | 0.0036 | 0.0790 | 0.0000   | 5.8000  | -0.0001 | 0.0090 | 0.2210 |
| 305762   | 428723.9 | 5408896   | AMG66_5  | 400        | 5100        | 5.56    | 0.0020 | 0.1720 | 0.0001   | 25.5000 | 0.0023  | 0.0040 | 0.1940 |
| 305764   | 428967   | 5409287   | AMG66_5  | 428900     | 5409200     | 6.25    | 0.0019 | 0.2300 | 0.0001   | 21.5000 | 0.0005  | 0.0120 | 0.7870 |
| 305765   | 428987.8 | 5409951   | AMG66_5  | 428900     | 5409875     | 6.05    | 0.0031 | 0.1500 | 0.0000   | 10.0000 | 0.0078  | 0.0040 | 0.0740 |
| 305766   | 428302.8 | 5408545   | AMG66_5  | 400        | 4525        | 5.92    | 0.0077 | 1.3000 | 0.0001   | 5.8000  | 0.0069  | 0.0040 | 0.0780 |
| 305767   | 428539.8 | 5408748   | AMG66_5  | 400        | 4850        | 5.61    | 0.0047 | 0.3310 | 0.0000   | 9.6000  | 0.0001  | 0.0470 | 0.8460 |
| 305769   | 428966.1 | 5409238   | AMG66_5  | 428900     | 5409150     | 6.23    | 0.0045 | 0.2700 | 0.0001   | 11.0000 | -0.0001 | 0.0050 | 0.5230 |
| 305770   | 428266.7 | 5408512   | AMG66_5  | 400        | 4475        | 5.99    | 0.0064 | 0.5280 | 0.0013   | 7.7000  | 0.0340  | 0.0040 | 0.9210 |
| 305771   | 428944.8 | 5409074   | AMG66_5  | 400        | 5440        | 5.62    | 0.0034 | 0.0080 | 0.0002   | 6.6000  | 0.0009  | 0.0050 | 0.0220 |

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| SampleID | UTM East | UTM North | UTM Grid | Local East | Local North | pH Soil | Ag     | As     | Au       | Ba      | Bi      | Cd     | Co     |
|----------|----------|-----------|----------|------------|-------------|---------|--------|--------|----------|---------|---------|--------|--------|
| 305772   | 428889.6 | 5409030   | AMG66_5  | 400        | 5325        | 5.99    | 0.0023 | 0.2240 | 0.0000   | 21.5000 | 0.0022  | 0.0070 | 0.8570 |
| 305775   | 428965.1 | 5409188   | AMG66_5  | 428900     | 5409100     | 6.1     | 0.0027 | 0.2030 | 0.0000   | 23.5000 | 0.0003  | 0.0060 | 0.3140 |
| 305776   | 428357   | 5408594   | AMG66_5  | 400        | 4600        | 5.54    | 0.0046 | 0.678  | 0.00038  | 4.3     | 0.012   | 0.005  | 0.205  |
| 305777   | 428974.9 | 5409409   | AMG66_5  | 428900     | 5409325     | 6.23    | 0.0062 | 0.1780 | 0.0000   | 15.5000 | 0.0012  | 0.0170 | 0.7800 |
| 305778   | 428631.8 | 5408822   | AMG66_5  | 400        | 4975        | 5.89    | 0.0053 | 0.2580 | 0.0000   | 25.0000 | 0.0076  | 0.0080 | 0.8170 |
| 305779   | 428248.6 | 5408496   | AMG66_5  | 400        | 4450        | 5.48    | 0.0096 | 0.1400 | 0.0000   | 3.2000  | -0.0001 | 0.0040 | 0.0300 |
| 305780   | 428815.9 | 5408970   | AMG66_5  | 400        | 5225        | 6.04    | 0.0022 | 0.2060 | 0.0000   | 42.5000 | 0.0047  | 0.0080 | 0.2940 |
| 305782   | 428984   | 5409505   | AMG66_5  | 428900     | 5409425     | 6.43    | 0.0032 | 0.1640 | 0.0000   | 15.0000 | 0.0002  | 0.0290 | 0.5720 |
| 305783   | 428972.6 | 5409385   | AMG66_5  | 428900     | 5409300     | 6.41    | 0.0070 | 0.0930 | 0.0000   | 6.1000  | -0.0001 | 0.0100 | 0.4590 |
| 305784   | 428760.7 | 5408926   | AMG66_5  | 400        | 5150        | 6       | 0.0022 | 0.2800 | 0.0000   | 23.0000 | 0.0018  | 0.0080 | 0.9500 |
| 305788   | 428990.9 | 5409577   | AMG66_5  | 428900     | 5409500     | 6.78    | 0.0057 | 0.1560 | 0.0000   | 25.0000 | -0.0001 | 0.0640 | 0.3340 |
| 305789   | 428990.4 | 5409602   | AMG66_5  | 428900     | 5409525     | 6.64    | 0.0490 | 0.0910 | 0.0000   | 14.5000 | -0.0001 | 0.3380 | 0.5340 |
| 305790   | 428964.6 | 5409163   | AMG66_5  | 428900     | 5409075     | 5.99    | 0.0023 | 0.2250 | 0.0001   | 18.5000 | -0.0001 | 0.0070 | 0.3250 |
| 305791   | 428986.3 | 5409529   | AMG66_5  | 428900     | 5409450     | 6.06    | 0.0025 | 0.0980 | 0.0000   | 11.5000 | -0.0001 | 0.0160 | 1.6000 |
| 305792   | 428988.6 | 5409553   | AMG66_5  | 428900     | 5409475     | 6.19    | 0.0040 | 0.1300 | 0.0000   | 26.5000 | 0.0004  | 0.0220 | 0.9150 |
| 305793   | 428965.6 | 5409213   | AMG66_5  | 428900     | 5409125     | 6.21    | 0.0023 | 0.2550 | 0.0000   | 17.0000 | 0.0013  | 0.0090 | 0.4810 |
| 305794   | 428988.1 | 5409728   | AMG66_5  | 428900     | 5409650     | 6.46    | 0.0030 | 0.1320 | 0.0000   | 28.0000 | 0.0004  | 0.0250 | 2.9000 |
| 305795   | 428393.2 | 5408626   | AMG66_5  | 400        | 4650        | 5.34    | 0.0012 | 0.0610 | 0.0000   | 11.5000 | -0.0001 | 0.0070 | 0.0380 |
| 305796   | 428991.9 | 5410073   | AMG66_5  | 428900     | 5410000     | 5.38    | 0.0012 | 0.0180 | 0.0000   | 5.7000  | -0.0001 | 0.0020 | 0.0150 |
| 305797   | 428375.1 | 5408610   | AMG66_5  | 400        | 4625        | 5.69    | 0.0110 | 4.2000 | 0.0031   | 7.0000  | 0.0240  | 0.0090 | 0.8560 |
| 305798   | 428988.6 | 5409976   | AMG66_5  | 428900     | 5409900     | 5.78    | 0.0055 | 0.1980 | 0.0000   | 8.2000  | 0.0009  | 0.0050 | 0.0660 |
| 305799   | 428986.2 | 5409828   | AMG66_5  | 428900     | 5409750     | 6.1     | 0.0017 | 0.086  | -0.00001 | 12      | -0.0001 | 0.017  | 7.4    |
| 305800   | 428613.4 | 5408807   | AMG66_5  | 400        | 4950        | 5.7     | 0.0070 | 0.1310 | 0.0000   | 17.5000 | 0.0026  | 0.0100 | 0.7080 |

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| SampleID | Cu     | La     | Mo      | Ni     | Pb      | Sb      | Sm     | Tl      | Zn      |
|----------|--------|--------|---------|--------|---------|---------|--------|---------|---------|
| 274118   | 2.8    | 0.223  | 0.027   | 0.16   | 14      | 0.021   | 0.021  | 0.001   | 1.7     |
| 274119   | 0.328  | 1.1    | 0.021   | 0.138  | 4.8     | 0.009   | 0.184  | 0.004   | 1.5     |
| 274120   | 0.028  | 0.3    | -0.001  | 0.183  | 0.573   | 0.001   | 0.016  | 0.003   | 0.43    |
| 274121   | 1.3    | 2.8    | 0.092   | 1.6    | 5.1     | 0.005   | 0.345  | 0.008   | 6.1     |
| 274122   | 0.608  | 0.128  | 0.016   | 0.241  | 1.4     | 0.007   | 0.013  | 0.003   | 1.8     |
| 274123   | 0.368  | 0.342  | 0.009   | 0.256  | 1.7     | 0.002   | -0.001 | 0.001   | 0.94    |
| 274124   | 0.043  | 0.296  | 0.003   | 0.206  | 0.272   | 0.003   | 0.021  | 0.001   | 0.724   |
| 274125   | 0.474  | 1.2    | 0.018   | 0.174  | 1.4     | 0.015   | 0.081  | 0.004   | 2.8     |
| 274126   | 1.2    | 1.4    | 0.021   | 0.977  | 7.9     | 0.009   | 0.093  | 0.007   | 3.6     |
| 305501   | 0.4960 | 0.0860 | 0.0460  | 0.0810 | 1.4000  | 0.0220  | 0.0130 | -0.0010 | 0.8190  |
| 305502   | 0.6120 | 0.2860 | 0.0420  | 0.0480 | 5.6000  | 0.0190  | 0.0420 | -0.0010 | 2.0000  |
| 305503   | 0.0580 | 0.0850 | 0.0050  | 0.0690 | 0.4130  | -0.0010 | 0.0100 | -0.0010 | 0.4430  |
| 305504   | 0.4860 | 0.1780 | 0.0020  | 0.1150 | 0.6980  | -0.0010 | 0.0230 | -0.0010 | 1.0000  |
| 305505   | 0.2360 | 0.1110 | 0.0030  | 0.1020 | 0.6940  | -0.0010 | 0.0140 | -0.0010 | 0.8660  |
| 305506   | 0.0510 | 0.3480 | 0.0010  | 0.2090 | 0.5860  | -0.0010 | 0.0370 | -0.0010 | 0.6710  |
| 305507   | 0.2460 | 0.8820 | 0.0210  | 0.1100 | 3.3000  | 0.0070  | 0.0530 | -0.0010 | 0.8700  |
| 305508   | 1.7000 | 0.4830 | 0.0360  | 0.5310 | 2.2000  | 0.0090  | 0.0970 | 0.0050  | 4.8000  |
| 305509   | 1.1000 | 0.5970 | 0.1370  | 0.2100 | 20.0000 | 0.0540  | 0.0830 | 0.0020  | 4.3000  |
| 305510   | 0.2490 | 0.1650 | 0.0060  | 0.0670 | 0.8280  | 0.0020  | 0.0160 | -0.0010 | 0.7100  |
| 305511   | 1.1000 | 0.3220 | 0.0780  | 0.1160 | 11.5000 | 0.0340  | 0.0510 | 0.0020  | 3.0000  |
| 305512   | 2.2    | 3.4    | 0.042   | 0.428  | 47.5    | 0.021   | 0.579  | 0.002   | 18      |
| 305513   | 0.6900 | 0.3490 | 0.0700  | 0.0660 | 5.7000  | 0.0140  | 0.0630 | -0.0010 | 1.9000  |
| 305514   | 0.2260 | 0.8590 | 0.0080  | 0.2020 | 3.6000  | -0.0010 | 0.0800 | -0.0010 | 2.9000  |
| 305515   | 0.3930 | 0.2590 | 0.0060  | 0.1020 | 0.6300  | -0.0010 | 0.0240 | -0.0010 | 0.8670  |
| 305516   | 0.0350 | 0.1710 | -0.0010 | 0.1600 | 0.2420  | -0.0010 | 0.0110 | -0.0010 | 0.6400  |
| 305517   | 0.1210 | 0.0690 | 0.0020  | 0.0470 | 0.1690  | -0.0010 | 0.0060 | -0.0010 | 0.4600  |
| 305518   | 3.7000 | 6.5000 | 0.0570  | 0.4120 | 61.5000 | 0.0400  | 0.5890 | 0.0080  | 5.2000  |
| 305520   | 1.0000 | 0.2900 | 0.1200  | 0.1180 | 8.2000  | 0.0380  | 0.0380 | -0.0010 | 0.9560  |
| 305521   | 0.227  | 0.147  | 0.014   | 0.074  | 1.3     | -0.001  | 0.018  | -0.001  | 1       |
| 305522   | 0.3770 | 0.3330 | 0.0190  | 0.1050 | 2.5000  | 0.0100  | 0.0580 | 0.0030  | 0.5790  |
| 305523   | 0.0500 | 0.4010 | 0.0320  | 0.0820 | 5.5000  | 0.0160  | 0.0550 | 0.0010  | 0.5070  |
| 305524   | 3.1000 | 2.8000 | 0.0540  | 0.4330 | 13.5000 | 0.0190  | 0.3980 | 0.0020  | 7.5000  |
| 305525   | 2.1000 | 1.8000 | 0.0840  | 0.2980 | 31.5000 | 0.0250  | 0.3240 | 0.0060  | 11.5000 |
| 305526   | 0.2270 | 0.1760 | 0.0060  | 0.2830 | 0.9510  | -0.0010 | 0.0230 | -0.0010 | 1.6000  |
| 305527   | 0.8570 | 1.0000 | 0.0250  | 0.3170 | 13.0000 | 0.0030  | 0.1410 | -0.0010 | 4.1000  |
| 305528   | 0.2180 | 0.1260 | -0.0010 | 0.3060 | 0.4640  | -0.0010 | 0.0160 | -0.0010 | 1.2000  |
| 305529   | 0.6090 | 0.1670 | -0.0010 | 0.1620 | 0.4750  | -0.0010 | 0.0130 | -0.0010 | 1.2000  |

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| SampleID | Cu     | La     | Mo      | Ni     | Pb      | Sb      | Sm     | Tl      | Zn      |
|----------|--------|--------|---------|--------|---------|---------|--------|---------|---------|
| 305530   | 4.8000 | 2.8000 | 0.0360  | 0.8850 | 0.8800  | 0.0100  | 0.4370 | 0.0030  | 14.5000 |
| 305531   | 0.171  | 0.087  | 0.013   | 0.091  | 0.4     | 0.001   | 0.014  | -0.001  | 0.839   |
| 305532   | 0.2400 | 0.2140 | 0.0100  | 0.1470 | 1.8000  | 0.0030  | 0.0230 | -0.0010 | 0.5820  |
| 305533   | 0.6750 | 0.0870 | 0.0080  | 0.0610 | 3.1000  | 0.0210  | 0.0090 | -0.0010 | 0.3970  |
| 305534   | 0.0650 | 0.1300 | 0.0030  | 0.0560 | 0.3750  | -0.0010 | 0.0120 | -0.0010 | 0.4360  |
| 305535   | 4.6000 | 4.7000 | 0.1000  | 0.3820 | 37.0000 | 0.0620  | 1.3000 | 0.0050  | 10.0000 |
| 305536   | 0.7200 | 0.4470 | 0.0280  | 0.2310 | 7.0000  | 0.0110  | 0.0790 | 0.0020  | 2.3000  |
| 305537   | 0.8340 | 0.1900 | 0.0540  | 0.1290 | 3.2000  | 0.0340  | 0.0230 | 0.0020  | 1.2000  |
| 305538   | 0.4350 | 0.4930 | 0.0720  | 0.1300 | 29.5000 | 0.0040  | 0.0490 | 0.0030  | 0.7030  |
| 305539   | 2.2000 | 0.1340 | 0.0070  | 0.1840 | 4.7000  | 0.0160  | 0.0260 | 0.0040  | 1.1000  |
| 305540   | 2.5000 | 0.4840 | 0.0260  | 0.4630 | 16.5000 | 0.0170  | 0.0740 | 0.0030  | 3.6000  |
| 305541   | 0.3480 | 0.1420 | 0.0100  | 0.1760 | 0.8100  | 0.0020  | 0.0160 | -0.0010 | 0.5390  |
| 305542   | 0.5660 | 0.1040 | 0.0170  | 0.0670 | 2.2000  | 0.0090  | 0.0140 | 0.0010  | 0.4040  |
| 305543   | 0.6520 | 0.1490 | -0.0010 | 0.6940 | 0.9880  | 0.0020  | 0.0200 | -0.0010 | 3.5000  |
| 305544   | 0.1100 | 0.3140 | -0.0010 | 0.1350 | 1.1000  | -0.0010 | 0.0240 | -0.0010 | 0.8060  |
| 305545   | 3.4    | 0.469  | 0.058   | 0.37   | 8.2     | 0.02    | 0.119  | 0.009   | 3.9     |
| 305546   | 3.9000 | 0.4390 | 0.0570  | 0.6500 | 27.5000 | 0.0280  | 0.0650 | 0.0040  | 4.2000  |
| 305547   | 0.0970 | 0.0870 | 0.0170  | 0.0450 | 0.5090  | 0.0140  | 0.0150 | 0.0020  | 0.3750  |
| 305548   | 0.5310 | 0.1460 | -0.0010 | 0.1590 | 0.8130  | -0.0010 | 0.0160 | -0.0010 | 2.2000  |
| 305549   | 1.9000 | 0.5900 | 0.1670  | 0.2450 | 8.3000  | 0.0260  | 0.2230 | 0.0040  | 1.9000  |
| 305550   | 4.8000 | 4.8000 | 0.0980  | 0.8320 | 27.0000 | 0.0320  | 1.1000 | 0.0080  | 15.5000 |
| 305551   | 0.3930 | 0.3020 | 0.0730  | 0.1930 | 1.7000  | 0.0050  | 0.0320 | 0.0020  | 0.9320  |
| 305552   | 1.1000 | 0.1440 | 0.0130  | 0.0490 | 6.2000  | 0.0170  | 0.0140 | 0.0010  | 0.4780  |
| 305553   | 0.5160 | 0.6000 | 0.0260  | 0.1550 | 3.8000  | 0.0120  | 0.1400 | 0.0030  | 1.2000  |
| 305554   | 2.9000 | 1.5000 | 0.0270  | 0.6760 | 8.3000  | 0.0120  | 0.2790 | 0.0040  | 7.9000  |
| 305555   | 0.5780 | 0.0910 | 0.0190  | 0.1500 | 0.5100  | -0.0010 | 0.0150 | 0.0020  | 0.8180  |
| 305556   | 0.043  | 0.264  | 0.001   | 0.152  | 0.492   | 0.002   | 0.007  | -0.001  | 0.411   |
| 305557   | 0.2260 | 0.2530 | 0.0110  | 0.1720 | 0.8410  | 0.0020  | 0.0290 | 0.0010  | 1.3000  |
| 305558   | 0.7840 | 0.1620 | 0.0340  | 0.0760 | 3.5000  | 0.0390  | 0.0170 | 0.0040  | 0.6550  |
| 305559   | 0.2240 | 0.1480 | 0.0090  | 0.2820 | 0.5180  | -0.0010 | 0.0110 | -0.0010 | 1.2000  |
| 305560   | 0.819  | 0.415  | 0.028   | 0.314  | 1.4     | 0.031   | 0.03   | -0.001  | 1.1     |
| 305561   | 0.3460 | 0.1980 | 0.0060  | 0.1020 | 0.7260  | -0.0010 | 0.0090 | -0.0010 | 1.6000  |
| 305562   | 2.7000 | 1.4000 | 0.0530  | 0.3920 | 1.9000  | 0.0100  | 0.1180 | 0.0070  | 6.0000  |
| 305563   | 1.5000 | 0.3280 | 0.0820  | 0.1820 | 5.8000  | 0.0280  | 0.0320 | 0.0030  | 3.8000  |
| 305564   | 0.3420 | 0.1890 | 0.0380  | 0.0710 | 1.2000  | 0.0300  | 0.0170 | 0.0030  | 0.6370  |
| 305565   | 0.1200 | 0.1170 | 0.0890  | 0.0320 | 2.1000  | 0.0180  | 0.0050 | -0.0010 | 0.3950  |
| 305566   | 0.3630 | 0.9400 | 0.0060  | 0.1390 | 1.2000  | -0.0010 | 0.0540 | -0.0010 | 0.8510  |

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| SampleID | Cu     | La     | Mo      | Ni      | Pb      | Sb      | Sm     | Tl      | Zn      |
|----------|--------|--------|---------|---------|---------|---------|--------|---------|---------|
| 305567   | 0.7400 | 0.1840 | 0.0250  | 0.0630  | 4.2000  | 0.0320  | 0.0140 | 0.0030  | 0.7580  |
| 305568   | 1.0000 | 0.3950 | 0.0870  | 0.2470  | 7.3000  | 0.0490  | 0.0300 | 0.0010  | 2.0000  |
| 305569   | 0.2760 | 0.4270 | 0.0250  | 0.1190  | 1.2000  | 0.0110  | 0.0330 | 0.0010  | 0.4000  |
| 305570   | 0.1230 | 0.3730 | 0.0020  | 0.1730  | 0.8310  | 0.0010  | 0.0130 | -0.0010 | 0.8350  |
| 305572   | 0.3330 | 0.4790 | 0.0480  | 0.0880  | 4.2000  | 0.0100  | 0.0290 | -0.0010 | 0.9860  |
| 305573   | 0.31   | 0.208  | 0.01    | 0.103   | 0.828   | -0.001  | 0.011  | -0.001  | 0.708   |
| 305574   | 0.1830 | 0.6680 | 0.0080  | 0.2780  | 1.8000  | -0.0010 | 0.0550 | 0.0030  | 1.6000  |
| 305575   | 0.0770 | 0.1800 | 0.0070  | 0.0910  | 0.5520  | -0.0010 | 0.0160 | -0.0010 | 0.6860  |
| 305576   | 0.0240 | 0.1670 | 0.0050  | 0.0490  | 0.4010  | -0.0010 | 0.0100 | -0.0010 | 0.4860  |
| 305577   | 0.2160 | 0.1510 | -0.0010 | 0.1670  | 0.5900  | -0.0010 | 0.0090 | -0.0010 | 0.7970  |
| 305578   | 1.9000 | 0.3200 | 0.0430  | 0.1390  | 11.0000 | 0.0320  | 0.0250 | 0.0020  | 1.9000  |
| 305579   | 0.1040 | 0.3090 | 0.0260  | 0.0590  | 0.6560  | 0.0330  | 0.0210 | -0.0010 | 0.3770  |
| 305580   | 0.1250 | 0.0930 | -0.0010 | 0.0460  | 0.5340  | -0.0010 | 0.0060 | -0.0010 | 2.0000  |
| 305581   | 2.6000 | 0.9790 | 0.0830  | 0.4060  | 23.0000 | 0.0420  | 0.0770 | 0.0030  | 3.3000  |
| 305582   | 0.8860 | 0.4900 | 0.0160  | 0.6350  | 8.0000  | 0.0030  | 0.0820 | 0.0060  | 5.8000  |
| 305583   | 0.1730 | 0.1450 | -0.0010 | 0.1650  | 0.7210  | -0.0010 | 0.0120 | 0.0020  | 0.9900  |
| 305584   | 0.2840 | 0.2090 | 0.0240  | 0.0040  | 2.9000  | 0.0100  | 0.0200 | -0.0010 | 1.3000  |
| 305585   | 0.1720 | 0.1750 | 0.0160  | 0.0770  | 0.8300  | 0.0030  | 0.0140 | -0.0010 | 0.8530  |
| 305586   | 1.1000 | 0.2720 | 0.0300  | 0.1240  | 3.1000  | 0.0350  | 0.0210 | -0.0010 | 0.7000  |
| 305587   | 3.5000 | 2.2000 | 0.0720  | 0.5530  | 50.0000 | 0.0210  | 0.4080 | 0.0080  | 14.5000 |
| 305588   | 0.433  | 0.74   | 0.012   | 0.999   | 0.587   | 0.003   | 0.11   | 0.002   | 22.5    |
| 305589   | 0.1660 | 0.8400 | 0.0020  | 0.5240  | 0.9510  | 0.0030  | 0.0930 | 0.0010  | 6.0000  |
| 305590   | 0.1410 | 0.0620 | 0.0020  | 0.1310  | 0.2110  | -0.0010 | 0.0100 | -0.0010 | 0.9330  |
| 305591   | 2.6000 | 1.7000 | 0.0180  | 4.5000  | 7.2000  | 0.0080  | 0.3520 | 0.0050  | 45.5000 |
| 305592   | 0.3630 | 0.4160 | 0.0110  | 0.4430  | 1.9000  | 0.0030  | 0.0340 | -0.0010 | 3.9000  |
| 305593   | 0.2680 | 0.1810 | 0.0040  | 0.1650  | 0.3110  | -0.0010 | 0.0180 | -0.0010 | 1.0000  |
| 305594   | 0.0780 | 0.0710 | 0.0030  | 0.1080  | 0.1950  | -0.0010 | 0.0060 | -0.0010 | 0.6680  |
| 305595   | 0.1840 | 0.1080 | 0.0080  | 0.2120  | 1.1000  | 0.0010  | 0.0150 | -0.0010 | 0.6190  |
| 305596   | 2.7000 | 8.9000 | 0.1380  | 3.9000  | 3.5000  | 0.0150  | 1.4000 | -0.0010 | 77.5000 |
| 305597   | 0.0770 | 0.0620 | 0.0070  | 0.0650  | 0.7580  | -0.0010 | 0.0140 | -0.0010 | 0.7490  |
| 305598   | 0.802  | 0.918  | 0.07    | 0.294   | 7.8     | 0.019   | 0.167  | -0.001  | 5.8     |
| 305599   | 0.3210 | 0.3820 | 0.0280  | 0.1070  | 11.5000 | 0.0030  | 0.0710 | -0.0010 | 1.9000  |
| 305601   | 3.8000 | 2.1000 | 0.0120  | 12.5000 | 0.6530  | 0.0040  | 1.5000 | -0.0010 | 8.6000  |
| 305602   | 2.2000 | 0.1200 | 0.0100  | 5.6000  | 0.1370  | -0.0010 | 0.0380 | -0.0010 | 4.2000  |
| 305603   | 0.1230 | 0.3230 | 0.0290  | 0.3500  | 1.7000  | -0.0010 | 0.0440 | -0.0010 | 3.5000  |
| 305604   | 2.5000 | 0.1020 | 0.0150  | 6.9000  | 0.3000  | 0.0010  | 0.0260 | -0.0010 | 3.7000  |
| 305605   | 0.6300 | 0.1810 | 0.0210  | 2.1000  | 0.6130  | 0.0090  | 0.0240 | -0.0010 | 4.0000  |

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| SampleID | Cu     | La     | Mo     | Ni     | Pb      | Sb      | Sm     | Tl      | Zn     |
|----------|--------|--------|--------|--------|---------|---------|--------|---------|--------|
| 305606   | 0.0890 | 0.0910 | 0.0090 | 0.1470 | 0.4020  | -0.0010 | 0.0110 | -0.0010 | 0.8000 |
| 305607   | 2.2000 | 0.3480 | 0.0290 | 4.2000 | 1.2000  | 0.0020  | 0.0420 | 0.0020  | 1.3000 |
| 305608   | 3.3000 | 0.3780 | 0.0130 | 7.6000 | 0.0320  | -0.0010 | 0.1030 | -0.0010 | 5.0000 |
| 305609   | 0.3630 | 0.4610 | 0.0230 | 0.2400 | 15.0000 | -0.0010 | 0.0490 | -0.0010 | 0.5150 |
| 305610   | 1.5000 | 1.9000 | 0.0700 | 1.8000 | 4.8000  | 0.0050  | 0.3070 | 0.0060  | 5.2000 |
| 305611   | 0.0340 | 0.1750 | 0.0080 | 0.2510 | 0.5250  | 0.0020  | 0.0260 | -0.0010 | 0.3870 |
| 305612   | 0.0270 | 0.0790 | 0.0090 | 0.1150 | 0.1620  | -0.0010 | 0.0080 | -0.0010 | 0.2000 |
| 305613   | 0.3790 | 0.2300 | 0.0080 | 0.7120 | 0.9270  | 0.0040  | 0.0420 | -0.0010 | 2.0000 |
| 305614   | 0.7170 | 0.1850 | 0.0120 | 0.8410 | 0.4150  | 0.0050  | 0.0430 | 0.0040  | 1.2000 |
| 305615   | 2.5000 | 0.5410 | 0.0220 | 5.8000 | 0.4540  | 0.0040  | 0.0790 | 0.0020  | 3.3000 |
| 305616   | 0.0550 | 0.5030 | 0.0080 | 0.1660 | 0.5650  | 0.0020  | 0.0320 | -0.0010 | 0.9630 |
| 305617   | 0.0950 | 0.1820 | 0.0190 | 0.1790 | 0.9490  | 0.0020  | 0.0190 | -0.0010 | 1.1000 |
| 305618   | 0.2310 | 0.1770 | 0.0560 | 0.1590 | 2.5000  | 0.0130  | 0.0120 | -0.0010 | 0.8220 |
| 305619   | 0.2030 | 0.7350 | 0.0130 | 0.2020 | 1.0000  | 0.0010  | 0.0450 | -0.0010 | 2.7000 |
| 305620   | 0.5280 | 0.7240 | 0.0350 | 0.1680 | 2.8000  | 0.0100  | 0.0440 | 0.0010  | 2.0000 |
| 305621   | 0.9210 | 0.4080 | 0.0520 | 0.2600 | 4.3000  | 0.0050  | 0.0500 | -0.0010 | 5.9000 |
| 305622   | 0.494  | 0.235  | 0.019  | 0.245  | 0.46    | 0.008   | 0.021  | -0.001  | 1.3    |
| 305623   | 0.0920 | 0.4700 | 0.0030 | 0.4750 | 0.8020  | 0.0030  | 0.0270 | -0.0010 | 0.9910 |
| 305624   | 0.0160 | 0.8020 | 0.0030 | 0.1980 | 0.4290  | 0.0010  | 0.0190 | -0.0010 | 0.9240 |
| 305625   | 0.0790 | 0.6170 | 0.0170 | 0.2780 | 0.2320  | 0.0020  | 0.0260 | -0.0010 | 0.2400 |
| 305626   | 0.4310 | 0.1790 | 0.0230 | 0.1950 | 0.4890  | 0.0140  | 0.0240 | 0.0040  | 0.3220 |
| 305627   | 0.0450 | 0.1590 | 0.0100 | 0.1020 | 0.1080  | 0.0020  | 0.0090 | -0.0010 | 0.1570 |
| 305628   | 0.3950 | 0.4600 | 0.0280 | 0.1550 | 0.5590  | 0.0130  | 0.0660 | 0.0020  | 0.7230 |
| 305629   | 0.3630 | 0.2250 | 0.0440 | 0.1770 | 0.3560  | 0.0080  | 0.0220 | -0.0010 | 0.7670 |
| 305630   | 3.8000 | 2.3000 | 0.0180 | 9.6000 | 0.0530  | 0.0010  | 0.6280 | -0.0010 | 3.6000 |
| 305631   | 0.4600 | 2.1000 | 0.0770 | 0.2230 | 20.5000 | 0.0210  | 0.2470 | 0.0050  | 9.8000 |
| 305632   | 1.1000 | 0.4220 | 0.0500 | 0.1910 | 2.1000  | 0.0050  | 0.0540 | 0.0020  | 2.6000 |
| 305633   | 2.6000 | 1.5000 | 0.0310 | 2.9000 | 2.3000  | 0.0060  | 0.2150 | 0.0040  | 5.4000 |
| 305634   | 0.1320 | 0.2200 | 0.0170 | 0.2040 | 0.4580  | -0.0010 | 0.0140 | -0.0010 | 0.8880 |
| 305635   | 0.3800 | 0.5820 | 0.0100 | 0.2400 | 2.2000  | 0.0010  | 0.0220 | -0.0010 | 0.8530 |
| 305636   | 0.0440 | 0.4760 | 0.0050 | 0.1150 | 0.2420  | -0.0010 | 0.0110 | -0.0010 | 0.2520 |
| 305637   | 0.0340 | 0.5470 | 0.0060 | 0.0700 | 0.1730  | -0.0010 | 0.0150 | -0.0010 | 0.1630 |
| 305638   | 0.1330 | 0.3150 | 0.0110 | 0.0700 | 3.0000  | 0.0020  | 0.0120 | -0.0010 | 0.3590 |
| 305639   | 0.3260 | 0.4060 | 0.0230 | 0.6600 | 1.4000  | 0.0040  | 0.0220 | -0.0010 | 0.9460 |
| 305640   | 1.2000 | 0.4670 | 0.0220 | 0.3020 | 1.5000  | 0.0110  | 0.0910 | 0.0050  | 0.8780 |
| 305641   | 1.9    | 2.8    | 0.038  | 4.1    | 0.746   | 0.003   | 0.538  | -0.001  | 3.7    |
| 305642   | 1.3000 | 0.4870 | 0.0340 | 1.6000 | 0.8570  | 0.0050  | 0.0250 | 0.0010  | 2.4000 |

646081

| SampleID | Cu      | La      | Mo      | Ni      | Pb      | Sb      | Sm     | Tl      | Zn      |
|----------|---------|---------|---------|---------|---------|---------|--------|---------|---------|
| 305643   | 0.2040  | 0.2220  | 0.0260  | 0.1430  | 0.2690  | 0.0100  | 0.0120 | -0.0010 | 0.5300  |
| 305644   | 2.3000  | 1.8000  | 0.0410  | 7.2000  | 3.0000  | 0.0070  | 0.3260 | 0.0030  | 17.5000 |
| 305645   | 3.3000  | 2.9000  | 0.0270  | 6.9000  | 0.1610  | 0.0020  | 1.1000 | -0.0010 | 3.3000  |
| 305646   | 1.8000  | 0.7250  | 0.0400  | 1.1000  | 2.0000  | 0.0250  | 0.0700 | 0.0030  | 0.9950  |
| 305647   | 0.1960  | 0.1170  | 0.0060  | 0.0760  | 0.2860  | 0.0020  | 0.0100 | -0.0010 | 0.7160  |
| 305648   | 2.5000  | 0.0620  | 0.0170  | 7.9000  | 0.0660  | 0.0010  | 0.0180 | -0.0010 | 4.9000  |
| 305649   | 0.8570  | 0.2070  | 0.0150  | 0.2010  | 9.2000  | 0.0140  | 0.0380 | -0.0010 | 4.7000  |
| 305651   | 0.3070  | 0.1920  | 0.0150  | 0.0950  | 2.0000  | -0.0010 | 0.0110 | -0.0010 | 0.7740  |
| 305652   | 0.4920  | 0.5560  | 0.0360  | 0.9720  | 1.1000  | 0.0040  | 0.0400 | -0.0010 | 2.4000  |
| 305653   | 0.0080  | 0.4980  | -0.0010 | 0.5980  | 0.5040  | -0.0010 | 0.0370 | -0.0010 | 0.8260  |
| 305654   | 3.8000  | 11.5000 | 0.0480  | 0.4690  | 14.0000 | 0.0190  | 1.1000 | 0.0270  | 5.5000  |
| 305655   | -0.0010 | 0.2380  | 0.0030  | 0.0770  | 0.4540  | -0.0010 | 0.0320 | 0.0030  | 1.5000  |
| 305656   | 0.2630  | 0.2650  | 0.0140  | 0.2730  | 5.0000  | 0.0040  | 0.0310 | -0.0010 | 1.4000  |
| 305657   | -0.0010 | 0.1770  | 0.0050  | 0.0650  | 0.3790  | -0.0010 | 0.0150 | -0.0010 | 0.2310  |
| 305658   | 0.6760  | 0.5880  | 0.0220  | 1.4000  | 1.4000  | 0.0070  | 0.0400 | 0.0010  | 2.7000  |
| 305659   | 0.3550  | 0.0900  | 0.0150  | 0.1020  | 0.2620  | 0.0040  | 0.0100 | -0.0010 | 0.8940  |
| 305660   | 0.6170  | 0.4210  | 0.0210  | 0.8030  | 0.5440  | 0.0040  | 0.0570 | 0.0040  | 0.7880  |
| 305661   | 3.7000  | 1.2000  | 0.0150  | 8.3000  | 0.0390  | -0.0010 | 0.4560 | -0.0010 | 3.4000  |
| 305662   | 0.1160  | 0.2580  | 0.0140  | 0.7340  | 0.7420  | -0.0010 | 0.0290 | -0.0010 | 0.8150  |
| 305663   | 0.7030  | 0.1870  | 0.0350  | 0.3000  | 0.8350  | 0.0160  | 0.0220 | -0.0010 | 0.8270  |
| 305664   | 1.2     | 0.3     | 0.018   | 0.333   | 1.5     | 0.003   | 0.06   | 0.003   | 0.788   |
| 305665   | 0.1050  | 0.1540  | 0.0200  | 0.0800  | 2.1000  | -0.0010 | 0.0110 | -0.0010 | 0.3920  |
| 305666   | -0.0010 | 0.1390  | 0.0030  | 0.0600  | 0.2820  | -0.0010 | 0.0170 | -0.0010 | 1.4000  |
| 305667   | 0.6940  | 0.5540  | 0.0280  | 0.7400  | 1.2000  | 0.0010  | 0.0370 | -0.0010 | 1.0000  |
| 305668   | 0.132   | 0.368   | 0.01    | 0.272   | 0.639   | -0.001  | 0.045  | -0.001  | 0.817   |
| 305669   | 0.7400  | 4.0000  | 0.0180  | 0.5950  | 0.9660  | 0.0050  | 0.5120 | 0.0260  | 0.4270  |
| 305670   | -0.0010 | 0.0390  | -0.0010 | -0.0010 | 0.0520  | -0.0010 | 0.0050 | -0.0010 | 0.0910  |
| 305671   | 0.0910  | 0.6280  | 0.0210  | 0.5410  | 0.7990  | 0.0040  | 0.0650 | 0.0020  | 1.0000  |
| 305672   | 0.0540  | 0.7020  | 0.0130  | 1.2000  | 1.2000  | -0.0010 | 0.0590 | -0.0010 | 0.7470  |
| 305673   | 0.0710  | 0.4060  | 0.0030  | 0.1760  | 0.4790  | 0.0060  | 0.0390 | -0.0010 | 0.3970  |
| 305674   | 0.1190  | 0.1120  | 0.0140  | 0.0880  | 0.1950  | 0.0060  | 0.0080 | -0.0010 | 0.4670  |
| 305675   | 0.4550  | 0.0760  | 0.0160  | 0.2540  | 0.3810  | 0.0110  | 0.0070 | -0.0010 | 0.7390  |
| 305676   | 0.6460  | 0.1820  | 0.0270  | 0.2870  | 0.9250  | 0.0040  | 0.0340 | -0.0010 | 1.8000  |
| 305677   | 0.5150  | 0.2840  | 0.0290  | 0.3650  | 0.5120  | 0.0030  | 0.0200 | -0.0010 | 0.8460  |
| 305678   | 3.1000  | 1.5000  | 0.0220  | 8.6000  | 0.2840  | 0.0020  | 0.7090 | -0.0010 | 10.0000 |
| 305679   | 0.0400  | 0.2160  | -0.0010 | 0.1030  | 0.2160  | -0.0010 | 0.0290 | -0.0010 | 0.6350  |
| 305680   | 2.0000  | 0.2810  | 0.0050  | 3.1000  | 0.0790  | -0.0010 | 0.0720 | -0.0010 | 1.8000  |

646082

| SampleID | Cu     | La     | Mo      | Ni      | Pb      | Sb      | Sm     | Tl      | Zn      |
|----------|--------|--------|---------|---------|---------|---------|--------|---------|---------|
| 305681   | 0.5100 | 0.2850 | 0.0430  | 0.0710  | 9.9000  | 0.0230  | 0.0430 | 0.0050  | 2.0000  |
| 305682   | 0.5950 | 0.2320 | 0.0130  | 0.3150  | 1.4000  | 0.0060  | 0.0230 | -0.0010 | 2.1000  |
| 305683   | 0.6640 | 0.3640 | 0.0250  | 0.5470  | 0.7550  | 0.0090  | 0.0060 | -0.0010 | 1.1000  |
| 305684   | 2.2000 | 0.2670 | 0.0070  | 10.5000 | 0.0670  | -0.0010 | 0.0330 | -0.0010 | 5.3000  |
| 305685   | 0.0760 | 0.3160 | 0.0030  | 0.2530  | 0.5060  | -0.0010 | 0.0310 | -0.0010 | 0.5660  |
| 305686   | 2.3000 | 2.2000 | 0.0220  | 9.8000  | 0.6240  | 0.0040  | 0.6900 | -0.0010 | 11.0000 |
| 305688   | 0.5990 | 0.0800 | 0.0070  | 0.4330  | 0.5410  | 0.0030  | 0.0200 | 0.0030  | 1.7000  |
| 305689   | 0.5140 | 0.1190 | 0.0110  | 0.2130  | 0.3470  | 0.0100  | 0.0140 | -0.0010 | 0.9390  |
| 305690   | 0.54   | 0.074  | 0.019   | 0.216   | 0.374   | 0.012   | 0.002  | -0.001  | 0.713   |
| 305691   | 0.4390 | 0.0970 | 0.0050  | 0.2540  | 0.9980  | 0.0040  | 0.0150 | -0.0010 | 1.9000  |
| 305693   | 3.1000 | 1.9000 | 0.0140  | 1.4000  | 0.3790  | 0.0100  | 0.4340 | 0.0100  | 1.5000  |
| 305694   | 0.1780 | 0.1180 | 0.0180  | 0.1620  | 0.3220  | 0.0030  | 0.0110 | 0.0020  | 1.0000  |
| 305696   | 0.0710 | 0.2200 | -0.0010 | 0.3940  | 0.8320  | -0.0010 | 0.0110 | -0.0010 | 0.7870  |
| 305697   | 0.4330 | 0.9870 | 0.0250  | 0.5780  | 4.4000  | 0.0060  | 0.0800 | -0.0010 | 1.3000  |
| 305698   | 0.3430 | 0.2480 | 0.0210  | 0.1370  | 1.6000  | -0.0010 | 0.0160 | -0.0010 | 0.4420  |
| 305699   | 5.9000 | 2.8000 | 0.0090  | 0.4110  | 24.5000 | 0.0160  | 0.4310 | 0.0130  | 3.3000  |
| 305700   | 4.3000 | 2.3000 | 0.0140  | 12.5000 | 0.6070  | 0.0030  | 0.6030 | 0.0020  | 12.0000 |
| 305701   | 0.315  | 0.269  | 0.006   | 0.268   | 1.7     | 0.011   | 0.022  | -0.001  | 0.701   |
| 305702   | 0.6410 | 0.4080 | 0.0060  | 0.3250  | 1.9000  | 0.0090  | 0.0390 | 0.0030  | 0.8760  |
| 305703   | 0.2490 | 0.1350 | 0.0160  | 0.1690  | 3.5000  | 0.0230  | 0.0070 | -0.0010 | 0.6560  |
| 305704   | 0.584  | 0.758  | 0.013   | 0.586   | 2.4     | 0.013   | 0.057  | 0.004   | 0.765   |
| 305705   | 0.5970 | 0.3210 | 0.0170  | 0.3370  | 3.3000  | 0.0070  | 0.0340 | 0.0060  | 1.6000  |
| 305706   | 2.6000 | 0.7810 | 0.0220  | 2.4000  | 0.8070  | 0.0040  | 0.1350 | 0.0050  | 3.1000  |
| 305707   | 6.4000 | 0.7840 | 0.0600  | 0.3100  | 10.0000 | 0.0350  | 0.1220 | 0.0070  | 1.2000  |
| 305708   | 0.5620 | 0.2920 | 0.0190  | 0.4070  | 5.3000  | 0.0130  | 0.0480 | 0.0070  | 1.6000  |
| 305709   | 0.2590 | 0.1480 | 0.0550  | 0.1170  | 10.0000 | 0.0260  | 0.0220 | 0.0020  | 0.8580  |
| 305710   | 0.5780 | 0.1700 | 0.1730  | 0.0950  | 4.5000  | 0.0250  | 0.0180 | -0.0010 | 0.5880  |
| 305713   | 0.3530 | 0.1180 | 0.0110  | 0.1400  | 0.5720  | -0.0010 | 0.0100 | 0.0010  | 1.0000  |
| 305714   | 0.7080 | 1.1000 | 0.0170  | 0.6190  | 2.8000  | 0.0120  | 0.0660 | 0.0040  | 1.5000  |
| 305715   | 0.483  | 0.637  | 0.012   | 0.443   | 3.6     | 0.008   | 0.086  | 0.005   | 1.3     |
| 305716   | 0.9000 | 1.4000 | 0.0160  | 2.6000  | 2.5000  | 0.0040  | 0.1570 | 0.0050  | 10.5000 |
| 305717   | 0.6240 | 0.1360 | 0.0260  | 0.1400  | 4.8000  | 0.0150  | 0.0160 | 0.0020  | 0.8700  |
| 305719   | 3.1000 | 0.6020 | 0.0270  | 10.0000 | 0.1760  | 0.0020  | 0.0680 | 0.0040  | 2.2000  |
| 305720   | 5.8000 | 1.1000 | 0.0370  | 10.5000 | 0.0770  | 0.0010  | 0.2200 | 0.0020  | 2.4000  |
| 305721   | 2.1000 | 0.2410 | 0.0220  | 5.7000  | 0.1250  | 0.0020  | 0.0370 | 0.0020  | 3.2000  |
| 305722   | 1.6000 | 1.7000 | 0.0360  | 0.4850  | 8.2000  | 0.0160  | 0.2630 | 0.0040  | 4.4000  |
| 305723   | 0.6830 | 0.4540 | 0.0180  | 0.2230  | 1.3000  | 0.0100  | 0.0430 | 0.0020  | 1.6000  |

646083

| SampleID | Cu      | La     | Mo      | Ni      | Pb      | Sb      | Sm      | Tl      | Zn      |
|----------|---------|--------|---------|---------|---------|---------|---------|---------|---------|
| 305726   | 0.6470  | 1.5000 | 0.0250  | 0.3570  | 6.8000  | 0.0120  | 0.3210  | 0.0070  | 3.0000  |
| 305728   | 0.8320  | 1.4000 | 0.0400  | 0.4440  | 9.0000  | 0.0180  | 0.1560  | 0.0040  | 6.3000  |
| 305729   | 0.7860  | 0.8750 | 0.0190  | 0.2830  | 13.5000 | 0.0120  | 0.1570  | 0.0050  | 11.0000 |
| 305730   | 0.3360  | 0.2990 | 0.0130  | 0.1640  | 1.6000  | 0.0100  | 0.0350  | 0.0020  | 1.4000  |
| 305731   | 0.4750  | 0.7970 | 0.0370  | 0.0510  | 3.8000  | 0.0370  | 0.1790  | 0.0160  | 0.9600  |
| 305732   | 2.5000  | 1.1000 | 0.0220  | 17.0000 | 0.2050  | 0.0030  | 0.1750  | 0.0050  | 3.4000  |
| 305733   | 0.8780  | 1.2000 | 0.0230  | 0.4580  | 11.0000 | 0.0080  | 0.1710  | 0.0040  | 7.8000  |
| 305734   | 0.2170  | 0.0900 | 0.0330  | 0.0740  | 1.2000  | 0.0160  | 0.0160  | 0.0010  | 0.6190  |
| 305735   | 0.1320  | 0.2510 | 0.0650  | 0.0770  | 7.0000  | 0.0280  | 0.0360  | 0.0040  | 0.5800  |
| 305738   | 0.2710  | 0.6010 | 0.0130  | 0.4540  | 2.0000  | 0.0070  | 0.0890  | 0.0050  | 0.7800  |
| 305739   | 1.3000  | 2.6000 | 0.0390  | 0.5320  | 7.5000  | 0.0190  | 0.7580  | 0.0110  | 6.3000  |
| 305741   | 0.3590  | 0.1470 | 0.0290  | 0.0580  | 2.4000  | 0.0100  | 0.0410  | 0.0030  | 0.7410  |
| 305742   | 11.5000 | 0.4480 | 0.0640  | 0.8930  | 7.5000  | 0.0420  | 0.0370  | 0.0040  | 3.8000  |
| 305743   | 0.9410  | 1.6000 | 0.0260  | 0.3350  | 10.0000 | 0.0110  | 0.1820  | 0.0100  | 8.3000  |
| 305744   | 14.0000 | 0.7750 | 0.0570  | 0.4510  | 23.5000 | 0.0240  | 0.0960  | 0.0050  | 2.4000  |
| 305745   | 0.708   | 0.606  | 0.014   | 0.288   | 2.6     | 0.044   | 0.037   | 0.006   | 1.2     |
| 305747   | 1.5000  | 2.2000 | 0.0180  | 1.7000  | 3.7000  | 0.0040  | 0.1670  | 0.0020  | 13.5000 |
| 305748   | 0.5080  | 0.6310 | 0.0100  | 0.4040  | 2.5000  | 0.0070  | 0.0280  | 0.0030  | 0.9940  |
| 305749   | 0.3510  | 0.4520 | 0.0120  | 1.5000  | 1.6000  | 0.0090  | -0.0010 | 0.0040  | 0.8260  |
| 305750   | 0.1430  | 0.0990 | 0.0460  | 0.0860  | 1.1000  | 0.0180  | -0.0010 | 0.0010  | 0.6300  |
| 305751   | 0.1690  | 0.2340 | 0.0370  | 0.2090  | 1.3000  | 0.0110  | 0.0080  | -0.0010 | 0.6190  |
| 305752   | 4.4     | 1.6    | 0.029   | 1.2     | 13      | 0.05    | 0.148   | 0.006   | 8.2     |
| 305753   | 0.2810  | 0.0830 | 0.0030  | 0.0640  | 0.2230  | -0.0010 | 0.0050  | -0.0010 | 0.4070  |
| 305755   | 0.4720  | 0.3580 | 0.0050  | 0.2390  | 3.0000  | 0.0030  | 0.0180  | -0.0010 | 1.1000  |
| 305757   | 2.2000  | 0.1200 | 0.0360  | 0.0560  | 3.7000  | 0.0310  | 0.0050  | -0.0010 | 1.4000  |
| 305758   | 0.6490  | 3.3000 | 0.0380  | 0.5090  | 15.5000 | 0.0210  | 0.6590  | 0.0090  | 5.5000  |
| 305759   | 0.8630  | 1.5000 | 0.0240  | 0.3180  | 7.9000  | 0.0120  | 0.1900  | 0.0060  | 6.1000  |
| 305760   | 0.6460  | 1.1000 | 0.0150  | 0.3710  | 4.1000  | 0.0070  | 0.0860  | 0.0060  | 1.3000  |
| 305761   | 0.3000  | 0.3910 | 0.0210  | 0.3470  | 1.2000  | 0.0040  | 0.0210  | 0.0030  | 1.4000  |
| 305762   | 0.2960  | 0.4130 | 0.0120  | 0.2580  | 1.3000  | 0.0120  | -0.0010 | -0.0010 | 1.2000  |
| 305764   | 0.6390  | 1.3000 | 0.0310  | 0.5120  | 6.6000  | 0.0070  | 0.1280  | 0.0070  | 2.1000  |
| 305765   | 0.2200  | 0.1850 | 0.0310  | 0.2090  | 5.3000  | 0.0150  | 0.0090  | 0.0030  | 0.5640  |
| 305766   | 0.4310  | 0.0820 | 0.0180  | 0.0580  | 1.7000  | 0.0250  | -0.0010 | 0.0010  | 0.4770  |
| 305767   | 1.6000  | 0.8470 | 0.0190  | 0.8970  | 2.6000  | 0.0080  | 0.0590  | 0.0020  | 8.4000  |
| 305769   | 0.8740  | 0.8670 | 0.0280  | 0.9220  | 2.1000  | 0.0100  | 0.0420  | 0.0070  | 1.4000  |
| 305770   | 2.0000  | 0.2190 | 0.0240  | 0.1300  | 9.7000  | 0.0230  | 0.0180  | 0.0040  | 0.9020  |
| 305771   | 0.3690  | 0.1190 | -0.0010 | 0.1570  | 0.5950  | -0.0010 | 0.0010  | 0.0010  | 0.9950  |

646084

| SampleID | Cu     | La     | Mo     | Ni     | Pb      | Sb      | Sm      | Tl      | Zn      |
|----------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| 305772   | 0.5350 | 0.3170 | 0.0090 | 0.3070 | 4.4000  | 0.0080  | 0.0170  | 0.0060  | 1.7000  |
| 305775   | 0.5530 | 0.9490 | 0.0180 | 0.7380 | 3.4000  | 0.0110  | 0.0370  | 0.0110  | 1.1000  |
| 305776   | 0.425  | 0.116  | 0.024  | 0.071  | 2.9     | 0.013   | 0.007   | 0.001   | 0.618   |
| 305777   | 1.3000 | 2.3000 | 0.0210 | 0.2610 | 7.6000  | 0.0130  | 0.3370  | 0.0050  | 5.3000  |
| 305778   | 0.4180 | 1.1000 | 0.0160 | 0.1510 | 1.3000  | 0.0160  | 0.0840  | 0.0040  | 2.4000  |
| 305779   | 0.4910 | 0.1860 | 0.0160 | 0.1390 | 1.7000  | 0.0090  | 0.0120  | -0.0010 | 1.5000  |
| 305780   | 0.3660 | 0.7210 | 0.0140 | 0.6570 | 2.1000  | 0.0100  | -0.0010 | 0.0030  | 0.7700  |
| 305782   | 0.5350 | 1.5000 | 0.0260 | 0.1920 | 11.5000 | 0.0060  | 0.2390  | 0.0120  | 6.8000  |
| 305783   | 0.4360 | 0.8060 | 0.0060 | 0.1010 | 6.8000  | 0.0060  | 0.2340  | 0.0090  | 2.9000  |
| 305784   | 0.5350 | 0.9680 | 0.0180 | 0.3800 | 1.9000  | 0.0180  | 0.0990  | 0.0080  | 0.8490  |
| 305788   | 1.1000 | 1.5000 | 0.0240 | 0.7520 | 7.1000  | 0.0080  | 0.1130  | 0.0050  | 3.1000  |
| 305789   | 1.1000 | 0.9830 | 0.0310 | 1.1000 | 4.7000  | 0.0020  | 0.0830  | 0.0040  | 35.0000 |
| 305790   | 0.3870 | 0.7320 | 0.0150 | 0.5910 | 3.5000  | 0.0100  | 0.0150  | 0.0090  | 1.4000  |
| 305791   | 0.5090 | 2.0000 | 0.0150 | 0.1250 | 23.0000 | 0.0010  | 0.2550  | 0.0150  | 9.9000  |
| 305792   | 1.2000 | 6.0000 | 0.0090 | 0.4170 | 24.0000 | 0.0030  | 0.5950  | 0.0090  | 8.6000  |
| 305793   | 0.8060 | 0.8930 | 0.0180 | 0.7720 | 4.3000  | 0.0080  | 0.0370  | 0.0100  | 1.6000  |
| 305794   | 1.8000 | 1.2000 | 0.0140 | 2.9000 | 3.8000  | 0.0060  | 0.0970  | 0.0100  | 7.0000  |
| 305795   | 0.3500 | 0.1420 | 0.0030 | 0.2500 | 1.4000  | -0.0010 | -0.0010 | 0.0020  | 1.0000  |
| 305796   | 0.1560 | 0.1060 | 0.0070 | 0.1020 | 0.2700  | -0.0010 | 0.0020  | -0.0010 | 0.5850  |
| 305797   | 2.4000 | 0.2230 | 0.0210 | 0.3210 | 7.8000  | 0.0100  | 0.0260  | 0.0020  | 1.8000  |
| 305798   | 0.1520 | 0.1440 | 0.0580 | 0.1070 | 6.9000  | 0.0170  | 0.0040  | -0.0010 | 0.5120  |
| 305799   | 3.2    | 1.2    | 0.02   | 7.3    | 0.249   | -0.001  | 0.187   | 0.002   | 3.4     |
| 305800   | 0.4880 | 0.5670 | 0.0110 | 0.1670 | 2.5000  | 0.0060  | 0.0280  | -0.0010 | 2.1000  |

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**APPENDIX 3**

**Day's Prospect**

**Thin Section and Whole Rock Analysis**

**MEMORANDUM**15<sup>th</sup> April 2000**PASMINCO  
EXPLORATION**

TO Andrew McNeill  
FROM Kim Denver  
SUBJECT Rock types at the Days prospect.

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**Introduction:**

At the Days Road prospect a simple geology has been proposed from south to north of

- Basal quartz phyric rhyolite volcanics. (The rocks that host the Cethana pyrite Zone)
- Intermediate epiclastics.
- Felsic sandstone.
- A mixed sequence of magnetic feldspar phyric andesite and quartz feldspar phyric dacite lava.
- Quartz phyric rhyolitic lava.

It is uncertain where these units fit in the stratigraphy of the main Mt Read Volcanic Belt. Samples were collected from the grid and were analysed by thin section and whole rock analysis to determine their compositions and also to determine their geochemical affinities. Whole rock geochemistry results are attached at the rear of the report.

**Sample Descriptions:**

**Sample # 337010.** Located at 5409498N 428298E.

**Hand Specimen:** Feldspar (1-3mm, pink/white 25%), quartz (2mm, glassy 10%) in a dark green/black matrix, weakly magnetic. Dacite lava **VLDAfq**.

**Thin Section:** 20% 2-3mm plagioclase with a dusting of sericite, 8 % clear fractured quartz, 3 % wispy pleochroic chlorite with an associated opaque phase to 1mm (presumably magnetite, see hand specimen description), in a fine sericite plagioclase matrix. One large clast of the above suggests some autobrecciation. There is an undulose layering, which is interpreted to be flow banding. The thin section confirms the hand specimen description and the rock is an autobrecciated, flow banded dacite lava.

**Whole Rock:** This rock has a SiO<sub>2</sub> content of 71% and is rhyolitic in composition. For further discussion see below.

**Sample # 337011.** Located at 5409281N 428298E.

**Hand Specimen:** Weakly magnetic feldspar (0.5 – 3mm, 25% from euhedral to broken fragments) no quartz and no mafics. The rock is interpreted to be dacitic lava.

**VLDAf.**

**Thin Section:** 20% 2-3mm plagioclase with a dusting of sericite, 1-2% clear fractured quartz, 3 % wispy pleochroic chlorite with an associated opaque phase to 1mm (presumably magnetite, see hand specimen description), in a fine sericite plagioclase matrix. There is no clinopyroxene in this specimen. The minor quartz in this unit and the lack of clinopyroxene suggests that this rock is a dacitic rather than andesitic lava.

**VLDAfq**

**Whole Rock:** This rock has a SiO<sub>2</sub> content of 69.5% and is rhyolitic in composition. For further discussion see below.

**Sample # 337012.** Located at 5409031N 428290E

**Hand Specimen:** Moderate – strongly magnetic feldspar (1-2mm, 25%) hornblende (2-3mm laths, 5%) brecciated in a dark matrix. It is difficult to be sure if this rock is an andesite lava or volcanoclastic. The rock is interpreted to be either VLANf or CNSAf

**Thin Section:** 25% 1-2mm euhedral plagioclase that is moderate to strongly sericite altered with the sericite occurring as a fine dusting. 5% 1-2mm high relief commonly twinned clinopyroxene, 5 % wispy chlorite interpreted to be altered hornblende. 2-3mm opaque phase interpreted to be magnetite. The matrix is fine grained weak to moderately sericite-altered plagioclase. This is andesite lava **VLANf**.

**Whole Rock:** This rock has a SiO<sub>2</sub> content of 63.1% and is andesitic in composition. For further discussion see below.

**Sample #337013.** Located at 5409435N 428510E

**Hand Specimen:** Dark green feldspars? (1-5mm clearly euhedral and broken crystals, 30%) small dark chloritic patches (1-2mm, 5%) interpreted to be after hornblende in a light green matrix. Strongly magnetic. **VLAN,f,h?**

**Thin section:** 25% 1-2mm euhedral and irregular plagioclase that is moderate to strongly sericite altered with the sericite occurring as a fine dusting. 5% 1-2mm high relief commonly twinned clinopyroxene, 5 % wispy chlorite interpreted to be altered hornblende. 2-3mm opaque phase interpreted to be magnetite. The mafic phase interpreted during field mapping to be hornblende is in fact clinopyroxene. The matrix is fine grained weak to moderately sericite-altered plagioclase. There are broken and irregular feldspars however the unit is still interpreted to be andesite lava **VLANfc**.

**Whole Rock:** This rock has a SiO<sub>2</sub> content of 63.1% and is andesitic in composition. For further discussion see below.

**Sample # 337014.** Located at 5408891N 428497E.

**Hand Specimen:** Dark green/grey sandstone. Subrounded pink/grey rhyolite? clasts (1-4mm, 50%), glassy quartz eyes (2mm, 25%), feldspar (2mm, 5%), strongly magnetic. **SI?SAI,q,f**

**Thin Section:** This rock is a poorly sorted sandstone. It consists of:

60% aphyric rhyolite? clasts to 3mm,

15% glassy quartz 0.1-1mm.

5% quartzite (Precambrian?) clasts to 5mm but typically 1-2mm,

5% plagioclase

2% opaques (presumably magnetite)

1% 0.3mm clinopyroxene

The varied clast phases indicates that this sandstone had a mixed provenance with input from rhyolitic volcanics, andesite volcanics and also Precambrian rock.

**Whole Rock:** This rock has a  $\text{SiO}_2$  content of 68.1% and is rhyo-dacitic in composition. The high  $\text{SiO}_2$  suggests negligible input from an andesitic source. For further discussion see below.

**Sample # 337015.** Located at 5409918N 428839E.

**Hand Specimen:** Brown/orange quartz phyric (2-7mm glassy quartz, 25%) in an orange matrix, no obvious feldspars. **VLRHq**

**Thin Section:** 20% glassy euhedral quartz 0.5-1.5mm, and 5% weakly sericitised plagioclase (<1mm) in a fine-grained matrix. This rock is clearly a rhyolite-dacite lava.

**Whole Rock:** This rock has a  $\text{SiO}_2$  content of 74.7% and is rhyolitic in composition. For further discussion see below.

**Sample #337016:** Located at 5409679N 428823E

**Hand Specimen:** Tabular outcrops, dark green/black feldspar phyric (1-2mm, 10%) rock, strongly magnetic. Mag **VLANf**

**Thin Section:** 30% 0.2-5mm plagioclase with a prominent dusting of sericite, some of the plagioclase are euhedral but many are broken and are commonly shard like. Other minor phase include 1% quartz to 3mm but typically 0.2-0.3mm, 3% chlorite after a mafic phase (presumably hornblende) and 3% opaques (presumably magnetite, see hand specimen description) in a strongly cleaved fine grained feldspar matrix. The lack of clinopyroxene suggests this rock is dacitic, the broken feldspars suggest a volcanoclastic origin. This rock is a dacitic volcanoclastic sandstone. **CISA**

**Whole Rock:** This rock has a  $\text{SiO}_2$  content of 66% and is dacitic in composition. For further discussion see below.

**Sample # 337017:** Located at 5409480N 428808E

**Hand Specimen:** Coarsely feldspars phyric (1-3mm, tabular feldspar, 25%) in a brecciated brown/dark green matrix. Strongly magnetic. **VLANf**

**Thin Section:** 20 % 0.1-2mm plagioclase crystals are broken, 5% simply twinned strongly pitted + 5mm feldspar (K-feldspar?), 2-3% blood red haematite, 1-2 % chlorite often associated with the haematite and no quartz. The very poor sorting and abundant broken feldspars suggest that this rock is an andesitic volcanoclastic sandstone. **CISAf**

**Whole Rock:** This rock has a SiO<sub>2</sub> content of 60.4% and is andesitic in composition. For further discussion see below.

**Sample # 337018:** Located at 5409567 429230E

**Hand Specimen:** dark green feldspar phyric (2-4mm, 25%) andesite lava. **VLANf**

**Thin Section:** 20 % 0.1-2mm plagioclase crystals are broken, 5% simply twinned strongly pitted + 5mm feldspar (K-feldspar?), 1-2 % chlorite often associated with an opaque phase and no quartz. Locally strongly cleaved sericitic zones. The poor sorting and abundant broken feldspars suggest that this rock is an andesitic volcanoclastic sandstone. **CISAf**

**Whole Rock:** This rock has a SiO<sub>2</sub> content of 61.6% and is andesitic in composition. For further discussion see below.

**Sample # 337019:** Located at 9080N / 8300E.

**Hand Specimen:** Evenly spread, matrix supported euhedral feldspar (1-3mm 15%) quartz (1-3mm, glassy 7%) phenocrysts in a light brown matrix, cut by 1-2mm chlorite veins. **VLDAfq.**

**Thin Section:** 25% indistinct plagioclase to 3mm, 10% clear glassy quartz to 3mm, 2% chlorite clots (presumably after hornblende) in a fine grained plagioclase rich matrix. **VLDAfq.**

**Whole Rock:** No whole rock analysis was completed.

**Sample # 337020:** Located at 8640N / 9200E.

**Hand Specimen:** quartz (2-3mm, 65%) feldspar (2mm, 10%) sericitic sandstone **SSSA**

**Thin Section:** Quartzite (2-3mm, 80%) and quartz eye (2-3mm, 10%) in a sericitic matrix. **SSSA.**

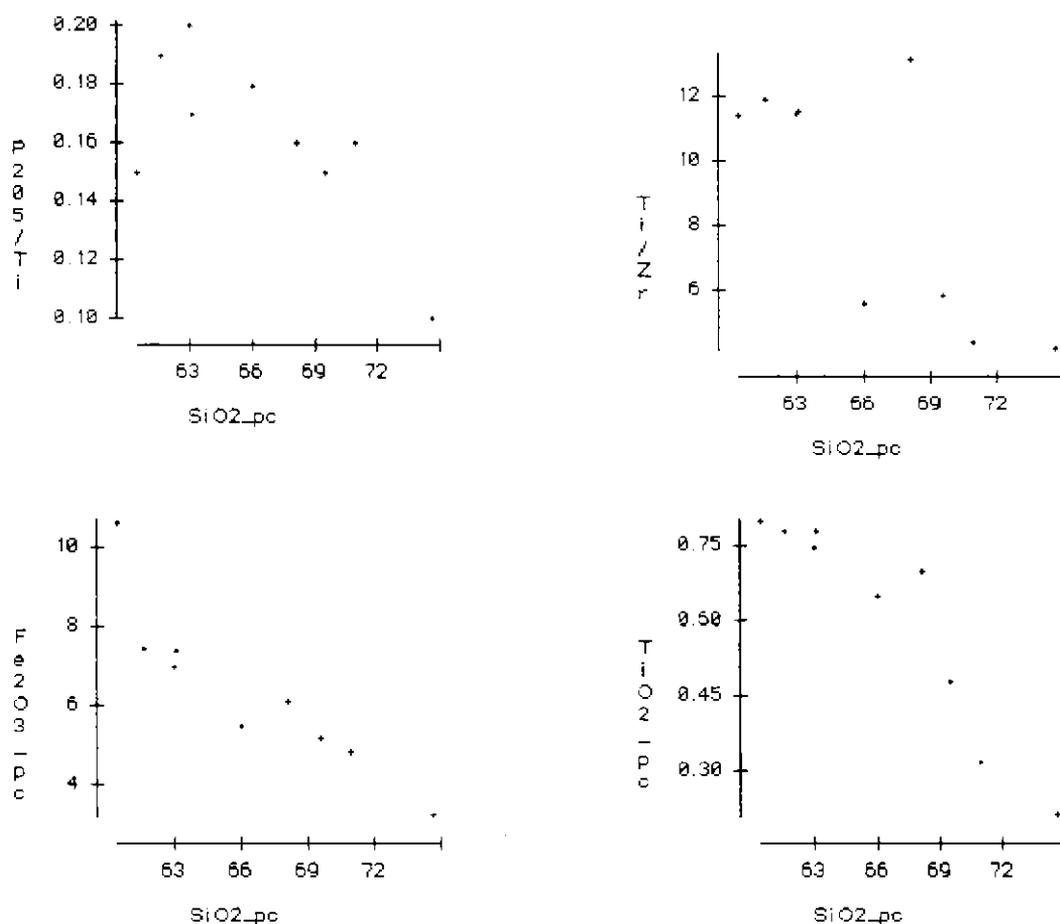
**Whole Rock:** No whole rock analysis was completed.

### Whole Rock Analysis:

Nine samples were submitted for whole rock analysis to confirm the rock composition and also to compare the rocks with others in the main MRV belt. The nine samples were analysed by Analabs using XRF for all whole rock components XRF, LOI, S, La, Ce, Nb, Zr, Cr, Ni, Y, Cu, Pb, Zn, Ba and As. The results were analysed by comparison with the paper by Crawford et.al (1992).

The nine samples of lavas, volcaniclastics and epiclastics from the Days Rd Prospect all fall within the main calc-alkaline Suite I. A direct element proportion evaluation indicates the Days Road rocks are Suite I although they are considerably lower in Ca) and higher in Zr than is normal. Plots comparing  $P_2O_5/TiO_2$  versus  $SiO_2$ ,  $Ti/Zr$  versus  $SiO_2$ ,  $Fe_2O_3$  versus  $SiO_2$  and  $TiO_2$  versus  $SiO_2$  (Figure 1) show the same differentiation trends as Crawford et.al (1992).

Figure 1:  $P_2O_5/TiO_2$  versus  $SiO_2$ ,  $Ti/Zr$  versus  $SiO_2$ ,  $Fe_2O_3$  versus  $SiO_2$  and  $TiO_2$  versus  $SiO_2$  plots from the Days Road Prospect.



### Conclusions:

It is quite clear that the lithologies at the Days Road prospect are Suite 1 rocks of the main Mt Read Volcanic belt. There is some variation between the mapped lithological description (field term) and the actual lithology.

The basal unit of intermediate epiclastics (SISA, SISI and SICG) is confirmed as being epiclastic in origin and is clearly of mixed province.

The main unit of dacitic lava (VDLA) on the western side of the Prospect is a rhyolitic lava rather than a dacitic lava as mapped however the  $\text{SiO}_2$  values just in the rhyolite field and these rocks should probably be called rhyo-dacite.

The main unit mapped as andesitic lava (VLANf,±h) is demonstrated to be andesitic in composition but the main mafic phenocryst phase is clinopyroxene not hornblende. This unit contains rocks that are clearly lavas and volcanoclastics. It is very difficult to distinguish these units in hand specimen.

The upper quartz phyric rhyolitic package that overlies the main mixed andesite/rhyodacite is clearly rhyolitic in composition with a  $\text{SiO}_2$  content of 74.7%.

### References:

Crawford, A.J., Corbett, K.D., and Everard, J.L., 1992. Geochemistry of the Cambrian Volcanic Hosted massive Sulfide Rich Mount Read Volcanics, Tasmania and some Tectonic Implications. Economic Geology Vol.87 pp597-619.

A handwritten signature in black ink, appearing to be 'A. J. Crawford', written in a cursive style.

|        |         |          |         |          |      |      |      |                           |        |   |      |      |
|--------|---------|----------|---------|----------|------|------|------|---------------------------|--------|---|------|------|
| 337010 | ROCKCHI | 428297.6 | 5409498 | AMG66 55 | 8300 | 9475 | DAYS | thin section - whole rock | 13.2   | 2 | 1310 | 0.71 |
| 337011 | ROCKCHI | 428297.5 | 5409281 | AMG66 55 | 8300 | 9235 | DAYS | thin section - whole rock | 14.27  | 3 | 1240 | 0.2  |
| 337012 | ROCKCHI | 428290.2 | 5409031 | AMG66 55 | 8300 | 9010 | DAYS | thin section - whole rock | 14.685 | 6 | 735  | 2.88 |
| 337013 | ROCKCHI | 428510.3 | 5409435 | AMG66 55 | 8500 | 9390 | DAYS | thin section - whole rock | 14.57  | 7 | 1370 | 3.37 |
| 337014 | ROCKCHI | 428496.6 | 5408891 | AMG66 55 | 8500 | 8890 | DAYS | thin section - whole rock | 12.84  | 6 | 645  | 2.38 |
| 337015 | ROCKCHI | 428838.5 | 5409918 | AMG66 55 | 8800 | 9750 | DAYS | thin section - whole rock | 12.89  | 2 | 1070 | 0.08 |
| 337016 | ROCKCHI | 428823.7 | 5409679 | AMG66 55 | 8800 | 9525 | DAYS | thin section - whole rock | 14.53  | 4 | 950  | 1.47 |
| 337017 | ROCKCHI | 428808.5 | 5409480 | AMG66 55 | 8800 | 9350 | DAYS | thin section - whole rock | 15.57  | 4 | 1570 | 0.14 |
| 337018 | ROCKCHI | 429230.9 | 5409567 | AMG66 55 | 9200 | 9520 | DAYS | thin section - whole rock | 14.89  | 3 | 680  | 2.11 |

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|--------|----|------|-----|-------|------|----|-------|------|------|-------|----|---|
| 337010 | 70 | 8    | 9   | 4.87  | 3.53 | 58 | 1.49  | 0.86 | 0.08 | 3.95  | 19 | 5 |
| 337011 | 72 | 10   | 2.5 | 5.23  | 3.33 | 50 | 1.58  | 1.32 | 0.1  | 4.25  | 18 | 5 |
| 337012 | 55 | 17.5 | 7   | 7.4   | 1.76 | 40 | 1.915 | 2.32 | 0.13 | 4.695 | 14 | 5 |
| 337013 | 56 | 15   | 5   | 6.99  | 3.33 | 41 | 1.35  | 2.15 | 0.13 | 3.88  | 14 | 5 |
| 337014 | 54 | 21   | 8   | 6.13  | 1.71 | 44 | 1.52  | 1.51 | 0.16 | 5.1   | 11 | 5 |
| 337015 | 39 | 2.5  | 2.5 | 3.18  | 3.34 | 57 | 1.12  | 0.19 | 0.09 | 4.13  | 17 | 5 |
| 337016 | 69 | 8    | 2.5 | 5.53  | 2.43 | 38 | 2.13  | 1.26 | 0.19 | 4.89  | 17 | 5 |
| 337017 | 52 | 22   | 2.5 | 10.65 | 2.18 | 59 | 2.69  | 2.39 | 0.24 | 4.84  | 17 | 5 |
| 337018 | 59 | 14   | 8   | 7.48  | 2.19 | 48 | 4.11  | 2.73 | 0.26 | 3.9   | 12 | 5 |

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|--------|------|-----|-------|------|------|-------|-----|--|--|--|--|--|
| 337010 | 58   | 100 | 70.98 | 0.32 | 40   | 230   | 422 |  |  |  |  |  |
| 337011 | 43   | 50  | 69.55 | 0.48 | 38   | 255   | 476 |  |  |  |  |  |
| 337012 | 36   | 190 | 63.12 | 0.78 | 34.5 | 132.5 | 387 |  |  |  |  |  |
| 337013 | 21   | 250 | 63.05 | 0.75 | 33   | 64    | 374 |  |  |  |  |  |
| 337014 | 42   | 90  | 68.13 | 0.7  | 33   | 195   | 304 |  |  |  |  |  |
| 337015 | 2.5  | 25  | 74.65 | 0.21 | 80   | 88    | 289 |  |  |  |  |  |
| 337016 | 720  | 580 | 66.08 | 0.65 | 37   | 825   | 668 |  |  |  |  |  |
| 337017 | 101  | 70  | 60.4  | 0.8  | 35   | 540   | 400 |  |  |  |  |  |
| 337018 | 69   | 25  | 61.62 | 0.78 | 34   | 570   | 374 |  |  |  |  |  |
|        | 0.15 |     |       |      |      |       |     |  |  |  |  |  |

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**APPENDIX 4**

**Core Relogging**

**Drill Logs from West Cethana,  
East Cethana and Gowrie Park**



DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |          |             |  |
|-----------|----------|-------------|--|
| Hole ID   | DD 77CC1 | Project     |  |
| Hole Type |          | Tenement No |  |
| Year      |          | Prospect    |  |
| Geologist |          | Date        |  |

| Depth | Lithology |        | Cu  | Pb   | Zn    | Graphic Log | Comments  | Alteration | Mineralisation |
|-------|-----------|--------|-----|------|-------|-------------|---|------------|----------------|
|       | Code      | Colour |     |      |       |             |   |            |                |
| 40    |           |        |     |      |       |             |   |            |                |
|       |           |        | 20  | 190  | 390   |             |   |            |                |
|       | 41        |        | 38  | 200  | 430   |             |   |            |                |
|       | 43        |        | 28  | 190  | 270   |             |   | Se, Py     |                |
|       | 45        |        | 48  | 85   | 170   |             |   |            |                |
|       | 47        |        | 65  | 25   | 270   |             |   |            |                |
|       | 48.2      |        | 28  | 35   | 270   |             | 46-510m - more competent<br>quartz (< 4mm) sericite (wavy)<br>reddish green schist, (possible lava)   | Se         |                |
| 50    | 49.8      |        | 28  | 60   | 210   |             |   |            |                |
|       | 51.3      |        | 48  | 82   | 162   |             | 510 - quartz (25%)<br>sericite schist.  |            |                |
|       | 51.6      |        | 45  | 150  | 220   |             |   |            |                |
|       | 53        |        | 45  | 35   | 220   |             |   |            |                |
|       | 55        |        | 55  | 70   | 190   |             |   |            |                |
|       | 57.3      |        | 40  | 150  | 180   |             |   |            |                |
|       | 58.9      |        | 330 | 80   | 200   |             |   |            | 200m<br>Se, Py |
| 60    | 61        |        | 150 | 320  | 180   |             |   |            |                |
|       | 61.7      |        | 260 | 95   | 940   |             |   | Se,        |                |
|       | 64.5      |        | 100 | 110  | 140   |             |   |            |                |
|       | 67.8      |        | 50  | 60   | 270   |             |   |            |                |
| 70    | 70.7      |        | 10  | 38   | 160   |             |   |            |                |
|       | 72        |        | 38  | 140  | 380   |             |   |            |                |
|       | 71.3      |        | 15  | 38   | 180   |             |   |            |                |
|       | 74.4      |        | 22  | 140  | 340   |             |   |            |                |
|       | 76        |        | 65  | 410  | 1530  |             |   |            |                |
|       | 75.6      |        | 340 | 1970 | 82000 |             |   |            |                |
|       | 79        |        | 42  | 160  | 3230  |             |   |            |                |
|       | 79.4      |        | 12  | 80   | 240   |             |   |            |                |
| 80    |           |        |     |      |       |             | ab 786-790m several<br>5-15mm wide cleavage parallel<br>massive schalensulfenite. Minor<br>quartz and some open space (dissolution<br>of carbonate??) |            | Se, Py         |

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DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|                         |             |
|-------------------------|-------------|
| Hole ID <b>DD 77CC1</b> | Project     |
| Hole Type               | Tenement No |
| Year                    | Prospect    |
| Geologist               | Date        |

| Depth | Lithology |        | Cu  | Pb    | Zn    | Graphic Log  | Comments  | Alteration | Mineralisation |
|-------|-----------|--------|-----|-------|-------|--------------|---|------------|----------------|
|       | Code      | Colour |     |       |       |              |   |            |                |
|       |           |        |     |       |       |              |   |            |                |
|       |           | 81.2   | 18  | 80    | 740   |              | <p><u>78.6 - 95.8m</u><br/>                     Sensitive schist, only minor qtz, this unit is similar to the above however the quartz content has decreased and the proportion of Si // sulphide veins? - zones has increased.</p> | Se 10%     |                |
|       |           | 83     | 80  | 500   | 850   |              |   |            |                |
|       |           | 85.3   | 48  | 220   | 410   |              |   |            |                |
|       |           | 87     | 18  | 200   | 660   |              |   |            |                |
|       |           | 88.6   | 18  | 60    | 110   |              |   |            |                |
| 90    |           | 89.8   | 110 | 570   | 990   |              |   |            |                |
|       |           | 92     | 45  | 390   | 910   |              | <p><u>95.8 - 100.6m</u> Fine grained<br/>                     blue-black tuffaceous-shaly sediment, cross-cut by sulphide veins and of carbonate veins, much more competent than surrounding lithologies.</p>                       | Sept.      |                |
|       |           | 94.1   | 63  | 330   | 1220  |              |   |            |                |
|       |           | 95.8   | 180 | 2380  | 9900  |              |   |            |                |
|       |           | 95     | 110 | 150   | 2000  |              |   |            |                |
| 100   |           | 100    | 190 | 10300 | 10900 |              | <p><u>100.6 - 106.4m</u><br/>                     as at 78.6 - 95.8m</p>  | Chise      |                |
|       |           | 100.6  | 120 | 8300  | 3600  |              |   |            |                |
|       |           | 101.5  | 28  | 150   | 150   |              |   |            |                |
|       |           | 104    | 18  | 30    | 130   |              |   |            |                |
|       |           | 106.4  | 18  | 75    | 190   |              |   |            |                |
|       |           |        |     |       |       | 106.4m (EOH) |   |            |                |

DIAMOND DRILL HOLE LOG

Collar: 5408150N, 428800E,

PASMINCO EXPLORATION

300m RL,

Azimuth: 222.2, dip -61

|           |                           |             |                 |
|-----------|---------------------------|-------------|-----------------|
| Hole ID   | DD77CC2                   | Project     | Lake Barrington |
| Hole Type | Diamond                   | Tenement No | EL 3/98         |
| Year      | 99 Re-log of an 1977 hole | Prospect    | West Calthana   |
| Geologist | KPD                       | Date        | 21/9/99         |

| Depth | Lithology |        | Cu  | Pb   | Zn   | Graphic Log | Comments | Alteration | Mineralisation |
|-------|-----------|--------|-----|------|------|-------------|----------|------------|----------------|
|       | Code      | Colour |     |      |      |             |          |            |                |
|       |           |        |     |      |      |             |          |            |                |
|       |           |        |     |      |      |             |          |            |                |
|       |           |        |     |      |      |             |          |            |                |
|       |           |        |     |      |      |             |          |            |                |
|       |           |        |     |      |      |             |          |            |                |
|       |           |        |     |      |      |             |          |            |                |
|       |           |        |     |      |      |             |          |            |                |
|       |           |        |     |      |      |             |          |            |                |
| 10    |           |        | 30  | 130  | 600  |             |          |            |                |
|       |           |        | 28  | 210  | 600  |             |          |            |                |
|       |           |        | 22  | 210  | 650  |             |          |            |                |
|       |           |        | 25  | 150  | 540  |             |          |            |                |
|       |           |        | 38  | 1650 | 900  |             |          |            |                |
|       |           |        | 8   | 310  | 640  |             |          |            |                |
|       |           |        | 18  | 670  | 1640 |             |          |            |                |
|       |           |        | 20  | 490  | 1080 |             |          |            |                |
|       |           |        | 22  | 330  | 520  |             |          |            |                |
| 20    |           |        | 30  | 450  | 1900 |             |          |            |                |
|       |           |        | 48  | 560  | 470  |             |          |            |                |
|       |           |        | 60  | 75   | 160  |             |          |            |                |
|       |           |        | 65  | 40   | 110  |             |          |            |                |
|       |           |        | 28  | 15   | 80   |             |          |            |                |
|       |           |        | 20  | 20   | 90   |             |          |            |                |
|       |           |        | 65  | 28   | 190  |             |          |            |                |
| 30    |           |        | 110 | 70   | 180  |             |          |            |                |
|       |           |        | 40  | 10   | 50   |             |          |            |                |
|       |           |        | 48  | 80   | 100  |             |          |            |                |
|       |           |        | 55  | 450  | 420  |             |          |            |                |
|       |           |        | 38  | 640  | 1650 |             |          |            |                |
| 40    |           |        |     |      |      |             |          |            |                |

5.0 - 19.6m  
 Altered iron-green  
 grey weakly crystalline medium  
 grained dolomitic limestone. Altered  
 silty clark are probably  
 granite and these are chlorite  
 altered. Moderately altered.

Se, CH.

19.6 - 53.0m

grey green weakly altered  
 silty limestone.

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |           |              |
|-----------|-----------|--------------|
| Hole ID   | DP 77 CCL | Project      |
| Hole Type |           | Treatment No |
| Year      |           | Prospect     |
| Geologist |           | Date         |

| Depth | Lithology |        | Cu  | Pb   | Zn   | Graphic Log   | Comments   | Alteration   | Mineralisation |
|-------|-----------|--------|-----|------|------|---|--|--|----------------|
|       | Code      | Colour |     |      |      |   |  |  |                |
|       |           |        | 45  | 240  | 2220 |   |  |  |                |
|       |           | 41     | 110 | 160  | 190  |   |  |  | 12.5 ea        |
|       |           | 43     | 110 | 32   | 490  |   |  |  | 12.5 ea        |
|       |           | 45     | 120 | 830  | 2260 |   | no long obvious in the core to explain these high numbers  |  |                |
|       |           | 46     | 80  | 1190 | 4320 |   |  |  |                |
|       |           | 47     | 180 | 250  | 610  |   |  |  |                |
|       |           | 48     | 200 | 160  | 680  |   |  |  |                |
| 50    |           | 50     | 170 | 200  | 560  |   |  |  |                |
|       |           | 52     | 25  | 65   | 160  |   |  | 530 - 590m<br>fine brown quartz crystal<br>cellular sandstone. |                |
|       |           | 53     | 25  | 170  | 200  |   |  |  |                |
|       |           | 58     | 30  | 60   | 130  |   | 590 - 707m<br>as at 19.6-53.0m   |  |                |
|       |           | 61     | 35  | 48   | 200  |   |  |  |                |
|       |           | 63     | 42  | 45   | 160  |   |  |  |                |
|       |           | 65     | 45  | 90   | 180  |   |  |  |                |
|       |           | 68     | 28  | 22   | 170  |   |  |  |                |
| 70    |           | 70     | 28  | 5    | 42   |   | 707 - 82m<br>as at 530 - 590m,<br>cellular fragments are dominantly<br>siliceous. Minor quartz & feldspar. |  |                |
|       |           | 73     | 22  | 5    | 38   |  |  |  |                |
|       |           | 75     | 25  | ND   | 40   |   |  |  |                |
|       |           | 77     | 45  | 20   | 50   |   |  |  |                |
| 80    |           |        |     |      |      |   |  |  |                |

GM x  
WH  
16/11/88  
GM x  
WH  
16/11/88

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|                         |                     |
|-------------------------|---------------------|
| Hole ID <u>DD 77002</u> | Project             |
| Hole Type               | Tenement No.        |
| Year                    | Prospect            |
| Geologist <u>KPD</u>    | Date <u>21/7/99</u> |

| Depth    | Lithology |        | Cu  | Pb  | Zn  | Graphic Log | Comments  | Alteration | Mineralisation |
|----------|-----------|--------|-----|-----|-----|-------------|---|------------|----------------|
|          | Code      | Colour |     |     |     |             |   |            |                |
|          |           |        | 45  | 20  | 50  |             |   |            |                |
|          | 82        |        | 10  | 10  | 28  |             | <p><u>82-99.9m</u><br/>                     light brown - green<br/>                     quartz phytic lava. Equigranular<br/>                     quartz crystal 2-tmm and<br/>                     green scoria? (bit of the lily?)<br/>                     in a very fine grained matrix.</p> |            |                |
|          | 84        |        | 15  | 20  | 30  |             |   |            |                |
| WH 90 *  | 94.5      |        | 15  | 20  | 60  |             |   |            |                |
|          | 95        |        | 20  | ND  | 30  |             |   |            |                |
| 100      | 99.6      |        | 170 | 42  | 35  |             | <p><u>99.9-102m</u><br/>                     section. fine luffaceous</p>   |            |                |
|          | 100.1     |        | 45  | 20  | 70  |             | <p><u>102.0-104.6m</u><br/>                     as at 53.0-59.0m</p>  |            |                |
|          | 104.6     |        | 28  | 90  | 110 |             | <p><u>104.6-121.0m</u><br/>                     grey-green quartz crystal<br/>                     white iron filings, with fine<br/>                     grained top and base.</p>   |            |                |
|          | 107.5     |        | 42  | 40  | 120 |             |   |            |                |
| 110      | 109       |        | 70  | 190 | 240 |             |   |            |                |
|          | 111       |        | 70  | 410 | 860 |             |   |            |                |
|          | 113.3     |        | 75  | 38  | 85  |             |   |            |                |
|          | 115       |        | 15  | 20  | 50  |             |   |            |                |
| WH 120 * | 119       |        | 200 | ND  | 70  |             |   |            |                |

646100

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |          |             |          |
|-----------|----------|-------------|----------|
| Hole ID   | DD 77CC2 | Project     |          |
| Hole Type |          | Tenement No |          |
| Year      |          | Prospect    |          |
| Geologist | KPD      | Date        | 21/7/99. |

| Depth | Lithology |        | Cu  | Pb  | Zn  | Graphic Log | Comments   | Alteration | Mineralisation |
|-------|-----------|--------|-----|-----|-----|-------------|--|------------|----------------|
|       | Code      | Colour |     |     |     |             |  |            |                |
|       |           |        | 200 | N7  | 70  |             | <p>Chert supported<br/>121.0 - 141.0m<br/>lithic conglomerate - self-hosted<br/>iron flows, base in chert supported<br/>and fine particles are matrix supported<br/>chert are almost exclusively<br/>volcanic.</p> |            |                |
|       |           |        | 8   | 8   | 42  |             |  |            |                |
|       |           |        | 15  | -5  | 48  |             |  |            |                |
|       |           |        | 45  | 20  | 70  |             |  |            |                |
|       |           |        |     |     |     |             |  |            |                |
|       |           |        | 75  | 20  | 70  |             |  |            |                |
|       |           |        | 85  | 75  | 420 |             |  |            |                |
|       |           |        | 65  | 70  | 120 |             |  |            |                |
|       |           |        |     |     |     |             | <p>141 - 164.1m<br/>fine grained grey-blue<br/>ashy volcanic</p>   |            |                |
|       |           |        | 30  | 70  | 810 |             |  |            |                |
|       |           |        | 25  | 40  | 880 |             |  |            |                |
|       |           |        | 25  | 150 | 180 |             |  |            |                |
|       |           |        | 30  | 70  | 400 |             |  |            |                |
|       |           |        | 30  | 90  | 150 |             |  |            |                |
|       |           |        |     |     |     |             |  |            |                |
|       |           |        | 25  | 65  | 230 |             |  |            |                |
|       |           |        | 18  | 210 | 380 |             |  |            |                |
|       |           |        | 30  | 190 | 470 |             |  |            |                |
|       |           |        |     |     |     |             |  |            |                |
|       |           |        | 30  | 50  | 200 |             |  |            |                |
|       |           |        |     |     |     |             |  |            |                |
|       |           |        | 22  | 80  | 220 |             |  |            |                |

646101





DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |         |             |  |
|-----------|---------|-------------|--|
| Hole ID   | DD77CC3 | Project     |  |
| Hole Type |         | Tenement No |  |
| Year      |         | Prospect    |  |
| Geologist |         | Date        |  |

| Depth | Lithology    |        | Cu | Pb  | Zn   | Graphic Log            | Comments  | Alteration | Mineralisation |
|-------|--------------|--------|----|-----|------|------------------------|---|------------|----------------|
|       | Code         | Colour |    |     |      |                        |   |            |                |
|       |              |        |    |     |      | mm<br>- 10 20 30 40 50 |   |            |                |
|       |              |        | 20 | 170 | 850  |                        | This unit from 23-49m has stayed a dark grey to black colour in the core trays.   | ch/Se/Py   |                |
|       | 42.7         |        |    |     |      |                        |   |            |                |
|       |              |        | 25 | 350 | 1130 |                        |   |            |                |
|       | 45.3<br>45.7 |        | 5  | 440 | 820  |                        |   |            |                |
| 50    |              |        | 20 | 490 | 1000 |                        | 49-68.2m<br>cream to pale green   |            |                |
|       | 50.5         |        |    |     |      |                        |   |            |                |
|       |              |        | 5  | 200 | 770  |                        | granular phreatic (2-3mm) volcanic<br>the volcanic is sericite and chlorite altered.  | Se/ch      |                |
|       | 51.1         |        |    |     |      |                        |   |            |                |
|       |              |        | 10 | 220 | 420  |                        |   |            |                |
|       | 57.3<br>58.3 |        | 10 | 40  | 620  |                        |   |            |                |
| 60    |              |        |    |     |      |                        |   |            |                |
|       |              |        | 10 | 70  | 620  |                        | 68.2-81.7m<br>light brown pumiceous<br>moderately altered sericite altered<br>volcaniclastics. Dark brown-green wispy clasts are interpreted as pumice.<br>locally chlorite - sericite altered. | Se         |                |
|       | 64.6         |        |    |     |      |                        |   |            |                |
|       |              |        | 10 | 220 | 630  |                        |   |            |                |
|       | 67.9<br>69.2 |        | 5  | 500 | 670  |                        |   |            |                |
| 70    |              |        |    |     |      |                        |   |            |                |
|       |              |        | 10 | 520 | 790  |                        |   |            |                |
|       | 73.6         |        |    |     |      |                        |   |            |                |
|       |              |        | 5  | 310 | 810  |                        |   |            |                |
|       | 75<br>75.9   |        | 22 | 100 | 860  |                        |   |            |                |
|       |              |        | 10 | 340 | 560  |                        |   |            |                |
| 80    |              |        |    |     |      |                        |   |            |                |
|       | 79.7         |        |    |     |      |                        |   |            |                |

DIAMOND DRILL HOLE LOG

|           |         |             |  |
|-----------|---------|-------------|--|
| Hole ID   | 77DDCC3 | Project     |  |
| Hole Type |         | Tenement No |  |
| Year      |         | Prospect    |  |
| Geologist |         | Date        |  |

PASMINCO EXPLORATION

| Depth | Lithology |        | Cu | Pb  | Zn   | Graphic Log | Comments   | Alteration     | Mineralisation  |
|-------|-----------|--------|----|-----|------|-------------|--|----------------|---|
|       | Code      | Colour |    |     |      |             |  |                |   |
|       |           | 805    |    |     |      |             |  |                |   |
|       |           | 817    | 10 | 290 | 290  |             | 81.7 - 86.8m.<br>Green-grey, cleaved<br>Sericite-chlorite altered qtz volcanic<br>A+ Ed. 2a go/spin 6/66 (5mm)<br>associated with sericite-py alt. | Se, Ch,<br>Py. |   |
|       |           | 836    | 55 | 480 | 2500 |             |  |                |   |
|       |           | 854    | 22 | 510 | 1540 |             |  |                |   |
|       |           | 874    | 10 | 530 | 1640 |             |  |                |   |
| 90    |           | 90     | 5  | 200 | 870  |             | 86.8 - 102.5m<br>mottled brown-green<br>medium grained chlorite altered<br>pumiceous volcanic. Pumice<br>occurs as elongate brown wisps.           | Ch             |   |
|       |           | 92     | 15 | 630 | 1850 |             |  |                |   |
|       |           | 965    | 10 | 330 | 1100 |             |  |                |   |
|       |           | 100    | 55 | 670 | 1730 |             |  |                |   |
|       |           | 102.5  |    |     |      |             | 102.5 - 109.4m<br>fine grained<br>green ashy volcanic.   | mod.<br>Ch.    | <del>qtz/carb</del><br><del>qtz/carb</del><br><del>qtz/carb</del> |
|       |           | 104.5  | 25 | 670 | 1470 |             |  |                |   |
|       |           | 107.5  | 15 | 400 | 810  |             |  |                |   |
| 110   |           | 109.4  | 18 | 720 | 1760 |             |  |                |   |
|       |           | 112.9  |    |     |      |             | 109.4 - 162.5m<br>Spertbed<br>green brown medium grained (2mm)<br>chlorite/min hematite altered<br>quartz-pumice volcanic like<br>sandstone        | mod<br>Ch      |   |
|       |           | 113.2  | 8  | 40  | 820  |             |  |                |   |
|       |           | 118.8  | 10 | 50  | 840  |             |  |                |   |
| 120   |           |        |    |     |      |             |  |                |   |

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |           |             |
|-----------|-----------|-------------|
| Hole ID   | DD 77 CC3 | Project     |
| Hole Type |           | Tenement No |
| Year      |           | Prospect    |
| Geologist |           | Date        |

| Depth | Lithology |        | Cu  | Pb   | Zn   | Graphic Log | Comments  | Alteration | Mineralisation |
|-------|-----------|--------|-----|------|------|-------------|---|------------|----------------|
|       | Code      | Colour |     |      |      |             |   |            |                |
|       |           |        |     |      |      |             |   |            |                |
|       |           | 112.8  |     |      |      |             | strong hematite alteration<br>from 129 - 131.7m.                              | mod<br>ch  |                |
|       |           | 114.2  | 28  | 2200 | 2070 |             |   |            |                |
|       |           |        | 10  | 70   | 600  |             |   |            |                |
|       |           | 116.6  |     |      |      |             |   |            |                |
|       |           | 122.2  | 5   | 500  | 80   |             |   |            |                |
| 130   |           |        | 10  | 150  | 700  |             |   | hc         |                |
|       |           | 132    |     |      |      |             |   |            |                |
|       |           |        | 20  | 430  | 1000 |             |   |            |                |
|       |           | 135    |     |      |      |             |   |            |                |
| 140   |           |        | 10  | 260  | 740  |             |   | mod<br>ch  | 92-carb+ch,    |
|       |           | 140.1  |     |      |      |             | -144.9-146.5m strong<br>chlorite with associated<br>qtz-feldspar-bas veinlets | ch         | 92-ch,         |
|       |           | 140.9  | 30  | 1010 | 1580 |             |   |            |                |
|       |           |        | 10  | 300  | 570  |             |   |            |                |
|       |           | 144.9  | 100 | 7600 | 3510 |             |   |            |                |
|       |           | 145.7  | 85  | 2440 | 1430 |             |   |            |                |
|       |           | 146.9  | 45  | 330  | 790  |             |   |            |                |
|       |           | 147.9  | 70  | 1320 | 1130 |             |   |            |                |
|       |           | 148.2  |     |      |      |             |   | mod<br>ch  |                |
| 150   |           |        | 85  | 1210 | 1200 |             |   |            |                |
|       |           | 152.5  |     |      |      |             |   |            |                |
|       |           |        | 30  | 410  | 610  |             |   |            |                |
|       |           | 156.5  |     |      |      |             |   |            |                |
|       |           | 158.5  | 90  | 870  | 1100 |             |   |            |                |
| 160   |           |        |     |      |      |             |   |            |                |

DIAMOND DRILL HOLE LOG

|           |          |             |
|-----------|----------|-------------|
| Hole ID   | DD77CC3. | Project     |
| Hole Type |          | Tenement No |
| Year      |          | Prospect    |
| Geologist |          | Date        |

PASMINCO EXPLORATION

| Depth | Lithology |        | Cu  | Pb  | Zn   | Graphic Log | Comments  | Alteration | Mineralisation |
|-------|-----------|--------|-----|-----|------|-------------|---|------------|----------------|
|       | Code      | Colour |     |     |      |             |   |            |                |
|       |           |        | 15  | 50  | 300  |             | 162.5 - 175.7<br>steel grey<br>competent ash/silt with<br>sericite altered volcanic<br>from 172.5 - 174.5m      |            |                |
|       | 162       |        | 42  | 250 | 1020 |             |   |            |                |
|       | 163       |        | 20  | 100 | 250  |             |   |            |                |
|       | 168       |        | 20  | 32  | 75   |             |   |            |                |
| 170   | 169.8     |        |     |     |      |             |   |            |                |
|       |           |        | 25  | 50  | 110  |             | - 175.7 - 180.6 -<br>pale brown -<br>grey quartz crystal<br>lithic sandstone                                    | SE         |                |
|       | 173.1     |        | 15  | 50  | 75   |             |   |            |                |
|       | 175       |        | 25  | 330 | 340  |             |   |            |                |
|       | 175.7     |        | 15  | 8   | 42   |             |   |            |                |
|       | 177.1     |        | 22  | 5   | 25   |             |   |            |                |
|       | 179.2     |        | 290 | 5   | 75   |             |   |            |                |
| 180   | 180.5     |        | 5   | 5   | 15   |             |   |            |                |
|       | 182.2     |        | 15  | -   | 30   |             | 180.6 - 190.0m<br>Pink to pale brown<br>fine grained silty volcanic with<br>minor silty sandstone<br>interbeds. |            |                |
|       | 187.5     |        | 15  | 30  | 65   |             |   |            |                |
|       | 188       |        | 15  | 20  | 50   |             |   |            |                |
| 190   |           |        |     |     |      |             | 190.0m (EOH)  |            |                |

Survey 60m - 76

114.

DIAMOND DRILL HOLE LOG

COLLAR: 5407085N 430900mE

PASMINCO EXPLORATION

RL: 435m

Azimuth 152 Dip 58

|           |                                |             |                 |
|-----------|--------------------------------|-------------|-----------------|
| Hole ID   | DD 77 CCA.                     | Project     | Lake Barrington |
| Hole Type | Diamond                        | Tenement No | EL 3/98         |
| Year      | 1999 relg of a 1977 drill hole | Prospect    | Celkara         |
| Geologist | KPD                            | Date        | 22/7/99         |

| Depth | Lithology |        | Cu | Pb  | Zn  | Graphic Log | Comments  | Alteration                    | Mineralisation                        |
|-------|-----------|--------|----|-----|-----|-------------|---|-------------------------------|---------------------------------------|
|       | Code      | Colour |    |     |     |             |   |                               |                                       |
| 3     |           |        |    |     |     |             | 3.0 - 15.9m<br>oxidized light - dark green<br>of volcanic.  | Mod<br>Se/Ch,                 |                                       |
| 4.5   |           |        | 45 | 280 | 190 |             |   |                               |                                       |
| 6     |           |        | 15 | 130 | 310 |             |   |                               |                                       |
| 10    |           |        | 15 | 150 | 590 |             |   |                               |                                       |
| 12.5  |           |        | 15 | 250 | 390 |             | 15.9 - 37.0m<br>light green - pale pink quartz pyrite<br>(2-4mm) sericite with chlorite<br>altered <sup>sericite?</sup> horn? Note: This<br>rock has oxidized with a<br>dark stain in the core zone.<br>The rock contains numerous thin<br>S <sub>1</sub> // bands of pyrite ± pyrrhotite<br>(weakly magnetic) to 20mm thick, zone<br>of abundant S <sub>1</sub> // py at 25.4-26m<br>and 36.5-37m. | strong<br>Se,<br>miner<br>Ch. |                                       |
| 17.5  |           |        | 20 | 500 | 780 |             |   |                               |                                       |
| 17.4  |           |        | 15 | 400 | 510 |             |   |                               |                                       |
| 17    |           |        | 15 | 100 | 280 |             |   |                               |                                       |
| 17.4  |           |        | 85 | 230 | 120 |             |   |                               |                                       |
| 20    |           |        | 15 | 170 | 230 |             |   |                               | S <sub>1</sub> , P <sub>4</sub><br>Ox |
| 25    |           |        | 10 | 30  | 190 |             |   |                               | S <sub>1</sub> , P <sub>4</sub><br>Ox |
| 30    |           |        | 15 | 40  | 180 |             |   |                               | S <sub>1</sub> , P <sub>4</sub><br>Ox |
| 32    |           |        | 20 | 40  | 370 |             |   |                               | S <sub>1</sub> , P <sub>4</sub><br>Ox |
| 36.5  |           |        | 15 | 90  | 220 |             |   |                               | S <sub>1</sub> , P <sub>4</sub><br>Ox |
| 37    |           |        | 25 | 360 | 250 |             | 37.0 - 47.6m<br>Badly broken and<br>stained qtz - sericite schist   |                               |                                       |
| 39    |           |        | 25 | 110 | 200 |             |   |                               |                                       |
| 40    |           |        | 15 | 50  | 190 |             |   |                               |                                       |

646108

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |          |             |
|-----------|----------|-------------|
| Hole ID   | DD 77CC4 | Project     |
| Hole Type |          | Tenement No |
| Year      |          | Prospect    |
| Geologist |          | Date        |

| Depth | Lithology |        | Cu | Pb  | Zn  | Graphic Log | Comments  | Alteration     | Mineralisation |
|-------|-----------|--------|----|-----|-----|-------------|---|----------------|----------------|
|       | Code      | Colour |    |     |     |             |   |                |                |
|       |           |        |    |     |     | mm          |   |                |                |
|       |           |        | 15 | 50  | 190 | ~<br>/      | Possibly the same lithology as above. Si pyritised pyrite veinlets are common particularly around 58.3m and 42.4m. Irregularly logged and containing clayey pyrite zones which have presumably deteriorated in the core trays.                      | strong<br>Se   |                |
|       |           |        | 10 | 30  | 270 | ~<br>/      |   |                |                |
|       | 46.4      |        | 45 | 450 | 570 | ~<br>/      | 47.6 - 64.8m  |                |                |
|       | 46.9      |        |    |     |     |             | light green-brown quartz sericite schist. Quartz is euhedral (2-4mm) flat 4-5mm wispy fragments may be flattened plates. The evenly spaced and euhedral of however suggest this unit is a lam. Less pyrite in this unit compared to previous units. | mod<br>Se      |                |
| 50    |           |        | 10 | 30  | 160 | ⊗ ⊗         |   |                |                |
|       | 51        |        |    |     |     | ⊗ ⊗         |   |                |                |
|       |           |        | 15 | 30  | 170 | ⊗ ⊗         |   |                |                |
|       | 55.5      |        |    |     |     | ⊗ ⊗         |   |                |                |
|       |           |        | 30 | 50  | 250 | ⊗ ⊗         |   |                |                |
| 60    | 60        |        |    |     |     | ⊗ ⊗         |   |                |                |
|       |           |        | 30 | 70  | 130 | ⊗ ⊗         |   |                |                |
|       | 62        |        |    |     |     | ⊗ ⊗         |   |                |                |
|       |           |        | 30 | 60  | 160 | ⊗ ⊗         |   |                |                |
|       | 64.5      |        |    |     |     | ⊗           |   |                |                |
|       |           |        | 10 | 100 | 180 |             | 64.8 - 198m Pink-grey fine-medium grained qtz-ser. volcanoblastic locally containing abundant Si // pyrite veinlets, 6cm  |                |                |
| 70    | 69        |        |    |     |     |             |    |                |                |
|       |           |        | 20 | 130 | 290 |             |   | Weak-mod<br>Se |                |
|       | 73.5      |        |    |     |     |             |   |                |                |
|       |           |        | 10 | 70  | 230 |             |   |                |                |
|       | 75        |        |    |     |     |             |   |                | Si, Py         |
|       |           |        | 30 | 250 | 360 |             |   |                |                |
|       | 77.5      |        |    |     |     |             |   |                |                |
|       |           |        | 30 | 210 | 800 |             |   |                |                |
| 80    | 79.5      |        |    |     |     |             |   |                |                |

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |           |             |  |
|-----------|-----------|-------------|--|
| Hole ID   | DD 77 CCA | Project     |  |
| Hole Type |           | Tenement No |  |
| Year      |           | Prospect    |  |
| Geologist |           | Date        |  |

| Depth | Lithology |        | Cu  | Pb   | Zn  | Graphic Log | Comments | Alteration | Mineralisation       |
|-------|-----------|--------|-----|------|-----|-------------|----------|------------|----------------------|
|       | Code      | Colour |     |      |     |             |          |            |                      |
|       |           |        |     |      |     | mm          |          |            |                      |
|       |           |        | 25  | 190  | 240 |             |          |            |                      |
|       | 82        |        | 15  | 50   | 670 |             |          |            |                      |
|       |           |        | 35  | 140  | 550 |             |          |            | 40mm py              |
|       | 85.5      |        | 20  | 160  | 600 |             |          |            | <del>40mm py</del>   |
|       |           |        | 15  | 100  | 290 |             |          |            | 91.5- Feld           |
| 90    |           |        |     |      |     |             |          |            |                      |
|       | 91        |        |     |      |     |             |          |            |                      |
|       |           |        | 10  | 30   | 400 |             |          |            |                      |
|       | 94        |        | 120 | 530  | 210 |             |          |            | 40mm                 |
|       | 94.6      |        |     |      |     |             |          |            | <del>matrix py</del> |
|       |           |        | 10  | 50   | 280 |             |          |            |                      |
|       | 98        |        |     |      |     |             |          |            |                      |
| 100   |           |        | 15  | 60   | 450 |             |          |            |                      |
|       |           |        |     |      |     |             |          |            |                      |
|       | 102       |        | 490 | 3510 | 590 |             |          |            |                      |
|       | 102.5     |        |     |      |     |             |          |            |                      |
|       |           |        | 10  | 50   | 390 |             |          |            |                      |
|       |           |        |     |      |     |             |          |            |                      |
|       | 107       |        | 15  | 70   | 400 |             |          |            |                      |
|       | 108       |        |     |      |     |             |          |            |                      |
| 110   |           |        | 15  |      | 350 |             |          |            |                      |
|       |           |        |     | 60   |     |             |          |            |                      |
|       | 112       |        |     |      |     |             |          |            |                      |
|       |           |        | 30  | 90   | 350 |             |          |            |                      |
|       |           |        |     |      |     |             |          |            |                      |
|       | 116       |        |     |      |     |             |          |            |                      |
|       |           |        | 10  | 40   | 380 |             |          |            |                      |
| 120   |           |        |     |      |     |             |          |            |                      |

98 - 120m cream - pale green banded (So) quartz seint volcanic. Fairly homogeneous and equigranular. Py/chalcite veinlet at 108.5m.



DIAMOND DRILL HOLE LOG

Collar: 5407200mN 430760E  
410 mRL,  
Azimuth: 192 TN,  
Dip: -50°

PASMINCO EXPLORATION

|           |         |             |               |
|-----------|---------|-------------|---------------|
| Hole ID   | DD77CC5 | Project     | Lake Barnhart |
| Hole Type | Diamond | Tenement No | EL 3/98       |
| Year      | 1999    | Prospect    | East Cushman  |
| Geologist | KPD,    | Date        | 23/7/99       |

| Depth | Lithology |        | Cu    | Pb   | Zn    | Graphic Log | Comments  | Alteration | Mineralisation |
|-------|-----------|--------|-------|------|-------|-------------|---|------------|----------------|
|       | Code      | Colour |       |      |       |             |   |            |                |
|       |           | 1-2    |       |      |       |             | 1.2 - 9.5m. mottled cream - tanish brown cleaved and sericite altered quartz schist.  |            |                |
|       |           |        | 30    | 1210 | 50    |             |   | Se         |                |
|       |           | 7.5    |       |      |       |             |   |            |                |
|       |           | 9.3    | 115   | 310  | 170   |             | 9.0 - 15.0m. green moderately cleaved sericite chlorite altered   |            |                |
| 10    |           |        |       |      |       |             | 9.5 - 10.5m volcanic.   |            |                |
|       |           |        | 10    | 440  | 550   |             |   | Si, Se, Py |                |
|       |           | 11.6   |       |      |       |             |   |            |                |
|       |           |        | 15    | 490  | 850   |             | 15.0 - 17.5m. Salmon pink ash volcanic, slightly elongated green clasts are parallel to St.   | Se, he.    |                |
|       |           | 15.6   |       |      |       |             |   |            |                |
|       |           |        | 135   | 640  | 2750  |             | 17.5 - 19.7m light-dust green pyritic, strongly cleaved volcanic  | Ch, Se.    |                |
| 20    |           | 19.7   |       |      |       |             | 19.7 - 25.2m. minor 9/5 fragments the remainder was lost, → major fault.  |            |                |
|       |           |        | 1000  | 550  | 1280  |             |   |            |                |
|       |           | 25.2   |       |      |       |             | 25.2 - 31.4m. Mottled dark green-black and pale yellow strongly cleaved ser, ch altered, low grade volcanic.  | Ch, Se     |                |
|       |           | 28.2   | 55    | 250  | 1420  |             |   |            |                |
| 30    |           | 30     | 45    | 470  | 1550  |             |   |            |                |
|       |           |        |       |      |       |             |   |            |                |
|       |           | 32     | 35    | 500  | 1180  |             | 31.4 - 37.8m dark green black pyritic, chlorite altered. 9/5 pyrite (800 to 1000µm). Abundant 9/5 crystals to 4mm, lithic clasts (eg 9/5 volcanic & 35.3m) to 35mm. | Ch         |                |
|       |           |        | 10    | 40   | 670   |             |   |            |                |
|       |           | 34     | 15    | 310  | 870   |             |   |            |                |
|       |           | 36     |       |      |       |             |   |            |                |
|       |           | 36.9   | 20    | 120  | 380   |             |   |            |                |
|       |           | 37.8   | 1200  | 330  | 2450  |             | 37.8 - 38.8m - this has been fully sampled 9/5 is described by Purvis, 1977 as: Microcrystalline zone   |            |                |
|       |           | 37.8   | 11800 | 8000 | 38800 |             |   |            |                |
| 40    |           | 38.8   | 75    | 1050 | 2350  |             |   |            |                |

Dark green highly chloritic vitric and graphitic buff shale & disrupted bedding. 25% Sulfides in bands probably remobilized after bedding. Includes a central 35cm zone of 35% sulfides - 15% bronze pyrite, 7-10% sph. ga, 7-10% cpy. Angles 33° to core axis. Slightly schistose.

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |          |             |  |
|-----------|----------|-------------|--|
| Hole ID   | DD 77CC5 | Project     |  |
| Hole Type |          | Tenement No |  |
| Year      |          | Prospect    |  |
| Geologist |          | Date        |  |

| Depth | Lithology |        | Cu  | Pb   | Zn   | Graphic Log   | Comments  | Alteration | Mineralisation                |
|-------|-----------|--------|-----|------|------|---|---|------------|-------------------------------|
|       | Code      | Colour |     |      |      |   |   |            |                               |
| 41    |           |        |     |      |      |   | <p>388-50.9m. Dark green strongly chlorite altered and pyrite veined quartz chlorite schist. Abundant S<sub>1</sub> parallel pyrite veins (&lt;10mm). Locally (50-70m) the rock is shaly and veined (cemented) with chlorite.</p> | Ch         | S <sub>1</sub> P <sub>4</sub> |
| 43    |           |        | 110 | 590  | 1300 |   |   |            |                               |
| 45    |           |        | 215 | 390  | 1130 |   |   |            |                               |
| 46.5  |           |        | 120 | 210  | 1300 |   |   |            |                               |
| 47.5  |           |        | 80  | 1150 | 1320 |   |   |            |                               |
| 49    |           |        | 80  | 990  | 570  |   |   |            |                               |
| 50    |           |        | 70  | 170  | 660  |   |   |            |                               |
| 51.8  |           |        | 116 | 1100 | 3170 |   |   |            |                               |
| 53    |           |        | 75  | 790  | 1250 |   | <p>51.7-64.5m green/grey quartz (thin conglomerate grade) downhole into a g<sub>1</sub> volcanic sandstone.</p>   | Ch         | P <sub>4</sub>                |
| 55    |           |        | 55  | 540  | 870  |   |   |            |                               |
| 57    |           |        | 100 | 360  | 4160 |   |   |            |                               |
| 59.3  |           |        | 45  | 9500 | 870  |   |   |            |                               |
| 60    |           |        | 30  | 690  | 930  |   |   |            |                               |
| 63    |           |        | 40  | 920  | 1270 |   |   |            |                               |
| 64.5  |           |        | 45  | 450  | 1130 | <p>64.5-70.5m clay physis rock, abundant clasts of old volcanic - some volcanic to 30mm, in a very fine grain up to the sequence.</p> |   |            |                               |
| 66    |           |        | 60  | 920  | 1660 |   |   |            |                               |
| 68    |           |        | 40  | 450  | 660  |   |   |            |                               |
| 70    |           |        | 40  | 220  | 580  |   |   |            |                               |
| 70.8  |           |        | 20  | 70   | 430  |   | <p>70.5-72.6 - pale green with blocky (to 3mm) no quartz in a pale green matrix. Abundant d<sub>1</sub>.</p>  | Clay       |                               |
| 72.6  |           |        | 75  | 940  | 2750 |   |   |            |                               |
| 75    |           |        | 85  | 480  | 2170 |   | <p>72.6-102m dark green fine-medium grained chlorite altered volcanic. In general contains only minor q<sub>1</sub>.</p>  | Ch         |                               |
| 77    |           |        | 145 | 440  | 810  |   |   |            |                               |
| 79    |           |        | 165 | 70   | 500  |   |   |            |                               |

DIAMOND DRILL HOLE LOG

|           |          |           |
|-----------|----------|-----------|
| Hole ID   | DD 77CC5 | Project   |
| Hole Type |          | Tenant No |
| Year      |          | Prospect  |
| Geologist |          | Date      |

PASMINCO EXPLORATION

| Depth | Lithology |        | Cu   | Pb   | Zn   | Graphic Log | Comments   | Alteration | Mineralisation                    |
|-------|-----------|--------|------|------|------|-------------|--|------------|-----------------------------------|
|       | Code      | Colour |      |      |      |             |  |            |                                   |
|       |           |        | 540  | 1000 | 3330 |             | From 81-84.1 the unit is cut by 10-15mm pink (manganiferous?) calcite with 15mm clots of sphalerite,   |            | <del>sil</del><br>ch/sph veinlet, |
|       | 82.5      |        | 260  | 620  | 4420 |             |  |            |                                   |
|       | 83.2      |        | 1020 | 1570 | 3420 |             |  |            |                                   |
|       | 85        |        | 35   | 300  | 1250 |             |  |            |                                   |
|       | 87        |        | 460  | 650  | 770  |             |  |            |                                   |
| 90    | 89        |        | 150  | 350  | 850  |             |  | Ch         |                                   |
|       | 91        |        | 285  | 270  | 710  |             |  |            |                                   |
|       | 92        |        | 75   | 290  | 390  |             |  |            |                                   |
|       | 94        |        | 25   | 500  | 570  |             |  |            |                                   |
|       | 96        |        | 25   | 690  | 660  |             |  |            |                                   |
|       | 98        |        | 20   | 470  | 570  |             |  |            |                                   |
| 100   | 100       |        | 20   | 110  | 250  |             |  |            |                                   |
|       | 101       |        | 20   | 120  | 250  |             |  |            |                                   |
|       | 103       |        | 20   | 200  | 2080 |             | - 102-102m light - dot green variably chlorite altered, quartz foliated, general (alteration in 102-103) minor siliceous - pit. Downward change to chlorite. |            |                                   |
|       | 105       |        | 15   | 190  | 310  |             |  |            |                                   |
|       | 107       |        | 40   | 270  | 580  |             |  |            |                                   |
| 110   | 109       |        | 45   | 270  | 580  |             |  |            |                                   |
|       | 111       |        | 30   | 260  | 1070 |             |  |            |                                   |
|       | 113       |        | 55   | 470  | 1660 |             |  |            |                                   |
|       | 115       |        | 20   | 340  | 770  |             |  |            |                                   |
|       | 117       |        | 15   | 270  | 410  |             |  |            |                                   |
|       | 118.7     |        | 35   | 110  | 560  |             |  |            |                                   |
| 120   |           |        |      |      |      |             |  |            |                                   |

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |           |             |
|-----------|-----------|-------------|
| Hole ID   | DD 77 CCS | Project     |
| Hole Type |           | Tenement No |
| Year      |           | Prospect    |
| Geologist |           | Date        |

| Depth | Lithology |        | Cu  | Pb   | Zn   | Graphic Log  | Comments  | Alteration | Mineralization |
|-------|-----------|--------|-----|------|------|--|---|------------|----------------|
|       | Code      | Colour |     |      |      |  |   |            |                |
|       |           | 121    |     |      |      |  | <p>121-140.5m yellow-pale green<br/>sericite equivalent of the above<br/>unit. 25cm pug fault<br/>at lower contact.</p> |            |                |
|       |           | 123    | 20  | 40   | 560  |  |   |            |                |
|       |           | 126    | 45  | 260  | 1230 |  |   |            |                |
|       |           | 128    | 60  | 360  | 1330 |  |   |            |                |
| 130   |           | 130    | 55  | 410  | 210  |  |   |            |                |
|       |           | 132    | 15  | 170  | 90   |  |   |            |                |
|       |           | 134    | 10  | 30   | 110  |  |   |            |                |
|       |           | 136    | 10  | 60   | 100  |  |   |            |                |
|       |           | 138    | 15  | 30   | 160  |  |   |            |                |
| 140   |           | 140    | 15  | 80   | 310  |  |   |            |                |
|       |           | 142    | 65  | 850  | 360  | <p>140.5-149.5m<br/>dark green (chlorite)<br/>- pale pink (sericite) equivalent<br/>of the above two units.<br/>finer as dark green - chlorite.</p>  | Ch, Se  |            |                |
|       |           | 144    | 55  | 920  | 300  |  |   |            |                |
|       |           | 146    | 30  | 270  | 230  |  |   |            |                |
|       |           | 148    | 65  | 120  | 150  |  |   |            |                |
| 150   |           | 149.5  | 10  | 130  | 200  |  |   |            |                |
|       |           | 150.5  | 15  | 40   | 120  |  |   |            |                |
|       |           | 152    | 30  | 40   | 240  | <p>149.5-164.2m (E31)<br/>pale pink, light green quartz.<br/>Same fine grained sericite<br/>similar unit to above but<br/>finer grained and a higher<br/>matrix proportion. Abundant<br/>dissimulated quartz - iron<br/>154.0-157.9m</p> | Se, Fe  |            |                |
|       |           | 153.0  | 115 | 60   | 110  |  |   |            |                |
|       |           | 154.1  | 100 | 170  | 190  |  |   |            |                |
|       |           | 154.5  | 45  | 780  | 602  |  |   |            |                |
|       |           | 156    | 210 | 140  | 2250 |  |   |            |                |
|       |           | 157.6  | 450 | 1700 | 2170 |  |   |            |                |
|       |           | 159    | 15  | 290  | 220  |  |   |            |                |
| 160   |           |        |     |      |      |  |   |            |                |



DIAMOND DRILL HOLE LOG

Collars 5407230N 430950E,  
400m RL,  
Azimuth: 192 Dip: -55°

PASMINCO EXPLORATION

|           |         |              |                 |
|-----------|---------|--------------|-----------------|
| Hole ID   | DD77 C6 | Project      | Lake Barrington |
| Hole Type | Diamond | Tenement No. | EL 3/95         |
| Year      | 1999    | Prospect     | East Coburn     |
| Geologist | KPD     | Date         | 23/7/1999.      |

| Depth | Lithology |        | Cu  | Pb   | Zn    | Graphic Log | Comments  | Alteration  | Mineralisation |
|-------|-----------|--------|-----|------|-------|-------------|---|-------------|----------------|
|       | Code      | Colour |     |      |       |             |   |             |                |
|       |           |        |     |      |       |             |   |             |                |
|       |           | 2.5    |     |      |       | ⊙           | 2.5 - 34.9m   |             |                |
|       |           |        | 15  | 310  | 105   | ⊙ ⊙         | pale yellow-orange (2.5-21.9m = 80x) → mottled light dark green strongly cleaved quartz crystal (2-3mm), fine volcaniclastic. | OX          |                |
|       |           | 7.0    |     |      |       | ⊙ ⊙         |   | SE          |                |
| 10    |           |        | 45  | 1000 | 65    | ⊙ ⊙         | There are zones of dark grey pyrogy material bet 31-34.9m which may be oxidized sulphides                                     |             |                |
|       |           | 10     |     |      |       | ⊙           |   |             |                |
|       |           |        | 40  | 1450 | 75    | ⊙ ⊙         |   |             |                |
|       |           | 13     |     |      |       | ⊙           |   |             |                |
|       |           |        | 80  | 1100 | 80    | ⊙ ⊙         |   |             |                |
|       |           | 16     |     |      |       | ⊙ ⊙         |   |             |                |
|       |           |        | 85  | 740  | 220   | ⊙ ⊙         |   |             |                |
| 20    |           | 19.5   |     |      |       | ⊙           |   |             |                |
|       |           |        | 90  | 680  | 160   | ⊙           |   |             |                |
|       |           | 22.9   |     |      |       | ⊙           |   |             |                |
|       |           |        | 210 | 1600 | 680   | ⊙           |   |             |                |
|       |           | 25     |     |      |       | ⊙           |   |             |                |
|       |           |        | 50  | 1100 | 480   | ⊙           |   |             |                |
|       |           | 27     |     |      |       | ⊙           |   |             |                |
| 30    |           |        | 70  | 940  | 470   | ⊙           |   | Se, Ch      |                |
|       |           | 31     |     |      |       | ⊙           |   |             |                |
|       |           |        | 55  | 3300 | 2500  | ⊙           |   |             |                |
|       |           | 33     |     |      |       | ⊙           |   |             |                |
|       |           |        | 80  | 2000 | 4400  | ⊙           |   |             |                |
|       |           | 35     |     |      |       | ⊙           | 34.9-39.0m  |             |                |
|       |           |        | 40  | 1500 | 3600  | ⊙           | Khaki → black fine grained silty volcanic → black shale. No obvious tm.   | Se, Mn, Ch, |                |
|       |           | 36.5   |     |      |       | ⊙           |   |             |                |
|       |           |        | 160 | 4800 | 17000 | ⊙           |   |             |                |
|       |           | 38     |     |      |       | ⊙           |   |             |                |
| 40    |           | 39.5   | 270 | 5000 | 11000 | ⊙           |   |             |                |

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |            |             |  |
|-----------|------------|-------------|--|
| Hole ID   | DD 77 CCL6 | Project     |  |
| Hole Type |            | Tenement No |  |
| Year      |            | Prospect    |  |
| Geologist |            | Date        |  |

| Depth | Lithology |        | Cu  | Pb   | Zn   | Graphic Log   | Comments   | Alteration                                  | Mineralisation |
|-------|-----------|--------|-----|------|------|---|--|---|----------------|
|       | Code      | Colour |     |      |      |   |  |   |                |
|       |           |        |     |      |      |   |  |   |                |
|       |           | 41     | 250 | 1700 | 7800 |   | <p>39.0 - 68.0 m light brown stony cleaved ashy volcanic, strong silicate alteration. From 50 - 50.5m cleavage bound patches of blue black clay material. Common and at 59.5m it is evident that this material</p> <p>i) is associated with qtz-feld veins<br/>ii) contains fine-medium grained galena (dominantly) and sphalerite.</p> <p>From 60.5 - 62.0 - a siliceous material is intersected. This unit is probably the same as that intersected from 34.9 - 39.0m.</p> <p>35.0 - 65m:<br/>30 - 0.38% Pb, 0.34% Zn.</p> | <p>cb.</p>                                  |                |
|       |           | 43     | 100 | 5600 | 1400 |   |  |   |                |
|       |           | 45     | 55  | 820  | 1250 |   |  |   |                |
|       |           | 46.8   | 40  | 450  | 280  |   |  |   |                |
|       |           | 48.5   | 60  | 1800 | 900  |   |  |   |                |
| 50    |           |        | 25  | 1800 | 980  |   |  |   |                |
|       |           | 50.2   | 60  | 3500 | 1200 | <p>35.0 - 65m:<br/>30 - 0.38% Pb, 0.34% Zn.</p>   |  | <p>Si/ga/sp<br/>Si/ga,sp<br/>Si, Si, sp</p> |                |
|       |           | 52.2   | 110 | 9200 | 2800 |   |  |   |                |
|       |           | 54.2   | 100 | 6000 | 1300 |   |  |   |                |
|       |           | 56.2   | 260 | 5800 | 150  |   |  |   |                |
|       |           | 57.2   | 45  | 2050 | 1100 |   |  |   |                |
| 60    |           | 60     | 310 | 9800 | 6500 |   |  |   |                |
|       |           | 62.4   | 75  | 880  | 1250 |   |  |   |                |
|       |           | 65     | 48  | 540  | 580  |   |  |   |                |
|       |           | 68     | 35  | 330  | 190  |   |  |   |                |
| 70    |           | 71     | 38  | 160  | 270  |   |  |   |                |
|       |           | 74     | 22  | 330  | 210  | <p>68.0 - 87.7m Pale green sandy, quartz crystal, liamne sandstone / volcanoclastic. High proportion of flint nodules at 75.3m, quartz feldspar veins</p> |  |   |                |
|       |           | 77     | 55  | 70   | 180  |   |  |   |                |
|       |           | 79     | 115 | 3300 | 240  |   |  |   |                |
| 80    |           | 80     |     |      |      |   |  |   |                |
|       |           |        |     |      |      | <p>76.5 - 76.7m and 77.8 - 78.6m</p> <p>Many - bit veins from 79 - 79.8 - contain patches 5mm of coarse galena.</p>                                       | <p>Se</p>  |   |                |

DIAMOND DRILL HOLE LOG

|           |            |             |  |
|-----------|------------|-------------|--|
| Hole ID   | DD 77 CC 6 | Project     |  |
| Hole Type |            | Tenement No |  |
| Year      |            | Prospect    |  |
| Geologist |            | Date        |  |

PASMINCO EXPLORATION

| Depth | Lithology |        | Cu | Pb   | Zn  | Graphic Log | Comments   | Alteration | Mineralisation |
|-------|-----------|--------|----|------|-----|-------------|--|------------|----------------|
|       | Code      | Colour |    |      |     |             |  |            |                |
|       |           |        | 48 | 1400 | 190 |             |  |            |                |
|       | 83        |        |    |      |     |             |  |            |                |
|       |           |        | 70 | 640  | 310 |             |  |            |                |
|       | 86        |        |    |      |     |             |  |            |                |
|       |           |        | 22 | 95   | 640 |             |  |            |                |
| 90    | 89        |        |    |      |     |             | 87.7 - 91.8m - dark<br>pink-brown scoria<br>altered fine grained volcanic brecciated<br>cemented by manganese carbonate        |            |                |
|       | 92        |        | 35 | 65   | 280 |             |  |            |                |
|       |           |        | 42 | 90   | 220 |             | 91.8 - 103.2m orange-pink<br>scoria altered quartz crystal<br>(various sizes and broken into<br>0.5-5mm) - fine volcaniclastic |            |                |
|       | 95        |        |    |      |     |             |  |            |                |
|       |           |        | 22 | 220  | 200 |             |  |            |                |
|       | 98        |        |    |      |     |             |  | Se         |                |
| 100   |           |        | 22 | 130  | 230 |             |  |            |                |
|       | 101       |        |    |      |     |             |  |            |                |
|       |           |        | 20 | 65   | 110 |             | 103.2 - 111.0m Mottled green<br>brown fine grained chlorite<br>altered volcanic, minor quartz                                  |            |                |
|       | 104       |        |    |      |     |             |  |            |                |
|       |           |        | 20 | 120  | 280 |             | * 1977 TS, Sericized porphyritic lava<br>103.7m  | Ch         |                |
|       | 107       |        |    |      |     |             |  |            |                |
|       |           |        | 55 | 160  | 840 |             |  |            |                |
| 110   | 110       |        |    |      |     |             |  |            |                |
|       |           |        | 42 | 110  | 230 |             | 111 - 123m<br>Pale orange-pink<br>- green quartz volcanic  |            |                |
|       | 113       |        |    |      |     |             |  |            |                |
|       |           |        | 28 | 250  | 220 |             | * 1977, TS, Mildly sheared, altered<br>porphyritic rhyolite 115.2m   | Cl/Se      |                |
|       | 116       |        |    |      |     |             |  |            |                |
|       |           |        | 48 | 15   | 700 |             |  |            |                |
|       | 119       |        |    |      |     |             |  |            |                |
| 120   |           |        | 42 | 20   | 320 |             |  |            |                |

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |           |             |  |
|-----------|-----------|-------------|--|
| Hole ID   | DD 77CC 6 | Project     |  |
| Hole Type |           | Tenement No |  |
| Year      |           | Prospect    |  |
| Geologist |           | Date        |  |

| Depth | Lithology |        | Cu | Pb  | Zn  | Graphic Log | Comments   | Alteration | Mineralisation |
|-------|-----------|--------|----|-----|-----|-------------|--|------------|----------------|
|       | Code      | Colour |    |     |     |             |  |            |                |
|       |           |        | 42 | 20  | 320 |             |  | Se/ch      |                |
|       | 122       |        | 25 | 28  | 500 |             | 123.0-127.5m<br>green chlorite<br>altered 1/3 phytic volcanic/<br>lava?  | ch         |                |
|       | 125       |        | 25 | 30  | 900 |             | 127.4-133.5m   |            |                |
| 130   |           |        | 40 | 250 | 820 |             | As above but Se altered  |            |                |
|       | 131       |        | 22 | 190 | 260 |             |  | Se         |                |
|       | 134       |        | 25 | 95  | 200 |             | 133.5-141.0m green - by 1/2<br>orange volcanic as above  | ch         |                |
|       | 137       |        | 25 | 110 | 170 |             |  |            |                |
| 140   | 140       |        | 20 | 250 | 500 |             | 141.0-147.0m<br>pale orange-green<br>conspicuous quartz crystal (broken<br>fragments from 0.5-3mm) granitic<br>volcanic  | ch         |                |
|       | 143       |        | 20 | 170 | 240 |             |  |            |                |
|       | 146       |        | 18 | 110 | 560 |             | 147.0-160.7m<br>green phytic<br>(white 1-4mm and typically<br>3mm) distributed in<br>pale green - light brown matrix<br>chlorite altered matrix Probable<br>lava | Se/ch      |                |
| 150   | 149       |        | 25 | 160 | 450 |             |  |            |                |
|       | 152       |        | 32 | 150 | 350 |             |  |            |                |
|       | 155       |        | 25 | 240 | 600 |             | 147.7, TS, 151.5m<br>Porphyritic<br>lava   |            |                |
|       | 158       |        | 38 | 32  | 300 |             |  |            |                |
| 160   |           |        |    |     |     |             |  |            |                |

5/5

DIAMOND DRILL HOLE LOG

|           |           |             |
|-----------|-----------|-------------|
| Hole ID   | DD 77 CCG | Project     |
| Hole Type |           | Tenement No |
| Year      |           | Prospect    |
| Geologist |           | Date        |

PASMINCO EXPLORATION

| Depth | Lithology |        | Cu  | Pb   | Zn   | Graphic Log | Comments   | Alteration | Mineralisation |
|-------|-----------|--------|-----|------|------|-------------|--|------------|----------------|
|       | Code      | Colour |     |      |      |             |  |            |                |
|       |           |        |     |      |      |             |  |            |                |
|       |           | 161    |     |      |      |             | <p>160.7 - 167.5m orange-buff to moderately stained quartz phytic volcanic. Variable size and broken fragments suggest that this is a volcaniclastic, cemented by remnant 95 Carbonate cement.</p> | Se         |                |
|       |           | 164    | 22  | 65   | 360  |             |  |            |                |
|       |           | 167    | 18  | 20   | 180  |             |  |            |                |
|       |           | 170    | 70  | 430  | 1200 |             |  |            |                |
|       |           | 173    | 220 | 740  | 1350 |             | <p>167.5 - 187.3m. Upward facing quartz crystal lithic conglomerate. Most are predominantly volcanic but also include quartzite (187m)</p>   | Ch         |                |
|       |           | 176    | 110 | 60   | 700  |             |  |            |                |
|       |           | 179    | 140 | 540  | 860  |             |  |            |                |
|       |           | 182    | 180 | 110  | 620  |             |  |            |                |
|       |           | 185    | 75  | 200  | 1100 |             | <p>187.3 - 193.8m. light grey black siliceous fine grained ash volcanic.</p>   | Ch         |                |
|       |           | 187.2  | 50  | 430  | 1100 |             |  |            |                |
|       |           | 189    | 120 | 440  | 660  |             |  |            |                |
|       |           | 191    | 165 | 880  | 1800 |             |  |            |                |
|       |           | 193    | 90  | 1100 | 3500 |             | <p>193.8 - 200.5m - Anticlinally bedded ash volcanic and coarse crystal (af) scoria.</p>   | Ch         |                |
|       |           | 195    | 105 | 1200 | 3300 |             |  |            |                |
|       |           | 197    | 90  | 740  | 2000 |             |  |            |                |
|       |           | 200    | 640 | 200  | 2050 |             |  |            |                |

200.5 200.5

646121

COLLAR: DIAMOND DRILL HOLE LOG  
 5407030 N 430700 E,  
 460m RL,  
 PASMINGO EXPLORATION  
 Azimuth: 192 dip: -50°

|           |                           |             |              |
|-----------|---------------------------|-------------|--------------|
| Hole ID   | DD 77 CC 7                | Project     | Lake Barnard |
| Hole Type | Diamond                   | Tenement No | EL 3/98      |
| Year      | 1999 Reloc of a 1977 hole | Prospect    | East Cellana |
| Geologist | KPD                       | Date        | 26/7/99      |

| Depth | Lithology |        | Cu  | Pb  | Zn   | Graphic Log | Comments   | Alteration | Mineralisation |
|-------|-----------|--------|-----|-----|------|-------------|--|------------|----------------|
|       | Code      | Colour |     |     |      |             |  |            |                |
| 1.1   |           |        |     |     |      |             | <p>1.1-15.0m dark brown-green shaggy chlorite altered quartz, feldspar like volcaniclastic; pyrite</p>   | Ch         |                |
| 3.0   |           |        | 25  | 350 | 660  |             |  |            |                |
| 4.5   |           |        | 20  | 270 | 820  |             |  |            |                |
| 6.0   |           |        | 20  | 200 | 900  |             |  |            |                |
| 7.5   |           |        | 10  | 90  | 860  |             |  |            |                |
| 9.0   |           |        | 20  | 105 | 820  |             |  |            |                |
| 10.5  |           |        | 15  | 130 | 1200 |             |  |            |                |
| 12.0  |           |        | 20  | 320 | 1300 |             |  |            |                |
| 13.5  |           |        | 25  | 200 | 1100 |             |  |            |                |
| 14.5  |           |        | 15  | 50  | 680  |             | <p>15.0-16.0m Badly broken and quartz veined sand</p>  | 913        |                |
| 18.0  |           |        | 290 | 60  | 860  |             |  |            |                |
| 20.0  |           |        | 130 | 75  | 500  |             |  |            |                |
| 21.0  |           |        | 130 | 120 | 580  |             |  |            |                |
| 24.0  |           |        | 65  | 300 | 360  |             |  |            |                |
| 27.0  |           |        | 40  | 90  | 450  |             |  |            |                |
| 30.0  |           |        | 25  | 150 | 620  |             | <p>28.0-83m Variable sericite and chlorite altered fine grained ashy volcanic, minor quartz pyrite domains which may be of lavas. In situ is variably pyritic with abundant disseminated and Si II pyrite from 47.1-60.5m, 64.5-82m.</p> | Ch         |                |
| 32.5  |           |        | 30  | 85  | 560  |             |  |            |                |
| 35.0  |           |        | 25  | 55  | 440  |             |  |            |                |
| 37.5  |           |        | 40  | 95  | 330  |             |  |            |                |
| 40.0  |           |        |     |     |      |             |  |            |                |

DIAMOND DRILL HOLE LOG

|           |           |             |
|-----------|-----------|-------------|
| Hole ID   | DD 77 CC7 | Project     |
| Hole Type |           | Tenement No |
| Year      |           | Prospect    |
| Geologist |           | Date        |

PASMINCO EXPLORATION

| Depth | Lithology |        | Cu  | Pb   | Zn   | Graphic Log | Comments | Alteration | Mineralisation |
|-------|-----------|--------|-----|------|------|-------------|----------|------------|----------------|
|       | Code      | Colour |     |      |      |             |          |            |                |
|       |           |        |     |      |      | mm          |          |            |                |
|       |           |        |     |      |      |             |          |            |                |
|       |           |        | 25  | 40   | 520  |             |          | Ch         |                |
| 42.5  |           |        | 45  | 135  | 640  |             |          | Se         |                |
| 45.5  |           |        | 15  | 270  | 1300 |             |          |            |                |
| 46.5  |           |        | 40  | 330  | 120  |             |          |            |                |
| 48    |           |        | 40  | 340  | 1200 |             |          |            |                |
| 49    |           |        | 30  | 280  | 2200 |             |          |            |                |
| 50    | 50        |        | 20  | 165  | 860  |             |          |            |                |
| 51    |           |        | 30  | 280  | 1800 |             |          |            |                |
| 52    |           |        | 35  | 120  | 540  |             |          |            |                |
| 53    |           |        | 30  | 490  | 2300 |             |          |            |                |
| 54    |           |        | 28  | 420  | 2000 |             |          |            |                |
| 55.5  |           |        | 60  | 320  | 1000 |             |          |            |                |
| 56.5  |           |        | 38  | 650  | 2150 |             |          |            |                |
| 58    |           |        | 60  | 550  | 1200 |             |          |            |                |
| 59    | 60        |        | 50  | 140  | 760  |             |          |            |                |
| 60.5  |           |        | 42  | 350  | 1000 |             |          |            |                |
| 62.2  |           |        | 90  | 1400 | 4550 |             |          |            |                |
| 62.8  |           |        | 45  | 110  | 760  |             |          |            |                |
| 65    |           |        | 45  | 140  | 500  |             |          |            |                |
| 67    |           |        | 80  | 580  | 550  |             |          |            |                |
| 68.5  |           |        | 40  | 100  | 3750 |             |          |            |                |
| 70    |           |        | 35  | 470  | 960  |             |          |            |                |
| 70.5  |           |        | 65  | 650  | 2250 |             |          |            |                |
| 73    |           |        | 160 | 580  | 2700 |             |          |            |                |
| 75.5  |           |        | 95  | 1100 | 2150 |             |          |            |                |
| 78    |           |        |     |      |      |             |          |            |                |
| 80    |           |        |     |      |      |             |          |            |                |

80.5

646123

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |           |             |
|-----------|-----------|-------------|
| Hole ID   | DD 77 CC7 | Project     |
| Hole Type |           | Tenement No |
| Year      |           | Prospect    |
| Geologist |           | Date        |

| Depth | Lithology |        | Cu  | Pb   | Zn   | Graphic Log | Comments   | Alteration | Mineralisation |
|-------|-----------|--------|-----|------|------|-------------|--|------------|----------------|
|       | Code      | Colour |     |      |      |             |  |            |                |
| 86.5  |           |        | 70  | 1050 | 3650 |             | <p>83.0 - 123m<br/>green-brown medium grained<br/>quartz crystal (broken fragments<br/>0.5 - 3mm) and a strongly<br/>sericite altered matrix</p> |            |                |
| 83    |           |        | 40  | 170  | 2050 |             |  |            |                |
| 86    |           |        | 50  | 440  | 640  |             |  |            |                |
| 90    |           |        | 55  | 480  | 720  |             |  |            |                |
| 92    |           |        | 50  | 110  | 1200 |             |  |            |                |
| 95    |           |        | 60  | 760  | 720  |             |  |            |                |
| 98    |           |        | 40  | 240  | 420  |             |  |            |                |
| 100   |           |        | 50  | 250  | 1100 |             |  |            |                |
| 104   |           |        | 55  | 680  | 1100 |             |  |            |                |
| 107   |           |        | 40  | 600  | 640  |             |  |            |                |
| 110   |           |        | 48  | 2100 | 1500 |             |  |            |                |
| 110.5 |           |        | 180 | 1300 | 2830 |             |  |            |                |
| 111.5 |           |        | 240 | 1600 | 1800 |             |  |            |                |
| 112.5 |           |        | 30  | 360  | 820  |             |  |            |                |
| 115.5 |           |        | 60  | 960  | 2000 |             |  |            |                |
| 118.5 |           |        | 50  | 1200 | 620  |             |  |            |                |

646124



DIAMOND DRILL HOLE LOG  
 Collar: 430955E 6407250N,  
 PASMINGO EXPLORATION RL 390.  
 Azimuth Dip.

|           |                           |             |                 |
|-----------|---------------------------|-------------|-----------------|
| Hole ID   | DD 78 CC 8                | Project     | Lake Barnington |
| Hole Type | Diamond                   | Tenement No | EL 3/480        |
| Year      | 1999 relog of a 1978 hole | Prospect    | East Colman     |
| Geologist | KPD                       | Date        | 26/7/99         |

| Depth | Lithology   |        | Cu  | Pb   | Zn   | Graphic Log | Comments  | Alteration | Mineralisation |
|-------|-------------|--------|-----|------|------|-------------|---|------------|----------------|
|       | Code        | Colour |     |      |      |             |   |            |                |
|       |             |        | 95  | 200  | 340  |             | 0.0 - 12.0m pale yellow. limonite orange (0.0 - 1.1m) sericite altered fine coarse grained lithic volcanic tuff.  |            |                |
|       |             |        | 55  | 240  | 140  |             |   |            |                |
|       |             |        | 80  | 420  | 150  |             |   |            |                |
|       |             |        | 80  | 2550 | 85   |             |   |            |                |
|       |             |        | 110 | 1850 | 1650 |             |   |            |                |
|       |             |        | 120 | 860  | 1100 |             | 12.0 - 28.5m pale yellow and dark manganese stained, highly cleaved and broken with regular mag zones, faulted off. Sericite schist. Abundant vugs 95 very.   |            |                |
|       |             |        | 780 | 2150 | 1050 |             |   |            |                |
|       |             |        | 28  | 400  | 860  |             |   |            |                |
|       |             |        | 120 | 230  | 2200 |             |   |            |                |
|       |             |        | 32  | 100  | 1350 |             |   |            |                |
|       |             |        | 75  | 210  | 330  |             |   |            |                |
|       |             |        | 60  | 140  | 2100 |             |   |            |                |
|       |             |        | 30  | 170  | 520  |             |   |            |                |
|       |             |        | 45  | 140  | 1450 |             |   |            |                |
|       |             |        | 110 | 100  | 860  |             |   |            |                |
|       |             |        | 120 | 160  | 1650 |             | 28.0 - 45.3m Pale orange and stained dark brown brecciated fine silicified ash volcanic. Degree of brecciation is variable but cleark to 50mm sometimes in what appears to be a totally milled breccia and in other instances just a crackle breccia. | Se         |                |
| 72m   |             |        | 130 | 1500 | 5000 |             |   |            |                |
|       | 32.5 - 33.5 |        | 12  | 460  | 1700 |             |   |            |                |
|       | 35.5        |        | 35  | 140  | 960  |             |   |            |                |
|       | 37.5        |        | 95  | 270  | 1090 |             |   |            |                |
|       | 40          |        | 120 | 150  | 700  |             |   |            |                |

646126

DIAMOND DRILL HOLE LOG

|           |          |             |  |
|-----------|----------|-------------|--|
| Hole ID   | DD 78CC8 | Project     |  |
| Hole Type |          | Tenement No |  |
| Year      |          | Prospect    |  |
| Geologist |          | Date        |  |

PASMINCO EXPLORATION

| Depth | Lithology |        | Cu  | Pb   | Zn   | Graphic Log | Comments  | Alteration | Mineralisation |
|-------|-----------|--------|-----|------|------|-------------|---|------------|----------------|
|       | Code      | Colour |     |      |      |             |   |            |                |
| 40    |           |        |     |      |      | mm          |   |            |                |
|       | 42        |        | 85  | 180  | 580  |             |   |            |                |
|       | 44        |        | 45  | 45   | 540  |             |   |            |                |
|       | 46        |        | 110 | 540  | 740  |             |   |            |                |
|       | 48        |        | 42  | 40   | 490  |             |   |            |                |
| 50    |           |        | 35  | 550  | 230  |             | 45.3m - 60.2m<br>Variable brecciated<br>quartz crystal volcanoclastic.<br>Matrix variable from fine<br>sericitic matrix to coarse<br>sandy matrix | Se         |                |
|       | 51        |        |     |      |      |             |   |            |                |
|       | 52        |        | 48  | 240  | 540  |             |   |            |                |
|       | 54        |        |     |      |      |             |   |            |                |
|       | 56        |        | 40  | 1150 | 3150 |             |   |            |                |
|       | 57        |        |     |      |      |             |   |            |                |
| 60    |           |        | 38  | 340  | 800  |             |   |            |                |
|       | 62        |        | 15  | 240  | 980  |             | 60.2 - 62.4m green<br>chlorite altered matrix of<br>crystal to 2mm, wispy sericite<br>to 5mm (after pyrite) volcanoclastic                        | Ch         |                |
|       | 63        |        |     |      |      |             |   |            |                |
|       | 64        |        | 30  | 470  | 470  |             | 62.4 - 77.0m. Pale orange -<br>yellow matrix green quartz<br>phyric volcanic.   | Se         |                |
|       | 66        |        | 35  | 330  | 540  |             |   |            |                |
| 70    |           |        |     |      |      |             |   |            |                |
|       | 72        |        | 50  | 1150 | 490  |             |   |            |                |
|       | 74        |        | 200 | 45   | 330  |             |   |            |                |
|       | 76        |        |     |      |      |             |   |            |                |
|       | 78        |        | 28  | 200  | 580  |             |   |            |                |
| 80    |           |        | 55  | 800  | 350  |             | 77.0 - 84.3m. matrix<br>green & quartz<br>phyric, lithic conglomerate/matrix  |            |                |

81-

DIAMOND DRILL HOLE LOG

|           |          |             |
|-----------|----------|-------------|
| Hole ID   | DP 78CC8 | Project     |
| Hole Type |          | Tenement No |
| Year      |          | Prospect    |
| Geologist |          | Date        |

PASMINCO EXPLORATION

| Depth | Lithology |        | Cu  | Pb   | Zn   | Graphic Log | Comments  | Alteration | Mineralisation |
|-------|-----------|--------|-----|------|------|-------------|---|------------|----------------|
|       | Code      | Colour |     |      |      |             |   |            |                |
| 80    |           |        |     |      |      | mm          |   |            |                |
|       |           |        |     |      |      |             |   |            |                |
|       |           |        | 60  | 400  | 1850 |             |   | Ch         |                |
|       |           |        |     |      |      |             |   |            |                |
|       |           |        | 200 | 480  | 1250 |             | 843-950 - Similar unit to above but sericite altered and a higher abundance of quartz.                    |            |                |
|       |           |        |     |      |      |             |   |            |                |
| 90    |           |        | 110 | 660  | 1300 |             |   | Se         |                |
|       |           |        |     |      |      |             |   |            |                |
|       |           |        | 70  | 880  | 2400 |             |   |            | 95-115 -       |
|       |           |        |     |      |      |             |   |            |                |
|       |           |        | 30  | 380  | 800  |             | 95.0 - 99.5m  |            | 20 - e         |
|       |           |        |     |      |      |             | fine grained green-grey brecciated silicified ash volcanic. Chlorite altered                              | Ch.        | 1060 pp        |
|       |           |        | 240 | 1150 | 6600 |             |   |            | 2960 Zn        |
|       |           |        |     |      |      |             |   |            |                |
|       |           |        | 110 | 1050 | 3250 |             |   |            |                |
| 160   |           |        |     |      |      |             |   |            |                |
|       |           |        | 140 | 650  | 2500 |             | 99.5 - 115m - pale orange - grey brecciated fine grained sericite altered ash volcanic.                   |            |                |
|       |           |        |     |      |      |             | From 106.4 - 108.8m and 109.7 - 114m the breccia is cemented with carbonate.                              |            |                |
|       |           |        | 200 | 450  | 3650 |             |   |            |                |
|       |           |        |     |      |      |             |   |            |                |
|       |           |        | 210 | 1800 | 4600 |             |   |            |                |
|       |           |        |     |      |      |             |   |            |                |
|       |           |        | 70  | 320  | 1200 |             |   |            |                |
|       |           |        |     |      |      |             |   | Se         |                |
|       |           |        | 130 | 540  | 1200 |             |   |            |                |
| 110   |           |        |     |      |      |             |   |            |                |
|       |           |        | 120 | 1500 | 1450 |             |   |            |                |
|       |           |        |     |      |      |             |   |            |                |
|       |           |        | 120 | 2000 | 4680 |             |   |            |                |
|       |           |        |     |      |      |             |   |            |                |
|       |           |        | 85  | 300  | 580  |             |   |            |                |
|       |           |        |     |      |      |             |   |            |                |
|       |           |        | 110 | 340  | 1800 |             | 115 - 131.5m steel hole quartz poor, chlorite altered volcanic breccia occasional bituminous chert to 50m | Ch         |                |
|       |           |        |     |      |      |             |   |            |                |
|       |           |        | 250 | 780  | 2050 |             |   |            |                |
| 120   |           |        |     |      |      |             |   |            |                |
|       |           |        | 220 | 760  | 2200 |             |   |            |                |

DIAMOND DRILL HOLE LOG

4/4.

PASMINCO EXPLORATION

|           |         |             |          |
|-----------|---------|-------------|----------|
| Hole ID   | DD77CC8 | Project     |          |
| Hole Type |         | Tenement No |          |
| Year      |         | Prospect    |          |
| Geologist |         | Date        | 26/7/99. |

| Depth | Lithology |        | Cu     | Pb    | Zn   | Graphic Log | Comments  | Alteration   | Mineralization |
|-------|-----------|--------|--------|-------|------|-------------|---|--|----------------|
|       | Code      | Colour |        |       |      |             |   |  |                |
| 120   |           |        |        |       |      |             |   |  |                |
|       |           |        | 220    | 260   | 2200 |             |   |  |                |
|       | 121       |        | 42     | 1050  | 640  |             |   |  |                |
|       | 123       |        | 49     | 190   | 420  |             |   |  |                |
|       | 115       |        | 30     | 370   | 960  |             |   |  |                |
|       | 117       |        | 42     | 960   | 1200 |             |   |  | Ch             |
|       | 129       |        | 25     | 390   | 560  |             |   |  |                |
| 130   |           |        |        |       |      |             |   |  |                |
|       | 131       |        | 38     | 110   | 300  |             | 131.5 - 140.2m<br>as above but Se altered   |  |                |
|       | 133       |        | 55     | 28    | 250  |             |   |  | Se             |
|       | 135       |        | 60     | 180   | 350  |             |   |  |                |
|       | 137       |        | 65     | 48    | 240  |             |   |  |                |
|       | 139       |        | 90     | 15    | 310  |             |   |  |                |
|       | A1        |        | 60     | 330   | 900  |             |   | 140.2 - 152.4m<br>green grey<br>chlorite altered white conglomerate<br>last to 25mm. |                |
|       | 143       |        | 100    | 230   | 500  |             |   |  |                |
|       | 145       |        | 140    | 740   | 2400 |             |   |  | Ch             |
|       | 147       |        | 30     | 300   | 460  |             |   |  |                |
| 150   |           |        |        |       |      |             |   |  |                |
|       | 149       |        |        |       |      |             |   |  |                |
|       | 151       |        |        |       |      |             | 152.4 - 157.6m<br>sharply bedded<br>and foliated quartz phytic<br>micrite with little feldspar<br>volcanic / lava |  |                |
|       | 153       |        |        |       |      |             |   |  |                |
|       | 155       |        |        |       |      |             |   |  |                |
|       |           |        | 157.6m | (EOM) |      |             |   |  |                |

646129

DIAMOND DRILL HOLE LOG

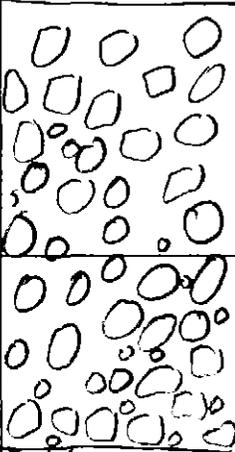
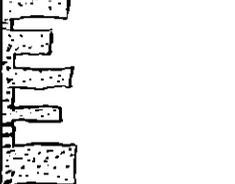
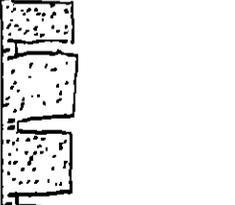
Colln: 5408460N, 428670E

PASMINCO EXPLORATION

RL: 285m RL,

Azimuth: 244, Dip: -55°

|           |                           |             |                 |
|-----------|---------------------------|-------------|-----------------|
| Hole ID   | DD 84 CC11                | Project     | Lake Burdigalpa |
| Hole Type | Vegetated                 | Tenement No | EL 3/98         |
| Year      | 1999 relog of a 1977 hole | Prospect    | West Cellura.   |
| Geologist | KPP                       | Date        | 26/27/7/99      |

| Depth | Lithology |        | Cu | Pb  | Zn  | Graphic Log   | Comments   | Alteration | Mineralisation |
|-------|-----------|--------|----|-----|-----|---|--|------------|----------------|
|       | Code      | Colour |    |     |     |   |  |            |                |
| 10    | 9         |        |    |     |     |    | <p>3-15m. Rounded quartzite pebbles +15mm,</p>   |            |                |
| 15    | 15        |        | 40 | 20  | 85  |   | <p>15-36.5m. Dark brown thin bedded siltstones and sandstones. This unit is rhythmically bedded with thin 3-5mm shale/siltstone and thicker 50-150mm sandstone units, this is cover sequence, Tertiary</p> |            |                |
| 20    | 18        |        | 15 | -5  | 250 |  |  |            |                |
| 21    | 21        |        | 15 | 25  | 240 |  |  |            |                |
| 30    | 22        |        | 20 | 40  | 310 |  |  |            |                |
| 33    | 33        |        | 25 | 65  | 290 |  |  |            |                |
| 36.5  | 36.5      |        | 30 | 35  | 190 |  | <p>36.5-66.5m. orange-brown → dark manganese stained, strongly cleaved and sheared</p>   |            |                |
| 40    | 39        |        | 10 | 640 | 110 |  |  | Se         |                |

Note: Goes from DD 84 CC11 → DD 84 CC12 at 46m.

646130

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |                |             |
|-----------|----------------|-------------|
| Hole ID   | DD8/CC11-CC12. | Project     |
| Hole Type |                | Tenement No |
| Year      |                | Prospect    |
| Geologist |                | Date        |

| Depth | Lithology |        | Cu  | Pb  | Zn   | Graphic Log | Comments   | Alteration | Mineralisation |
|-------|-----------|--------|-----|-----|------|-------------|--|------------|----------------|
|       | Code      | Colour |     |     |      |             |  |            |                |
| 42    |           |        | 15  | 700 | 1600 |             | Sericite / minor quartz schist   |            |                |
| 45    |           |        | 25  | 370 | 1050 |             |  |            |                |
| 45.5  |           |        |     |     |      |             |  |            |                |
| 48    |           |        | 10  | 360 | 470  |             |  |            |                |
|       |           |        | 20  | 145 | 470  |             |  |            |                |
| 51    |           |        | 20  | 400 | 550  |             |  |            |                |
| 54    |           |        | 40  | 430 | 390  |             |  | Se         |                |
| 57    |           |        | 25  | 200 | 660  |             |  |            |                |
| 60    |           |        | 20  | 250 | 350  |             |  |            |                |
| 63    |           |        | 85  | 350 | 1850 |             |  |            |                |
| 66.5  |           |        | 640 | 620 | 4200 |             | 66.5-73.3m strongly foliated dark brown - grey / brown lithic volcanic conglomerate. No foliation is defined by dark brown laminae         | Ch/Fe      |                |
| 69    |           |        | 145 | 220 | 1250 |             | Staining. Clasts are quartzite / cherty clasts and volcanic.   |            |                |
| 71    |           |        | 20  | 340 | 1550 |             |  |            |                |
| 73.3  |           |        | 340 | 340 | 0700 |             | 73.3-103.5m - Pale orange - red brown moderate - strongly foliated sericite minor quartz schist. pug fault at 92.5 - 94m and 99.1 - 99.8m. | Se         | 74             |
| 77    |           |        | 220 | 220 | 500  |             |  |            |                |
| 80    |           |        |     |     |      |             |  |            |                |

646131

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |          |             |
|-----------|----------|-------------|
| Hole ID   | D08/CC12 | Project     |
| Hole Type |          | Tenement No |
| Year      |          | Prospect    |
| Geologist |          | Date        |

| Depth | Lithology |        | Cu  | Pb   | Zn   | Graphic Log | Comments | Alteration | Mineralisation |
|-------|-----------|--------|-----|------|------|-------------|----------|------------|----------------|
|       | Code      | Colour |     |      |      |             |          |            |                |
| 80    |           |        |     |      |      |             |          |            |                |
|       |           |        | 55  | 55   | 300  |             |          |            |                |
|       |           |        | 100 | 100  | 430  |             |          |            |                |
|       |           |        | 50  | 1000 | 1200 |             |          |            |                |
| 90    |           |        | 60  | 90   | 670  |             |          |            |                |
|       |           |        | 90  | 1650 | 2550 |             |          | Se         | 915            |
|       |           |        | 25  | 420  | 500  |             |          |            |                |
| 100   |           |        | 20  | 730  | 1400 |             |          |            | 915            |
|       |           |        | 45  | 620  | 900  |             |          |            |                |
|       |           |        | 125 | 410  | 1100 |             |          |            |                |
|       |           |        | 30  | 210  | 640  |             |          |            |                |
| 110   |           |        | 15  | 120  | 460  |             |          |            |                |
|       |           |        | 20  | 280  | 400  |             |          |            |                |
|       |           |        | 20  | 175  | 520  |             |          |            |                |
|       |           |        | 10  | 55   | 310  |             |          |            |                |
| 120   |           |        | 20  | 95   | 340  |             |          |            |                |
|       |           |        |     |      |      |             |          |            |                |

1035 - 122.4m. Moderately foliated orange brown - dark manganese stained sericite altered diaphic conglomerate. Clasts are both fine grained cherty clasts and volcanic clasts. 20cm peg fault at the base of this unit.

Se

DIAMOND DRILL HOLE LOG

|           |           |             |  |
|-----------|-----------|-------------|--|
| Hole ID   | D786 CC12 | Project     |  |
| Hole Type |           | Tenement No |  |
| Year      |           | Prospect    |  |
| Geologist |           | Date        |  |

PASMINCO EXPLORATION

| Depth | Lithology |        | Cu  | Pb  | Zn   | Graphic Log | Comments   | Alteration | Mineralisation |
|-------|-----------|--------|-----|-----|------|-------------|--|------------|----------------|
|       | Code      | Colour |     |     |      |             |  |            |                |
| 120   |           |        |     |     |      |             |  |            |                |
|       |           |        | 20  | 95  | 340  |             |  |            |                |
|       | 122       |        | 20  | 95  | 340  |             | 122.4 - 134.0m.  |            |                |
|       |           |        | 45  | 240 | 440  |             | light orange -<br>weakly brecciated massive /<br>homogeneous chert siccite<br>volcanic   |            |                |
|       | 125       |        | 120 | 320 | 360  |             |  |            |                |
|       | 128       |        | 20  | 470 | 420  |             |  |            | Se.            |
| 130   |           |        | 35  | 710 | 620  |             |  |            |                |
|       | 131       |        | 60  | 500 | 1900 |             | 134.0 - 159.3m.  |            |                |
|       | 134       |        | 15  | 185 | 300  |             | light orange -<br>green siccite and chert<br>altered fine sandstone - cobble<br>crystal lithic conglomerate.<br>Cherts are:<br>1. quartz crystals,<br>2. silicified volcanic or<br>chert cherts,<br>3. Volcanic cherts |            | Se             |
|       | 137       |        | 25  | 40  | 670  |             | The majority of the cherts are<br>the pale grey silicified volcanic<br>chert cherts. It is possible that<br>these are silicified volcanic that has<br>been weakly brecciated rather than<br>being a chert type.        |            | ch             |
|       | 139       |        | 10  | 75  | 470  |             |  |            | Se/ch          |
|       | 143       |        | 20  | 45  | 660  |             |  |            |                |
| 140   | 145       |        | 20  | 125 | 360  |             |  |            |                |
|       | 146       |        | 10  | 110 | 380  |             |  |            |                |
|       | 149       |        | 10  | 320 | 370  |             |  |            | Se             |
| 150   |           |        |     |     |      |             |  |            |                |
|       | 152       |        |     |     |      |             |  |            |                |
|       | 156       |        |     |     |      |             |  |            |                |
| 160   | 159.3     |        |     |     |      |             |  |            |                |

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |            |             |  |
|-----------|------------|-------------|--|
| Hole ID   | DD 86 CC12 | Project     |  |
| Hole Type |            | Tenement No |  |
| Year      |            | Prospect    |  |
| Geologist |            | Date        |  |

| Depth | Lithology |        | Cu | Pb  | Zn   | Graphic Log                                | Comments  | Alteration | Mineralisation      |
|-------|-----------|--------|----|-----|------|--|---|------------|---------------------|
|       | Code      | Colour |    |     |      |  |   |            |                     |
| 160   |           |        |    |     |      | mm   |   |            |                     |
|       | 161       |        | 25 | 150 | 520  | [Hand-drawn lithological column with dots] | 159.3 - 179m.<br>Dark green-grey chlorite altered volcanoclastic. Minor quartz crystals   | Ch         | <del>Chlorite</del> |
|       | 164       |        | 15 | 250 | 430  |  |   |            |                     |
|       | 165       |        | 10 | 100 | 360  |  |   |            |                     |
| 170   | 167       |        | 20 | 440 | 660  |  |   |            |                     |
|       | 170       |        |    |     |      | [Hand-drawn lithological column with dots] |   |            |                     |
|       | 173.0     |        | 55 | 240 | 1070 |  |   |            |                     |
|       | 175.5     |        | 20 | 155 | 790  |  |   |            |                     |
|       | 177       |        | 20 | 175 | 980  |  |   |            |                     |
| 180   | 179       |        |    |     |      | [Hand-drawn lithological column with dots] | 179-190m<br>Sericite chlorite altered volcanoclastic. Locally the unit is thinly banded on a mm scale. Minor pyrite within the cleavage | Se/Ch      | <del>Py</del>       |
|       | 182       |        | 5  | 85  | 370  |  |   |            |                     |
|       | 185       |        | 35 | 350 | 1450 |  |   |            |                     |
|       | 188       |        | 10 | 195 | 390  |  |   |            |                     |
| 190   | 190       |        | -  | -   | -    |  |   |            |                     |

DIAMOND DRILL HOLE LOG  
 Collar: 5408270N 428705E  
 PASMINGO EXPLORATION RL: 305m.  
 Azimuth Dip

|           |                                      |             |                                      |
|-----------|--------------------------------------|-------------|--------------------------------------|
| Hole ID   | DD 86 CC13                           | Project     | date <sup>1/6</sup> <del>Barro</del> |
| Hole Type | Drainage                             | Tenement No | EL 3/98                              |
| Year      | 1999 <sup>along</sup> of a 1986 hole | Prospect    | West Gillen                          |
| Geologist | KPD                                  | Date        | 27/7/99.                             |

| Depth | Lithology |        | Cu | Pb  | Zn   | Graphic Log | Comments   | Alteration | Mineralisation                             |
|-------|-----------|--------|----|-----|------|-------------|--|------------|--|
|       | Code      | Colour |    |     |      |             |  |            |  |
| 0     |           |        |    |     |      | mm          |  |            |  |
| 10    |           |        |    |     |      |             | 9-16.3m Zone of major cordierite<br>deeply weathered and oxidized<br>sodic altered sericite - minor<br>quartz schist.  | Se.        | oxidation has<br>destroyed the<br>chlorite |
| 16.3  |           |        | 30 | 250 | 105  |             | 16.3-29.5m<br>Mottled green -<br>cream white granular, minor<br>quartz crystals sericite / chlorite<br>schist.   |            |  |
| 20    |           |        | 20 | 220 | 640  |             |  |            |  |
| 23    |           |        | 10 | 330 | 830  |             |  |            |  |
| 26    |           |        | 15 | 115 | 760  |             |  |            |  |
| 29.5  |           |        | 20 | 90  | 680  |             | 29.5-39m Mottled green.<br>cream white but stained dark<br>black quartz crystal, wispy<br>green chlorite (clasts (- areas))<br>volcaniclastic. large siliceous<br>clasts from 34.5-35.5m | Ch/Se.     |  |
| 32    |           |        | 15 | 195 | 750  |             |  |            |  |
| 35    |           |        | 10 | 300 | 1000 |             |  |            |  |
| 38    |           |        | 10 | 400 | 920  |             |  |            |  |
| 40    |           |        | 35 | 370 | 1250 |             |  |            |  |

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |           |             |  |
|-----------|-----------|-------------|--|
| Hole ID   | DD86 CC13 | Project     |  |
| Hole Type |           | Tenement No |  |
| Year      |           | Prospect    |  |
| Geologist |           | Date        |  |

| Depth | Lithology |        | Cu | Pb   | Zn   | Graphic Log | Comments   | Alteration | Mineralisation |
|-------|-----------|--------|----|------|------|-------------|--|------------|----------------|
|       | Code      | Colour |    |      |      |             |  |            |                |
|       |           |        | 35 | 370  | 1250 |             | 39.0-52m. Granular dark green quartz, wispy sericite chlorite (after ?) sandstone unit is weakly magnetized. | Ch.        | <del>Ch.</del> |
|       | 41        |        | 15 | 180  | 1050 |             |  |            |                |
|       | 44        |        | 45 | 1150 | 1950 |             |  |            |                |
|       | 47        |        | 40 | 1050 | 4700 |             |  |            |                |
| 50    | 50        |        |    |      |      |             |  |            |                |
|       |           |        | 10 | 570  | 950  |             | 52.0 - 71m. Similar unit to above but more sericite  | Se/ch.     |                |
|       | 53        |        | 5  | 30   | 620  |             |  |            |                |
|       | 56        |        | 10 | 90   | 550  |             |  |            |                |
|       | 59        |        | 5  | 15   | 570  |             |  |            |                |
| 60    | 62        |        | 15 | 160  | 550  |             |  |            |                |
|       |           |        | 5  | 65   | 590  |             | 71-75m. Calcite (pink K-Spa altered) quartz ss, chlorite groundmass/unclear ⇒ cleavage/post K-Spa alt        | K/ch       |                |
|       | 65        |        | 30 | 1800 | 660  |             |  |            |                |
|       | 68        |        | 15 | 105  | 490  |             |  |            |                |
|       | 71        |        | 30 | 680  | 920  |             |  |            |                |
|       | 74        |        |    |      |      |             |  |            |                |
|       |           |        |    |      |      | 75-108.1m   | Ch   |            |                |
|       | 77        |        | 15 | 520  | 640  |             |  |            |                |
| 80    | 80        |        |    |      |      |             |  |            |                |

646136

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |            |             |  |
|-----------|------------|-------------|--|
| Hole ID   | DD 86 CC13 | Project     |  |
| Hole Type |            | Tenement No |  |
| Year      |            | Prospect    |  |
| Geologist |            | Date        |  |

| Depth | Lithology |        | Cu | Pb   | Zn   | Graphic Log | Comments   | Alteration | Mineralisation |
|-------|-----------|--------|----|------|------|-------------|--|------------|----------------|
|       | Code      | Colour |    |      |      |             |  |            |                |
| 80    |           |        |    |      |      |             |  |            |                |
|       |           |        | 25 | 350  | 720  |             | Chlorite sandstone. Chlorite is replacing a particular clast type and has been extensionally deformed into wisps.                                | ch/se      |                |
|       | 85        |        | 15 | 300  | 900  |             |  |            |                |
|       | 86        |        | 20 | 2350 | 900  |             |  |            |                |
| 90    | 89        |        | 10 | 270  | 750  |             |  |            |                |
|       | 92        |        | 30 | 360  | 1550 |             |  |            |                |
|       | 95        |        | 20 | 190  | 760  |             |  |            |                |
|       | 98        |        | 20 | 440  | 1250 |             |  |            |                |
| 100   | 101       |        | 20 | 75   | 810  |             |  |            |                |
|       | 104       |        | 25 | 110  | 690  |             |  |            |                |
|       | 108       |        | 10 | 790  | 610  |             | 108.1 - 115.5m Pale orange - banded schist. Bands to 10mm of predominantly quartz (subspined volcanic) and thinner 3-4m bands of chlorite/sewch. | Se         | py/ch          |
| 110   | 110       |        | 10 | 90   | 760  |             |  |            |                |
|       | 113       |        | 10 | 370  | 640  |             | 115.5 - 122m Mottled pale orange - green quartz crystal (to 3mm) chlorite rock. Only moderately - weakly pleasured volcanic sst.                 | ch         |                |
|       | 116       |        | 25 | 600  | 1650 |             |  |            |                |
| 120   | 119       |        |    |      |      |             |  |            |                |

646137

DIAMOND DRILL HOLE LOG

|           |             |             |  |
|-----------|-------------|-------------|--|
| Hole ID   | DD 86 CC 13 | Project     |  |
| Hole Type |             | Tenement No |  |
| Year      |             | Prospect    |  |
| Geologist |             | Date        |  |

PASMINCO EXPLORATION

| Depth | Lithology |        | Cu | Pb   | Zn   | Graphic Log | Comments  | Alteration | Mineralisation |
|-------|-----------|--------|----|------|------|-------------|---|------------|----------------|
|       | Code      | Colour |    |      |      |             |   |            |                |
| 120   |           |        |    |      |      |             |   |            |                |
|       |           |        | 35 | 480  | 1150 |             |   |            |                |
|       | 122       |        | 35 | 1400 | 1850 |             | 122-127.2m light-dusk orange strongly foliated sericite schist. Schistosity is defined by lenticular bands of dark orange sericite. Minor qtz crystals. | Se         |                |
|       | 125       |        |    |      |      |             |   |            |                |
|       |           |        | 30 | 330  | 830  |             | 127.2-146.5m The core in this interval has been dropped.  |            |                |
| 130   | 146       |        |    |      |      |             |   |            |                |
|       | 131       |        | 10 | 185  | 680  |             | Relatively massive, weakly cleaved, variably pyritic. Sericite chlorite altered volcanic  |            |                |
|       |           |        | 25 | 660  | 1300 |             |   |            |                |
|       | 134       |        |    |      |      |             |   |            |                |
|       |           |        | 20 | 3500 | 1350 |             |   | Se/ch.     |                |
|       | 137       |        |    |      |      |             |   |            |                |
|       |           |        | 10 | 670  | 1350 |             |   |            |                |
| 140   | 140       |        |    |      |      |             |   |            |                |
|       |           |        | 15 | 620  | 1400 |             |   |            |                |
|       | 142.9     |        |    |      |      |             |   |            |                |
|       |           |        | 20 | 1100 | 1400 |             |   |            |                |
|       | 146.5     |        |    |      |      |             |   |            |                |
|       |           |        | 15 | 330  | 450  |             | 146.5-201m Mottled cream-green sandstone. Feldspars are altered to pale green sericite, minor qtz and a good amount of chlorite/sericite                | Se         |                |
| 150   | 149       |        |    |      |      |             |   |            |                |
|       |           |        | 35 | 260  | 400  |             |   |            |                |
|       | 152       |        |    |      |      |             |   |            |                |
|       |           |        | 20 | 55   | 440  |             |   |            |                |
|       | 155       |        |    |      |      |             |   |            |                |
|       |           |        | 15 | 65   | 380  |             |   | Se/ch      |                |
|       | 158       |        |    |      |      |             |   |            |                |
| 160   |           |        | 35 | 250  | 480  |             |   |            |                |

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |           |             |  |
|-----------|-----------|-------------|--|
| Hole ID   | DD86 CC13 | Project     |  |
| Hole Type |           | Tenement No |  |
| Year      |           | Prospect    |  |
| Geologist |           | Date        |  |

| Depth | Lithology |        | Cu | Pb  | Zn  | Graphic Log | Comments | Alteration | Mineralisation |
|-------|-----------|--------|----|-----|-----|-------------|----------|------------|----------------|
|       | Code      | Colour |    |     |     |             |          |            |                |
| 160   |           |        |    |     |     | mm          |          |            |                |
|       |           |        | 35 | 250 | 480 |             |          |            |                |
|       |           | 162    |    |     |     |             |          |            |                |
|       |           |        | 30 | 370 | 290 |             |          |            |                |
|       |           | 165    |    |     |     |             |          |            |                |
|       |           |        | 10 | 30  | 340 |             |          |            |                |
|       |           | 168    |    |     |     |             |          |            |                |
| 170   |           |        | 20 | 90  | 340 |             |          |            |                |
|       |           | 171    |    |     |     |             |          |            |                |
|       |           |        | 5  | -5  | 270 |             |          |            |                |
|       |           | 174    |    |     |     |             |          |            |                |
|       |           |        | 5  | 30  | 320 |             |          |            |                |
|       |           | 177    |    |     |     |             |          |            |                |
|       |           |        | 5  | -5  | 230 |             |          | Ch/Se      |                |
| 180   |           | 180    |    |     |     |             |          |            |                |
|       |           |        | 2  | 15  | 330 |             |          |            |                |
|       |           | 183    |    |     |     |             |          |            |                |
|       |           |        | 10 | 35  | 300 |             |          |            |                |
|       |           | 186    |    |     |     |             |          |            |                |
|       |           |        | 5  | -5  | 320 |             |          |            |                |
|       |           | 187-4  |    |     |     |             |          |            |                |
|       |           |        | 5  | 420 | 65  |             |          |            |                |
|       |           | 188-7  |    |     |     |             |          |            | Se             |
| 190   |           |        | 10 | 40  | 250 |             |          |            |                |
|       |           | 192    |    |     |     |             |          |            |                |
|       |           |        | 2  | -5  | 280 |             |          |            | Ch/Se          |
|       |           | 195    |    |     |     |             |          |            |                |
|       |           |        | 2  | -5  | 230 |             |          |            |                |
|       |           | 198    |    |     |     |             |          |            |                |
| 200   |           |        | 15 | -5  | 175 |             |          |            |                |

201-

646139



1/5

DIAMOND DRILL HOLE LOG

Cellar: 5407218N 431625E  
 PASMINGO EXPLORATION RL: 465

AZIMUTH: 204.5 Dip: -64

|           |         |             |            |
|-----------|---------|-------------|------------|
| Hole ID   | CEP1    | Project     | Lake Bonny |
| Hole Type | Diamond | Tenement No | 3/98       |
| Year      |         | Prospect    | Lake Bonny |
| Geologist | KPD     | Date        | 6/8/99     |

| Depth | Lithology |        | Cu | Pb | Zn | Graphic Log | Comments  | Alteration   | Mineralisation |
|-------|-----------|--------|----|----|----|-------------|---|--------------|----------------|
|       | Code      | Colour |    |    |    |             |   |              |                |
| 0     |           |        |    |    |    |             |   |              |                |
|       |           |        |    |    |    |             | <p>40-58.8m<br/>           medium - occasionally coarse<br/>           grained quartz felspar phytic<br/>           volcaniclastic. The unit has<br/>           an overall sericite (with<br/>           3-7% grains of hematite)<br/>           alteration with localized chlorite</p> | Se/<br>he    |                |
| 10    |           |        |    |    |    |             | <p>← Bpx (13m)<br/>           ← Ppx (14.7)</p>  |              |                |
| 20    |           |        |    |    |    |             | <p>From 23.8 - 42m the (old) ore is<br/>           stained to a very dark brown, and is<br/>           cut by a stockwork of chlorite<br/>           veining</p>  | Se/Ch/<br>he |                |
| 30    |           |        |    |    |    |             |   |              | ch             |
| 40    |           |        |    |    |    |             | <p>From 36.0 - 39m several peggy<br/>           fault zones to 20cm are intersected</p>   |              | ch             |

646141

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |       |             |        |
|-----------|-------|-------------|--------|
| Hole ID   | GED 1 | Project     |        |
| Hole Type |       | Tenement No |        |
| Year      |       | Prospect    |        |
| Geologist |       | Date        | 6/8/99 |

| Depth | Lithology |        | Cu | Pb | Zn | Graphic Log | Comments   | Alteration           | Mineralisation |
|-------|-----------|--------|----|----|----|-------------|--|----------------------|----------------|
|       | Code      | Colour |    |    |    |             |  |                      |                |
|       |           |        |    |    |    |             |  |                      |                |
| 50    |           |        |    |    |    |             |  | Se/ke<br>minor<br>ch |                |
| 60    |           |        |    |    |    |             | 54-56.6m badly brecciated<br>milky of veins.<br><br>58.8-60.8- dark green<br>fine grained, blocks altered<br>ashy volcanic no quartz   | Ch                   |                |
| 70    |           |        |    |    |    |             | 60.3-68.0m yellowish<br>green fine grained ashy volcanic<br>small blocks altered - no<br>quartz weakly brecciated.   | Se/ch                | 1/2 py.        |
| 80    |           |        |    |    |    |             | 68.0-75.7m yellow - light<br>green quartz like matrix<br>→ coarse grained volcanic<br>matrix. Variable chlorite<br>and quartz<br>altered and quartz veins.<br><br>75.7-100.6m grey-green<br>brecciated quartz & 2mm ash<br>volcanic, weakly brecciated | ke/se<br><br>ch/se   | 75             |

DIAMOND DRILL HOLE LOG

3/5

PASMINCO EXPLORATION

|           |      |              |
|-----------|------|--------------|
| Hole ID   | CED1 | Project      |
| Hole Type |      | Treatment No |
| Year      |      | Prospect     |
| Geologist |      | Date 7/8/99  |

| Depth | Lithology      |        | Cu | Pb | Zn  | Graphic Log | Comments   | Alteration | Mineralization |
|-------|----------------|--------|----|----|-----|-------------|--|------------|----------------|
|       | Code           | Colour |    |    |     |             |  |            |                |
| 80    |                |        |    |    |     |             | From 25.7 - 90.9m the unit contains vesicles and structures of white chert/silica and carbonates vesicles. The vesicles within the rock is a cleavage that is defined by green chlorite and brown hematite vesicles in turn. |            |                |
| 90    |                |        |    |    |     |             |  | Ch/Se      |                |
| 100   |                |        |    |    |     |             | From 77.5 - 100.5m the unit is brecciated and veined by  |            |                |
|       | 100.8<br>101.4 |        | 35 | 67 | 480 |             | 100.6 - 120m green grey lithic sandstone, original lithics to 2.3m   | Ch         | 5% Py          |
| 110   |                |        |    |    |     |             | 111 - 113 similar to 75.7 - 90.9m  |            |                |
| 120   |                |        |    |    |     |             |  |            |                |

646143



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DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |      |             |
|-----------|------|-------------|
| Hole ID   | CED1 | Project     |
| Hole Type |      | Tenement No |
| Year      |      | Prospect    |
| Geologist |      | Date 7/8/99 |

| Depth | Lithology |        | Cu  | Pb | Zn  | Graphic Log | Comments | Alteration | Mineralisation |
|-------|-----------|--------|-----|----|-----|-------------|----------|------------|----------------|
|       | Code      | Colour |     |    |     |             |          |            |                |
| 160   |           |        |     |    |     |             |          |            |                |
|       | 161       |        |     |    |     |             |          |            |                |
|       | 162       |        | 14  | 29 | 115 |             |          |            |                |
|       | 163       |        | 7   | 9  | 224 |             |          |            |                |
|       | 163.5     |        | 6   | -3 | 87  |             |          |            |                |
|       | 164.4     |        | 109 | 8  | 106 |             |          |            |                |
|       | 165.4     |        | 26  | 14 | 93  |             |          |            |                |
|       | 166.3     |        | 12  | 10 | 57  |             |          |            |                |
|       | 167.8     |        | 127 | 11 | 178 |             |          |            |                |
|       | 168.4     |        | 58  | 4  | 477 |             |          |            |                |
| 170   | 169.5     |        | 11  | 8  | 417 |             |          |            |                |
|       | 170.5     |        | 26  | 20 | 374 |             |          |            |                |
|       | 171.4     |        | 8   | 9  | 353 |             |          |            |                |
|       | 172.5     |        | 42  | 22 | 314 |             |          |            |                |
|       | 173.5     |        | 18  | 15 | 316 |             |          |            |                |
|       | 174.6     |        | 41  | 13 | 382 |             |          |            |                |
|       | 175.6     |        | 9   | 3  | 294 |             |          |            |                |
|       | 181.6     |        |     |    |     |             |          |            |                |
|       | 183.4     |        | 77  | 17 | 212 |             |          |            |                |
| 180   |           |        |     |    |     |             |          |            |                |
|       |           |        |     |    |     |             |          |            |                |
|       |           |        |     |    |     |             |          |            |                |
|       |           |        |     |    |     |             |          |            |                |
| 190   |           |        |     |    |     |             |          |            |                |
|       |           |        |     |    |     |             |          |            |                |
|       |           |        |     |    |     |             |          |            |                |
|       |           |        |     |    |     |             |          |            |                |
|       |           |        |     |    |     |             |          |            |                |
| 200   |           |        |     |    |     |             |          |            |                |

1675 - 172.2m

yellowish grey

of crystal texture volcanic  
 sandstone. Fine grained quartz  
 matrix at 167.2-169.3 and 172-  
 172.4m. Abundant small  
 0.2-0.5mm grains of hematite  
 Note no bars associated with  
 the pyrite grains.  
 Fine lithology in cut log  
 mostly white quartz veins

Se

Se/CL  
 he

Py  
 2-5% 10%

2-5% 17%

164.2  
 164.7  
 166.2  
 167.1  
 169.2  
 169.3

Se

172 - 200m  
 175 - 177m

646145

1/8

DIAMOND DRILL HOLE LOG

collar: 5407238N 431101E  
PASMINGO EXPLORATION RL: 460

AZIMUTH: 180 DIP: -45

|           |         |             |              |
|-----------|---------|-------------|--------------|
| Note ID   | CEPZ    | Project     | Lake Brunner |
| Hole Type | DIAMOND | Tenement No | EL 3/98      |
| Year      |         | Prospect    | Celhana east |
| Geologist | KPD     | Date        | 2/8/99       |

| Depth | Lithology |        | Cu | Pb | Zn  | Graphic Log | Comments  | Alteration | Mineralisation |
|-------|-----------|--------|----|----|-----|-------------|---|------------|----------------|
|       | Code      | Colour |    |    |     |             |   |            |                |
| 0     |           | 0      |    |    |     |             |   |            |                |
|       |           | 0      |    |    |     |             |   |            |                |
|       |           | 4      | 51 | 80 | 107 |             |   |            |                |
| 10    |           |        |    |    |     |             | 60-53.9m light brown<br>massive, brecciated fine grained<br>quartzite schist, no<br>quartz crystals.<br>0-27m oxidized,<br>21.9-27m earthy<br>black manganese staining. |            |                |
| 20    |           |        |    |    |     |             |   | Se         |                |
| 30    |           |        |    |    |     |             |   |            |                |
| 40    |           |        |    |    |     |             |   |            |                |

646146

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |      |             |
|-----------|------|-------------|
| Hole ID   | CEP2 | Project     |
| Hole Type |      | Tenement No |
| Year      |      | Prospect    |
| Geologist |      | Date 8/8/99 |

| Depth       | Lithology |        | Cu | Pb   | Zn   | Graphic Log | Comments  | Alteration | Mineralization |
|-------------|-----------|--------|----|------|------|-------------|---|------------|----------------|
|             | Code      | Colour |    |      |      |             |   |            |                |
| 40          |           |        |    |      |      |             |   |            |                |
| 50          |           |        |    |      |      |             |   |            |                |
| 53.9 - 61.5 |           |        |    |      |      |             | light yellow-grey sub-indurated lithic conglomerate. Dark on the same on the weather.                     | Se         |                |
| 60          | 60        |        |    |      |      |             | 570-  |            |                |
|             | 61        |        | 7  | 56   | 185  |             | 61.5 - 71m as at 0 - 53.9m  |            | 3/4 Py...      |
|             | 62.2      |        |    |      |      |             |   |            |                |
|             | 63.2      |        | 31 | 101  | 1028 |             |   |            |                |
| 70          |           |        |    |      |      |             |   |            |                |
|             | 76.2      |        |    |      |      |             | 71 - 78 m   |            |                |
|             | 763       |        |    |      |      |             | Dark green crystal volcanic occasional thin of carbonate inclusions?                                      | Ch         |                |
|             | 764       |        |    |      |      |             |   |            |                |
|             | 765       |        |    |      |      |             |   |            |                |
|             | 766       |        |    |      |      |             |   |            |                |
|             | 767       |        |    |      |      |             |   |            |                |
|             | 768       |        |    |      |      |             |   |            |                |
|             | 769       |        |    |      |      |             | 78 - 109.1m   |            |                |
| 80          | 76.2      |        | 59 | 1388 | 1852 |             | Dark green, predominantly fine grained at top occasional coarse grained crystal volcanic, albite altered. |            |                |

802

646147

3/8

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |      |             |             |
|-----------|------|-------------|-------------|
| Hole ID   | LEDZ | Project     |             |
| Hole Type |      | Tenement No |             |
| Year      |      | Prospect    | East Colman |
| Geologist |      | Date        | 8/8/99      |

| Depth | Lithology |        | Cu  | Pb   | Zn    | Graphic Log | Comments  | Alteration | Mineralization |          |
|-------|-----------|--------|-----|------|-------|-------------|---|------------|----------------|----------|
|       | Code      | Colour |     |      |       |             |   |            |                |          |
| 80    |           |        |     |      |       |             |   |            |                |          |
|       | 80.2      |        | 117 | 1102 | 2432  |             | This anomalous Zn and Pb is due to yellow-silvery sphalerite within quartz carbonate veinlets and also cleavage parallel zones and lenses of sphalerite ± carbonate. eg. 81.2m, 88.4m, the zone of quartz carbonate sphalerite extends from 74.2 - 92.6m. |            |                |          |
|       | 81.2      |        | 122 | 2562 | 13300 |             |   | Ch.        | 60m            | 95% spl. |
|       | 82.2      |        | 49  | 1495 | 7000  |             |   |            |                |          |
|       | 84.2      |        | 166 | 1170 | 4916  |             |   |            |                |          |
|       | 85.2      |        | 140 | 4300 | 8800  |             |   |            |                |          |
|       | 87.4      |        |     |      |       |             |   |            |                |          |
|       | 87.7      |        | 67  | 1271 | 4282  |             |   |            |                |          |
| 90    | 87.7      |        |     |      |       |             |   |            |                |          |
|       | 87.7      |        |     |      |       |             |   |            |                |          |
|       | 87.7      |        |     |      |       |             |   |            |                |          |
|       | 91        |        |     |      |       |             | Cleavage parallel zones of sphalerite persist to 109.2m, from 97.2 - 97.35 there is + 5% sphalerite, there are occasional vuggy zones eg. 95m where sphalerite may have been leached.   |            |                |          |
|       | 92        |        |     |      |       |             |   |            |                |          |
|       | 93        |        |     |      |       |             |   |            |                |          |
|       | 94        |        |     |      |       |             |   |            |                |          |
|       | 95        |        |     |      |       |             |   |            |                |          |
|       | 96        |        |     |      |       |             |   |            |                |          |
|       | 97        |        |     |      |       |             |   |            |                |          |
|       | 98        |        |     |      |       |             |   |            |                |          |
|       | 99        |        |     |      |       |             |   |            |                |          |
| 100   | 100       |        |     |      |       |             |   |            |                |          |
|       | 101       |        |     |      |       |             |   |            |                |          |
|       | 102       |        |     |      |       |             |   |            |                |          |
|       | 103       |        |     |      |       |             |   |            |                |          |
|       | 104       |        |     |      |       |             |   |            |                |          |
|       | 105       |        |     |      |       |             |   |            |                |          |
|       | 106       |        |     |      |       |             |   |            |                |          |
|       | 107       |        |     |      |       |             |   |            |                |          |
|       | 108       |        |     |      |       |             |   |            |                |          |
| 110   | 109       |        | 20  | 146  | 724   |             | 109.2 - 123m  |            |                |          |
|       | 110       |        | 10  | 164  | 598   |             | put some quartz sericite schist, largely of siliceous nature developed by crosscutting the main cleavage zone, pyrite (2-3%) is concentrated in the cleavage zone.  |            |                |          |
|       | 111       |        | 12  | 321  | 525   |             |   |            |                |          |
|       | 112       |        | 14  | 1762 | 1599  |             |   |            |                |          |
|       | 113       |        | 16  | 6900 | 1886  |             |   |            |                |          |
|       | 114       |        | 13  | 1553 | 700   |             |   |            |                |          |
|       | 115       |        | 18  | 1067 | 334   |             |   |            |                |          |
|       | 116       |        | 17  | 235  | 387   |             |   |            |                |          |
|       | 117       |        | 24  | 221  | 340   |             |   |            |                |          |
|       | 118       |        | 24  | 243  | 317   |             |   |            |                |          |
| 120   | 119       |        | 25  | 154  | 464   |             |   |            |                |          |

2000  
6380

646148

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DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |      |             |              |
|-----------|------|-------------|--------------|
| Hole ID   | LEDZ | Project     |              |
| Hole Type |      | Tenement No |              |
| Year      |      | Prospect    | East Gelkara |
| Geologist |      | Date        | 9/8/99       |

| Depth | Lithology |        | Cu | Pb  | Zn  | Graphic Log | Comments   | Alteration | Mineralisation |
|-------|-----------|--------|----|-----|-----|-------------|--|------------|----------------|
|       | Code      | Colour |    |     |     |             |  |            |                |
| 120   |           |        |    |     |     |             |  |            |                |
|       | 121       |        | 14 | 107 | 216 |             | 123.0 - 124.6m. Puggy fault zone   | Se         |                |
|       | 122       |        | 45 | 115 | 329 |             |  |            |                |
|       | 123       |        | 35 | 199 | 216 |             |  |            |                |
|       | 126.9     |        | 29 |     |     |             | 124.6 - 126.8m light orange volcanic, with 1-2mm dark flecks (after a crystal phase) possible lam?<br>126.8 - 132.9m   | Se         |                |
|       | 128       |        | 3  |     |     |             |  |            |                |
| 130   | 129       |        |    |     |     |             |  |            |                |
|       | 132       |        | 10 | 84  | 204 |             |  |            |                |
|       | 133       |        | 23 | 83  | 317 |             | mottled orange unit and dark green quartz crystals<br>Volcanic pschist: light coloured areas are quartz sericite dominated, darker zones are 2-3mm wide cleavage // zones of hematite and chlorite.          | Se/he/dk.  |                |
|       | 134       |        | 14 | 41  | 258 |             |  |            |                |
|       | 135       |        |    |     |     |             |  |            |                |
|       | 143.2     |        | 28 | 38  | 351 |             |  |            |                |
| 140   | 144.2     |        |    |     |     |             | 132.9 - 148.8m<br>Pale pink grey quartz sericite schist (but no quartz crystals) with occasional 1-2mm dark flecks. This unit contains 2% pyrite, and 2-5% hematite as flecks and cleavage // veins + clots, |            | 2% py.         |
|       | 147.2     |        |    |     |     |             |  |            |                |
|       | 148.8     |        |    |     |     |             | 148.8 - 158.2m<br>light-dark green quartz crystal (2.5-3-4mm) schist with mica (after Mulholland promise) of sericite schist, probably a lam.  |            | 2% py.         |
| 150   | 153       |        | 6  | 18  | 146 |             |  |            |                |
|       | 154       |        | 5  | 23  | 329 |             |  |            |                |
|       | 155       |        | 6  | 19  | 376 |             |  |            |                |
|       | 156       |        |    |     |     |             |  |            |                |
| 160   |           |        |    |     |     |             |  |            |                |

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DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |       |              |             |
|-----------|-------|--------------|-------------|
| Hole ID   | CEP 2 | Project      |             |
| Hole Type |       | Treatment No |             |
| Year      |       | Prospect     | East Colman |
| Geologist | KPD   | Date         | 9/8/99      |

| Depth | Lithology |        | Cu | Pb  | Zn  | Graphic Log | Comments   | Alteration   | Mineralisation |
|-------|-----------|--------|----|-----|-----|-------------|--|--------------|----------------|
|       | Code      | Colour |    |     |     |             |  |              |                |
| 160   |           | 199    |    |     |     |             |  |              |                |
|       | 160.9     |        | 11 | 42  | 329 |             | <p>158.2 - 175.7m<br/>                     Pink - grey Fine to Medium<br/>                     grained quartz / barren crystal<br/>                     Sensitive sandstone / silty<br/>                     From 158.2 - 168.5 25% py,<br/>                     172.2 - 173.6 3-5% py.<br/>                     Fairly massive unclined unit,</p> | ↑            | ↑              |
|       | 161.9     |        | 14 | 58  | 212 |             |  |              |                |
|       | 166.7     |        |    |     |     |             |  |              |                |
|       | 167.7     |        | 37 | 531 | 283 |             |  |              |                |
|       | 168.7     |        | 17 | 152 | 187 |             |  |              |                |
| 170   |           |        |    |     |     |             |  |              |                |
|       | 171.5     |        | 7  | 72  | 300 |             |  |              |                |
|       | 171.5     |        | 23 | 576 | 605 |             |  |              |                |
|       | 171.5     |        | 20 | 247 | 229 |             |  |              |                |
|       | 174.5     |        |    |     |     |             |  |              |                |
| 180   |           |        |    |     |     |             |  |              |                |
|       | 185.8     |        |    |     |     |             |  |              |                |
|       | 186.8     |        | 37 | 221 | 161 |             |  |              |                |
| 190   |           |        |    |     |     |             |  |              |                |
|       |           |        |    |     |     |             |  |              |                |
|       |           |        |    |     |     |             |  |              |                |
|       |           |        |    |     |     |             |  |              |                |
| 200   |           |        |    |     |     |             | <p>195.7 - 206.9m<br/>                     with large quartz<br/>                     crystal (2-5mm) sensitive to<br/>                     fluid, quartz in matrix</p>  | ↓<br>Chng Se |                |

646150

DIAMOND DRILL HOLE LOG

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PASMINCO EXPLORATION

|           |      |             |            |
|-----------|------|-------------|------------|
| Hole ID   | CE92 | Project     |            |
| Hole Type |      | Tenement No |            |
| Year      |      | Prospect    | East Okara |
| Geologist | KMP  | Date        |            |

| Depth | Lithology |        | Cu | Pb  | Zn   | Graphic Log     | Comments   | Alteration | Mineralization |
|-------|-----------|--------|----|-----|------|-----------------|--|------------|----------------|
|       | Code      | Colour |    |     |      |                 |  |            |                |
| 200   |           |        |    |     |      | mm<br>- - - - - | and also have quartz<br>volcaniclastic                         |            |                |
|       |           |        |    |     |      |                 |  |            |                |
|       |           |        |    |     |      | 206.9-207.5m    | angular to sub-angular<br>volcanic                             |            |                |
| 210   | 209.7     |        |    |     |      |                 | 207.5 - 221.0m   |            |                |
|       | 210.7     |        | 9  | 123 | 808  |                 | matrix weakly cleaved<br>quartz (2.5mm) volcanic<br>(granitic) |            |                |
|       | 211.7     |        | 9  | 87  | 260  |                 |  |            |                |
|       | 214       |        |    |     |      |                 |  |            |                |
|       | 215       |        | 12 | 63  | 278  |                 |  |            |                |
| 220   |           |        |    |     |      |                 |  |            |                |
|       |           |        |    |     |      |                 |  |            |                |
|       |           |        |    |     |      |                 |  |            |                |
|       | 227       |        | 4  | 31  | 109  |                 |  |            |                |
|       | 228       |        | 4  | 33  | 115  |                 |  |            |                |
| 230   | 229       |        | 9  | 161 | 452  |                 |  |            |                |
|       | 230       |        | 15 | 302 | 845  |                 |  |            |                |
|       | 231       |        | 30 | 528 | 1625 |                 |  |            |                |
|       | 232       |        | 7  | 47  | 107  |                 |  |            |                |
|       | 233       |        | 3  | 12  | 222  |                 |  |            |                |
|       | 234       |        | 6  | 20  | 175  |                 |  |            |                |
|       | 235       |        | 5  | 8   | 213  |                 |  |            |                |
|       | 236       |        |    |     |      |                 |  |            |                |
| 240   |           |        |    |     |      |                 |  |            |                |

646151

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |      |             |             |
|-----------|------|-------------|-------------|
| Hole ID   | CEP2 | Project     |             |
| Hole Type |      | Tenement No |             |
| Year      |      | Prospect    | East O'Hara |
| Geologist | KPD  | Date        |             |

| Depth | Lithology |        | Cu  | Pb | Zn  | Graphic Log | Comments                                    | Alteration | Mineralisation |
|-------|-----------|--------|-----|----|-----|-------------|---|------------|----------------|
|       | Code      | Colour |     |    |     |             |   |            |                |
| 240   |           |        |     |    |     | mm          |   |            |                |
| 250   |           |        |     |    |     |             |   |            |                |
| 260   |           |        |     |    |     |             |   | wash       | Se             |
| 259   |           |        |     |    |     |             |   |            |                |
| 260   |           |        | 15  | 15 | 123 |             |   |            |                |
| 261   |           |        | 5   | 18 | 146 |             |   |            |                |
| 262   |           |        | 5   | 5  | 156 |             |   |            |                |
| 263   |           |        | 7   | 7  | 100 |             | 262-263 - breccia - 10512<br>type with gas. |            |                |
| 270   |           |        |     |    |     |             |   |            |                |
| 270.5 |           |        |     |    |     |             |   |            |                |
| 271.5 |           |        | 20  | ?  | 188 |             |   |            |                |
| 272.5 |           |        | 12  | ?  | 157 |             |   |            |                |
| 273.5 |           |        | 9   | ?  | 166 |             |   |            |                |
| 274.5 |           |        | 9   | ?  | 38  |             |   |            |                |
| 275.5 |           |        | 28  | ?  | 29  |             |   |            |                |
| 276.5 |           |        | 58  | ?  | 35  |             |   |            |                |
| 277.5 |           |        | 186 | ?  | 40  |             |   |            | 1-2% py.       |
| 280   |           |        |     |    |     |             |   |            |                |

646152



Collar: 5406830 N 433600 E

RL: 500

Azimuth: 180

Dip: -45

|                         |                      |
|-------------------------|----------------------|
| Hole ID 77G PC 1        | Project              |
| Hole Type DIAMOND       | Tenement No.         |
| Year 1999, rel. of 1994 | Prospect Grouse Peak |
| Geologist KPD           | Date 23/9/99         |

| Depth | Lithology |        | Alteration | Mineralization | Graphic Log | ACT<br>g/t Au, Ag, Cu, Pb, Zn | Minor<br>elements g/t |
|-------|-----------|--------|------------|----------------|-------------|-------------------------------|-----------------------|
|       | Code      | Colour |            |                |             |                               |                       |
| 0     |           |        |            |                | 0 1 2 3 4 5 |                               |                       |
| 10    |           |        |            |                |             |                               |                       |
| 20    |           |        |            |                |             |                               |                       |
| 30    |           |        |            |                |             |                               |                       |
| 40    |           |        |            |                |             |                               |                       |

26.1 - 29.1 - 3m @ 0.62% Pb, 260ppm Zn,  
 32.7 - 35.5 - 2.8m @ 1.08% Pb 850ppm Zn,

This hole tested the best IP anomaly.

646154

|                       |                     |
|-----------------------|---------------------|
| Hole ID <b>776PC1</b> | Project             |
| Hole Type             | Tenement No.        |
| Year                  | Prospect            |
| Geologist             | Date <b>23/9/99</b> |

| Depth | Lithology |        | Alteration | Mineralisation | Graphic Log         | alt<br>applied at hole | mineral<br>potential of hole |
|-------|-----------|--------|------------|----------------|---------------------|------------------------|------------------------------|
|       | Code      | Colour |            |                |                     |                        |                              |
| 40    |           |        |            |                | 0 1 2 3 4 5 6 7 8 9 |                        |                              |
|       |           |        |            |                |                     |                        |                              |
|       |           |        |            |                |                     |                        |                              |
| 50    |           |        |            |                |                     |                        |                              |
| 60    |           |        |            |                |                     |                        |                              |
| 70    |           |        |            |                |                     |                        |                              |
| 80    |           |        |            |                |                     |                        |                              |

|                       |                     |
|-----------------------|---------------------|
| Hole ID <b>77GPC1</b> | Project             |
| Hole Type             | Tenement No.        |
| Year                  | Prospect            |
| Geologist             | Date <b>23/9/99</b> |

| Depth               | Lithology |        | Alteration | Mineralisation | Graphic Log | preferred old field | preferred old field |
|---------------------|-----------|--------|------------|----------------|-------------|---------------------|---------------------|
|                     | Code      | Colour |            |                |             |                     |                     |
| 88                  |           |        |            |                | 1 1 1 1 1   |                     |                     |
| 90                  |           |        |            |                |             |                     | gn/pl<br>055        |
| 91.1 - 107.1m (EDH) |           |        |            |                |             |                     |                     |
| 100                 |           |        |            |                |             |                     |                     |
| 107.1               |           |        |            |                |             |                     |                     |
|                     |           |        |            |                |             |                     |                     |

82.8-83.5m 0.7m @ 1.35% Pb, 1/2 Zn, 1/2000 Ag,  
 89-90.3m 1.3m @ 0.66% Pb, 0.22% Zn

646150

45.

DIAMOND DRILL HOLE LOG

Collar 5406850N 433475E

PASMINCO EXPLORATION, RL: 500

Azimuth: 180 Dip: -45

|           |          |             |
|-----------|----------|-------------|
| Hole ID   | 77 GPC 2 | Project     |
| Hole Type |          | Tenement No |
| Year      |          | Prospect    |
| Geologist |          | Date        |

| Depth | Lithology |        | Cu | Pb | Zn | Graphic Log | Comments  | Alteration          | Mineralization |
|-------|-----------|--------|----|----|----|-------------|---|---------------------|----------------|
|       | Code      | Colour |    |    |    |             |   |                     |                |
| 0     |           |        |    |    |    |             |   |                     |                |
| 10    |           |        |    |    |    |             | <p>0.0 - 37.3m</p> <p>Quartz feldspar<br/>rhyolite lava. Quartz crystals to<br/>3mm, green sericite altered feldspar<br/>laths to 3mm in a pale brown<br/>matrix.</p> | <p>Weak<br/>Ser</p> |                |
| 20    |           |        |    |    |    |             |   |                     |                |
| 30    |           |        |    |    |    |             |   |                     | <p>91J-CAL</p> |
| 40    |           |        |    |    |    |             | <p>37.3 - 38.7m - pale green quartz<br/>crystal volcanic sandstone</p>  |                     |                |

This hole tested a strong geochemical anomaly of 3450 ppm Pb in  
Soils, 3.55% Pb in rocks and a weak 2x background IP anomaly.

DIAMOND DRILL HOLE LOG

|           |         |             |
|-----------|---------|-------------|
| Hole ID   | 77 GPC2 | Project     |
| Hole Type |         | Tenement No |
| Year      |         | Prospect    |
| Geologist |         | Date        |

PASMINCO EXPLORATION

| pth | Lithology |        | Cu | Pb | Zn | Graphic Log | Comments  | Alteration | Mineralisation                                     |
|-----|-----------|--------|----|----|----|-------------|---|------------|--|
|     | Code      | Colour |    |    |    |             |   |            |  |
| 40  |           |        |    |    |    |             | <p>38.7-87.8m Ac 100-</p> <p>37.3m.</p> <p>(Galena, pyrite quartz veins at 631 (50m) and 71-(10m), with other minor veining. There is no apparent alteration associated with these veins.</p> |            |  |
| 50  |           |        |    |    |    |             |   |            |  |
| 60  |           |        |    |    |    |             |   |            |  |
| 70  |           |        |    |    |    |             |   |            | <p>0.70</p> <p>30.14.95</p> <p>0.95</p> <p>50.</p> |
| 80  |           |        |    |    |    |             |   |            | <p>0.65</p> <p>75.2</p> <p>0.60</p>                |

61.9-77.7m  
incl  
61.9-65.9m  
71.7-77.7m

15.8m @ 0.7% Pb, 0.2% Zn,  
4m @ 1.0% Pb, 0.17% Zn,  
6m @ 0.89% Pb, 0.38% Zn,

646158

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |        |             |  |
|-----------|--------|-------------|--|
| Hole ID   | 77GPCZ | Project     |  |
| Hole Type |        | Tenement No |  |
| Year      |        | Prospect    |  |
| Geologist |        | Date        |  |

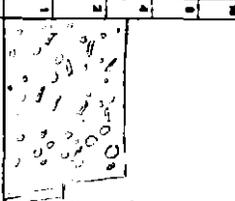
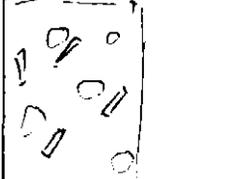
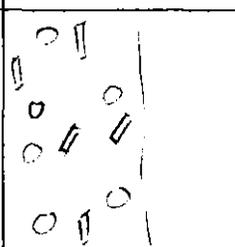
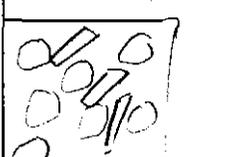
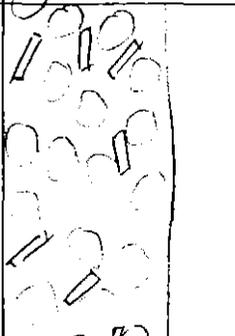
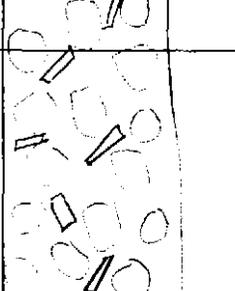
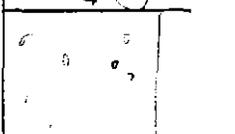
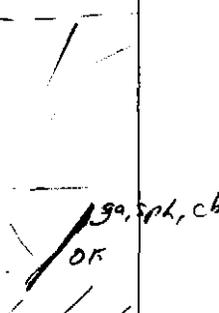
| pth | Lithology |        | Cu | Pb | Zn | Graphic Log | Comments  | Alteration | Mineralisation |
|-----|-----------|--------|----|----|----|-------------|---|------------|----------------|
|     | Code      | Colour |    |    |    |             |   |            |                |
| 80  |           |        |    |    |    |             | <p>20cm pag and sheared zone at the base of this unit.</p>  |            |                |
| 90  |           |        |    |    |    |             | <p>87.8 - 102m.<br/>Orange sericite altered quartz crystal sandstone. Biotite quartz crystals to 3mm but typically 2mm.</p> | Ser        |                |
| 100 |           |        |    |    |    |             | <p>102 - 112.75m. green chlorite altered quartz-feldspar sandstone, basal zone on coarser granitic.</p>                     | chl.       |                |
| 110 |           |        |    |    |    |             | <p>112.75m (EOM)</p>  |            |                |

DIAMOND DRILL HOLE LOG

Collar: 5407100N 432550E  
 PASMINGO EXPLORATION - RL: 500

Azimuth: 183 Dip: -51

|           |                        |             |            |
|-----------|------------------------|-------------|------------|
| Hole ID   | 77GPC3                 | Project     |            |
| Hole Type | Diamond                | Tenement No |            |
| Year      | 1999 ribs of a 77 hole | Prospect    | Gowrie Pk. |
| Geologist | KPD                    | Date        | 24/9/99    |

| pth | Lithology |        | Cu | Pb | Zn | Graphic Log   | Comments   | Alteration | Mineralisation  |
|-----|-----------|--------|----|----|----|---|--|------------|---|
|     | Code      | Colour |    |    |    |   |  |            |   |
| 0   |           |        |    |    |    |    | <p>00-16.4m:<br/>                     fine - medium<br/>                     grained quartz (2-6mm),<br/>                     green sericite (after 2.3m - Litho)<br/>                     (altho) rhyolite lava.</p>  |            |   |
| 10  |           |        |    |    |    |    |  | So         |   |
|     |           |        |    |    |    |    |  | (wh)       |   |
| 20  |           |        |    |    |    |   | <p>- 16.4 - 36.4m.<br/>                     Equigranular<br/>                     quartz crystal rich (60% 4-5mm)<br/>                     quartz, sericized feldspar either<br/>                     a well sorted crystal sandstone<br/>                     or a granite.</p>   |            |   |
|     |           |        |    |    |    |  | <p>From 32 - 36.4m this unit<br/>                     is cut by quartz/carbonate/galen<br/>                     veins and in places galena only<br/>                     veins.</p>  |            |   |
| 30  |           |        |    |    |    |  | <p>This is a sparse structure but<br/>                     most of the veins are at either<br/>                     a high or low angle to V.P. This<br/>                     vein style persists to 44.4m. At<br/>                     38.2m - 20m long sphalerite/<br/>                     galena carbonate breccia vein is<br/>                     intersected.</p> |            |   |
|     |           |        |    |    |    |  | <p>36.4 - 55.6m This unit is<br/>                     similar to the above unit<br/>                     except that the quartz crystals</p>   |            |  |
| 40  |           |        |    |    |    |   |  |            |   |

34.0 - 43.4m 9.4m @ 1.05% Pb and 0.37% Zn including  
 36.7 - 39.7m 3.0m @ 1.75% Pb, 0.55% Zn,  
 41.6 - 42.6m 1.0m @ 2.75% Pb, 0.95% Zn  
 Hole 77GPC3 tested a combined IP and Pb soil anomaly,  
 Why is the Gowrie Park area a Pb anomaly.

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |        |             |
|-----------|--------|-------------|
| Hole ID   | 776PC3 | Project     |
| Hole Type |        | Tenement No |
| Year      |        | Prospect    |
| Geologist |        | Date        |

| Mth | Lithology |        | Cu | Pb | Zn | Graphic Log | Comments   | Alteration | Mineralisation |
|-----|-----------|--------|----|----|----|-------------|--|------------|----------------|
|     | Code      | Colour |    |    |    |             |  |            |                |
| 40  |           |        |    |    |    |             | <p>are finer 2-3mm and in places the proportion of crystals to matrix is a loss as 1 in 10. This is a quartz crystal sandstone.</p> <p>From 36.4-44.4m this unit is cut by abundant of carb-sph-galena veins, thin vein sh. 6 persists (weakly) to the end of this unit.</p> <p>At 55.0-56.0m is a faulted contact</p> |            |                |
| 50  |           |        |    |    |    |             | <p>55.6-94.1m (Eve),</p> <p>quartz (1-3mm) green silicified sphyerite (area fluorogel. com)</p> <p>only main quartz carbonate veining,</p> <p>From 56.0-57.5m the unit is strongly pyritic,</p>  |            |                |
| 60  |           |        |    |    |    |             |  |            |                |
| 70  |           |        |    |    |    |             |  |            |                |
| 80  |           |        |    |    |    |             |  |            |                |



Collar: 5407520 N 433120 E  
 RL 548  
 AZIMUTH: 180 Dip: -60

|           |             |              |         |
|-----------|-------------|--------------|---------|
| Hole ID   | 856PCS      | Project      |         |
| Hole Type | DIAMOND     | Tenement No. |         |
| Year      | 1999 relog. | Prospect     |         |
| Geologist | KPD         | Date         | 24/9/99 |

| Depth | Lithology |        | Alteration | Mineralisation | Graphic Log            | preferred old field | preferred old field |
|-------|-----------|--------|------------|----------------|------------------------|---------------------|---------------------|
|       | Code      | Colour |            |                |                        |                     |                     |
| 0     |           |        |            |                | 0 1 2 4 8<br>1 1 1 1 1 |                     |                     |
|       |           |        |            |                |                        | Alt                 |                     |
|       |           |        |            |                |                        | Sev                 |                     |
| 10    |           |        |            |                |                        |                     |                     |
|       |           |        |            |                |                        |                     |                     |
| 20    |           |        |            |                |                        |                     |                     |
|       |           |        |            |                |                        |                     |                     |
| 30    |           |        |            |                |                        |                     |                     |
|       |           |        |            |                |                        |                     |                     |
| 40    |           |        |            |                |                        |                     |                     |

646163

|                   |              |
|-------------------|--------------|
| Hole ID<br>85GPCS | Project      |
| Hole Type         | Tenement No. |
| Year              | Prospect     |
| Geologist         | Date 25/9/99 |

| Depth | Lithology |        | Comments   | Alteration                         | Mineralization       | Graphic Log | Sphalerite % | pyrite and FeS |
|-------|-----------|--------|--|------------------------------------|----------------------|-------------|--------------|----------------|
|       | Code      | Colour |  | Up to 3 codes w. intensities (1-3) | Up to 3 codes with % |             |              |                |
| 40    |           |        |  |                                    |                      | 0.1 7 2 8 1 |              | Rel Mem        |
|       |           |        | <p><u>41.7 - 71.3 -</u><br/>                     quartz crystal (25%) 1-4mm<br/>                     green sericite (1% to 2%)<br/>                     alter feldspar in a light green<br/>                     sericite altered matrix.<br/>                     probable lava.</p>  |                                    |                      |             |              | Ser            |
| 50    |           |        | <p>The entire unit is cut by<br/>                     5-10mm cream-pink silica<br/>                     carbonate veins containing<br/>                     blebs to 3-4mm of galena-<br/>                     sphalerite-chalcopyrite, at a<br/>                     low angle 10-20° to VCA</p>  |                                    |                      |             |              |                |
| 60    |           |        |  |                                    |                      |             |              |                |
| 70    |           |        |  |                                    |                      |             |              |                |
|       |           |        | <p><u>- 71.3 - 88.6m</u><br/>                     coarse equigranular quartz<br/>                     crystal rich (70% 4-5mm)<br/>                     sandstone or intrusive.<br/>                     Crystals are separated by<br/>                     pale green sericite alter<br/>                     feldspar?<br/>                     cut by milky quartz with<br/>                     minor pale sphalerite.</p> |                                    |                      |             |              |                |
| 80    |           |        |  |                                    |                      |             |              |                |

646164

|           |         |              |         |
|-----------|---------|--------------|---------|
| Hole ID   | 856PCS  | Project      |         |
| Hole Type | Diamond | Tenement No. |         |
| Year      | 1999    | Prospect     |         |
| Geologist | KPD     | Date         | 25/9/99 |

| Depth | Lithology |        | Alteration   | Mineralization | Graphic Log  | prepared off hole | prepared off hole |
|-------|-----------|--------|--------------|----------------|--|-------------------|-------------------|
|       | Code      | Colour |              |                |  |                   |                   |
| 80    |           |        |              |                |  |                   |                   |
| 90    |           |        | 88.6-96.5m   |                |  |                   |                   |
|       |           |        | 41.7-71.3.   |                |  |                   |                   |
|       |           |        | 96.5m (EDH). |                |  |                   |                   |

646165

DIAMOND DRILL HOLE LOG

Collar: 5409690N 436920E  
 PASMINGO EXPLORATION \* RL 500

AZIMUTH: 42 Dip: -62

|           |       |             |  |
|-----------|-------|-------------|--|
| Hole ID   | SOMR1 | Project     |  |
| Hole Type |       | Tenement No |  |
| Year      |       | Prospect    |  |
| Geologist |       | Date        |  |

| Lithology | Cu | Pb | Zn | Graphic Log | Comments  | Alteration | Mineralisation |
|-----------|----|----|----|-------------|---|------------|----------------|
|           |    |    |    |             |   |            |                |
|           |    |    |    |             | 0-15.25, Over conglomerate<br>screen  |            |                |
|           |    |    |    |             | 15.25 - 21.3m<br>Fine grained<br>sandstone / lava<br>pale green sericitized feldspar laths,<br>and dark green chlorite phengite<br>(after a mafic flow) in a pale matrix. |            |                |
|           |    |    |    |             | 21.3-24.8m<br>fuel  |            |                |
|           |    |    |    |             | 24.8-31m<br>pale green<br>sericite altered feldspar to tan<br>- pale green-grey matrix<br>probable lava hematite spotting.  | py !!      | he.            |
|           |    |    |    |             | 31-47.8m<br>medium grained,<br>equigranular quartz (1.3-5.2%)<br>feldspar (2.3-10.2%) angular<br>volcanic, probable lava.   |            |                |
|           |    |    |    |             |   |            |                |

Hole SOMR1 was drilled to test an IP chargeability anomaly.  
 No anomalous mineralisation was intersected.

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |              |
|-----------|--------------|
| Hole ID   | Project      |
| Hole Type | Tenement No. |
| Year      | Prospect     |
| Geologist | Date         |

| pth | Lithology |        | Cu | Pb | Zn | Graphic Log | Comments  | Alteration | Mineralisation |
|-----|-----------|--------|----|----|----|-------------|---|------------|----------------|
|     | Code      | Colour |    |    |    |             |   |            |                |
| 40  |           |        |    |    |    |             |   |            |                |
|     |           |        |    |    |    |             | <p>42.8 - ~126m.</p> <p>Foliated felspar volcanic.<br/>                     Chloritized &amp; altered in Si, white<br/>                     altered felspar typically 2-3mm x<br/>                     1mm, minor quartz &amp; pale brown<br/>                     leucosene.</p> <p>The unit is probably a dacitic<br/>                     lava but could also be a<br/>                     crystal sandstone, minor<br/>                     brecciated eg 51-53m, maybe<br/>                     hydrochlorite</p> <p>The incredible impurity of this<br/>                     unit also suggests it is a lava</p> |            |                |
| 50  |           |        |    |    |    |             |   | 89         |                |
|     |           |        |    |    |    |             |   | 19         |                |
| 60  |           |        |    |    |    |             |   |            |                |
|     |           |        |    |    |    |             |   |            |                |
| 70  |           |        |    |    |    |             |   |            |                |
|     |           |        |    |    |    |             |   |            |                |
| 80  |           |        |    |    |    |             |   |            |                |

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

3/6

|           |             |
|-----------|-------------|
| Hole ID   | Project     |
| Hole Type | Tenement No |
| Year      | Prospect    |
| Geologist | Date        |

| pth | Lithology |        | Cu | Pb | Zn | Graphic Log | Comments | Alteration | Mineralisation |
|-----|-----------|--------|----|----|----|-------------|----------|------------|----------------|
|     | Code      | Colour |    |    |    |             |          |            |                |
| 80  |           |        |    |    |    |             |          |            |                |
| 90  |           |        |    |    |    |             |          |            |                |
| 100 |           |        |    |    |    |             |          | Py<br>1%   |                |
| 110 |           |        |    |    |    |             |          |            |                |
| 120 |           |        |    |    |    |             |          |            |                |

646168

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |             |
|-----------|-------------|
| Hole ID   | Project     |
| Hole Type | Tenement No |
| Year      | Prospect    |
| Geologist | Date        |

| th  | Lithology |        | Cu | Pb | Zn | Graphic Log | Comments  | Alteration | Mineralisation |
|-----|-----------|--------|----|----|----|-------------|---|------------|----------------|
|     | Code      | Colour |    |    |    |             |   |            |                |
| 120 |           |        |    |    |    |             |   |            |                |
| 130 |           |        |    |    |    |             | <p>126.0 - 213m.</p> <p>Lithology as above with zone of mononict breccia breccia clast zone</p> <p>We fraction distinction between the clast and matrix is often blurred. The breccia is interpreted as hyaloclastite</p> |            |                |
| 140 |           |        |    |    |    |             |   |            |                |
| 150 |           |        |    |    |    |             |   |            |                |
| 160 |           |        |    |    |    |             |   |            |                |

646169

5/6

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

|           |             |
|-----------|-------------|
| Hole ID   | Project     |
| Hole Type | Tenament No |
| Year      | Prospect    |
| Geologist | Date        |

| Mth | Lithology |        | Cu | Pb | Zn | Graphic Log | Comments | Alteration | Mineralisation |
|-----|-----------|--------|----|----|----|-------------|----------|------------|----------------|
|     | Code      | Colour |    |    |    |             |          |            |                |
| 160 |           |        |    |    |    |             |          |            |                |
| 170 |           |        |    |    |    |             |          |            |                |
| 180 |           |        |    |    |    |             |          |            |                |
| 190 |           |        |    |    |    |             |          |            |                |
| 200 |           |        |    |    |    |             |          |            |                |

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229 km

-213 Hyaloclastite  
213-279-2

646170

## **APPENDIX 5**

**Assay Results**

**Day's Road Prospect**

**CED2 Sampling**

**Regional Mapping**

**Round Mountain Workings**

646171

| SampleID | Sample_Type | UTM_East | UTM_North | UTM_Grid | Comments  | Ag   | As | Au     | Ba   | Cd  |
|----------|-------------|----------|-----------|----------|-----------|------|----|--------|------|-----|
| 330626   | ROCKCHIP    | 428900   | 5409235   | AMG66_5  |           | -0.1 | 4  | 0.001  | 1500 | 1.7 |
| 330627   | ROCKCHIP    | 428900   | 5409375   | AMG66_5  |           | -0.1 | 4  | 0.003  | 1180 | 0.5 |
| 330628   | ROCKCHIP    | 428900   | 5409375   | AMG66_5  | 2-3mm Mn  | -0.1 | 4  | -0.001 | 1180 | 0.8 |
| 330629   | ROCKCHIP    | 428900   | 5409435   | AMG66_5  |           | -0.1 | 2  | -0.001 | 565  | 0.2 |
| 330630   | ROCKCHIP    | 428900   | 5409500   | AMG66_5  | 3-5mm Qtz | -0.1 | 2  | -0.001 | 1050 | 1   |
| 330631   | ROCKCHIP    | 489000   | 5409575   | AMG66_5  | vuggy Mn  | -0.1 | 2  | -0.001 | 1540 | 0.5 |

| SampleID | Co | Cu | Fe    | Mn   | Ni  | Pb  | Sb  | Sn  | Zn   |
|----------|----|----|-------|------|-----|-----|-----|-----|------|
| 330626   | 9  | 22 | 51500 | 1780 | -10 | 343 | 3.1 | 2.4 | 707  |
| 330627   | 14 | -5 | 57000 | 1860 | -10 | 441 | 2.5 | 1.8 | 784  |
| 330628   | 42 | -5 | 67000 | 1940 | -10 | 331 | 1.7 | 1.7 | 1115 |
| 330629   | 12 | 15 | 71500 | 1030 | -10 | 141 | 1.5 | 2.2 | 490  |
| 330630   | 16 | 7  | 57500 | 1750 | -10 | 464 | 1.9 | 2   | 619  |
| 330631   | 12 | 13 | 41500 | 1580 | -10 | 419 | 1.8 | 2.2 | 540  |

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646172

Sample collected from Drill Hole CED2

| Hole ID | SampleID | Depth From | Depth To | Ag  | As  | Au     | Ba   | Bi  | Cd   | Co | Cu  | Fe    | Mn   |
|---------|----------|------------|----------|-----|-----|--------|------|-----|------|----|-----|-------|------|
| CED2    | 274762   | 71         | 72       | 0.2 | 18  | -0.001 | 835  | 0.2 | 0.1  | 11 | -5  | 24000 | 1780 |
| CED2    | 274763   | 72         | 73       | 0.3 | 16  | -0.001 | 820  | 0.2 | 0.3  | 7  | 5   | 24000 | 2140 |
| CED2    | 274764   | 73         | 74       | 0.4 | 17  | -0.001 | 1070 | 0.2 | 0.3  | 11 | 8   | 25000 | 2760 |
| CED2    | 274765   | 74         | 75       | 1   | 15  | -0.001 | 955  | 0.3 | 0.3  | 7  | 15  | 24000 | 3330 |
| CED2    | 274766   | 75         | 76       | 0.3 | 13  | -0.001 | 720  | 0.4 | 0.2  | 9  | 22  | 29000 | 2560 |
| CED2    | 274767   | 76         | 77       | 0.3 | 16  | -0.001 | 660  | 0.3 | 0.2  | 11 | 13  | 29000 | 2270 |
| CED2    | 274768   | 77         | 78       | 0.4 | 15  | -0.001 | 710  | 0.2 | 0.3  | 10 | 19  | 28000 | 2730 |
| CED2    | 274769   | 78         | 79.5     | 1.5 | 23  | 0.001  | 795  | 0.5 | 1.9  | 11 | 57  | 18300 | 2640 |
| CED2    | 274770   | 85.2       | 86.5     | 3.9 | 38  | 0.046  | 835  | 0.8 | 14   | 35 | 130 | 59000 | 4110 |
| CED2    | 274771   | 86.5       | 87.7     | 1.7 | 14  | 0.049  | 785  | 0.3 | 1.6  | 9  | 13  | 36000 | 2210 |
| CED2    | 274773   | 88.7       | 90       | 6.1 | 24  | 0.038  | 560  | 3.5 | 66.2 | 20 | 156 | 49000 | 3410 |
| CED2    | 274774   | 90         | 91       | 2.2 | 42  | 0.008  | 550  | 1.1 | 6.2  | 17 | 149 | 57000 | 4960 |
| CED2    | 274775   | 91         | 92       | 2.3 | 35  | 0.005  | 640  | 1.5 | 4.2  | 21 | 85  | 50000 | 3840 |
| CED2    | 274776   | 92         | 93       | 1.3 | 28  | 0.005  | 715  | 0.5 | 3.3  | 13 | 187 | 52500 | 3830 |
| CED2    | 274777   | 93         | 94       | 2.9 | 34  | 0.026  | 670  | 1.9 | 12   | 26 | 88  | 57500 | 3660 |
| CED2    | 274778   | 94         | 95       | 2.2 | 23  | 0.012  | 640  | 0.7 | 5.1  | 15 | 125 | 48000 | 2550 |
| CED2    | 274779   | 95         | 96       | 1.6 | 17  | 0.027  | 540  | 0.6 | 0.4  | 14 | 82  | 59500 | 3700 |
| CED2    | 274781   | 96         | 97       | 4.7 | 144 | 0.003  | 735  | 0.6 | 1.5  | 11 | 154 | 41500 | 2120 |
| CED2    | 274782   | 97         | 98       | 7.8 | 48  | 0.009  | 650  | 2.6 | 28.5 | 15 | 136 | 47500 | 1930 |
| CED2    | 274783   | 98         | 99       | 2   | 32  | 0.007  | 610  | 0.7 | 7.9  | 8  | 88  | 44500 | 2390 |
| CED2    | 274784   | 99         | 100      | 1.2 | 23  | 0.003  | 450  | 1.2 | 0.1  | 11 | 21  | 63000 | 2670 |
| CED2    | 274785   | 100        | 101      | 1.6 | 22  | 0.009  | 605  | 1.3 | 0.2  | 8  | 18  | 52000 | 2140 |
| CED2    | 274786   | 101        | 102      | 1.2 | 27  | 0.008  | 515  | 1.4 | 0.1  | 13 | 43  | 60500 | 1690 |
| CED2    | 274787   | 102        | 103      | 0.8 | 19  | 0.003  | 630  | 0.9 | -0.1 | 10 | 118 | 45500 | 1520 |
| CED2    | 274788   | 103        | 104      | 0.4 | 20  | 0.003  | 610  | 0.5 | -0.1 | 10 | 22  | 38000 | 1230 |
| CED2    | 274789   | 104        | 105      | 3.1 | 15  | 0.004  | 695  | 1.4 | 2.4  | 9  | 138 | 36500 | 1250 |
| CED2    | 274790   | 105        | 106      | 2.4 | 27  | 0.007  | 995  | 1.4 | 19.2 | 28 | 55  | 42500 | 1490 |
| CED2    | 274791   | 106        | 107      | 1.3 | 58  | 0.005  | 620  | 0.6 | 6.4  | 14 | 32  | 56000 | 1110 |
| CED2    | 274792   | 107        | 108      | 1.3 | 25  | 0.003  | 4110 | 0.3 | 3.7  | 8  | 25  | 42000 | 2480 |
| CED2    | 274793   | 108        | 109      | 1.6 | 17  | 0.004  | 515  | 0.6 | 0.3  | 11 | 66  | 62000 | 1720 |

646173

Sample collected from Drill Hole CED2

| Hole ID | Sample ID | Ni  | Pb    | Sb   | Sn   | Zn    |
|---------|-----------|-----|-------|------|------|-------|
| CED2    | 274762    | -10 | 41    | 3.9  | 2    | 459   |
| CED2    | 274763    | -10 | 127   | 3    | 2    | 458   |
| CED2    | 274764    | -10 | 104   | 3.6  | 2.9  | 412   |
| CED2    | 274765    | -10 | 1105  | 3.4  | 2.7  | 348   |
| CED2    | 274766    | -10 | 198   | 2.3  | 4.1  | 400   |
| CED2    | 274767    | 10  | 275   | 2.1  | 4.3  | 484   |
| CED2    | 274768    | -10 | 279   | 2.4  | 3.4  | 445   |
| CED2    | 274769    | -10 | 1370  | 3.5  | 1.4  | 592   |
| CED2    | 274770    | -10 | 2660  | 2.6  | 5.9  | 4340  |
| CED2    | 274771    | -10 | 1840  | 4.2  | 3.7  | 940   |
| CED2    | 274773    | -10 | 5200  | 3.7  | 2    | 14100 |
| CED2    | 274774    | -10 | 2440  | 30.5 | 2.8  | 2130  |
| CED2    | 274775    | -10 | 2760  | 21.9 | 3    | 1500  |
| CED2    | 274776    | -10 | 1015  | 16.3 | 3.1  | 1700  |
| CED2    | 274777    | -10 | 1535  | 11.3 | 5.8  | 3100  |
| CED2    | 274778    | -10 | 3190  | 8.2  | 7.8  | 1690  |
| CED2    | 274779    | -10 | 1390  | 5.2  | 7.4  | 958   |
| CED2    | 274781    | -10 | 4610  | 144  | 13.1 | 1060  |
| CED2    | 274782    | -10 | 10100 | 33.5 | 10.2 | 5170  |
| CED2    | 274783    | -10 | 2510  | 20.1 | 9.2  | 1720  |
| CED2    | 274784    | -10 | 252   | 10.7 | 6.8  | 832   |
| CED2    | 274785    | -10 | 393   | 11.5 | 7.2  | 600   |
| CED2    | 274786    | -10 | 198   | 9.3  | 6.5  | 663   |
| CED2    | 274787    | -10 | 202   | 7.3  | 7.1  | 482   |
| CED2    | 274788    | -10 | 50    | 6.9  | 8.1  | 393   |
| CED2    | 274789    | -10 | 4700  | 5.4  | 7.2  | 673   |
| CED2    | 274790    | -10 | 1770  | 5    | 7.9  | 2390  |
| CED2    | 274791    | -10 | 722   | 5.2  | 7.8  | 1555  |
| CED2    | 274792    | -10 | 1480  | 4.2  | 9.3  | 852   |
| CED2    | 274793    | -10 | 2040  | 3.1  | 9.3  | 981   |

646174

### Rock Chips collected during Regional Mapping

| SampleID | Sample Type | UTM East | UTM North | UTM Grid | Comments   | Ag       | As        |
|----------|-------------|----------|-----------|----------|--|----------|-----------|
| 167617   | ROCKCHIP    | 431525   | 5406750   | AMG66_5  | sulphide and qtz vein in sericitic quartz-phyrics clasts   | 53.9000  | 412.0000  |
| 167618   | ROCKCHIP    | 427850   | 5408330   | AMG66_5  |  | 0.5000   | 61.0000   |
| 167619   | ROCKCHIP    | 427800   | 5408110   | AMG66_5  |  | -0.1000  | 14.0000   |
| 167620   | ROCKCHIP    | 427780   | 5408030   | AMG66_5  |  | 0.1      | 30        |
| 167621   | ROCKCHIP    | 428390   | 5407950   | AMG66_5  |  | -0.1000  | 7.0000    |
| 167622   | ROCKCHIP    | 428450   | 5407930   | AMG66_5  |  | 0.1000   | 228.0000  |
| 167623   | ROCKCHIP    | 428800   | 5409650   | AMG66_5  | first sample from Days Rd Prospect   | 0.7000   | 16.0000   |
| 167624   | ROCKCHIP    | 428270   | 5407840   | AMG66_5  | Moina sst  | 0.4000   | 20.0000   |
| 167625   | ROCKCHIP    | 429100   | 5407020   | AMG66_5  | Chloritic mudstone/schist, Sample RC9  | 0.4000   | 14.0000   |
| 167626   | ROCKCHIP    | 428990   | 5407105   | AMG66_5  | Moina sandstone, 5% combined galena+sphalerite+pyrite. Sample RC13                                   | 125.0000 | 3400.0000 |
| 167627   | ROCKCHIP    | 428690   | 5408335   | AMG66_5  | Sample RC3. Red oxidised, hematitic qtz phytic sericitic volcanic.<br>Stockwork hematite, manganese. | 7.4000   | 263.0000  |
| 167628   | ROCKCHIP    | 428470   | 5408625   | AMG66_5  | Sample RC1. Pale green-red oxidised sericitic siltstone.<br>Veins of manganese, hematite.            | 2.2000   | 119.0000  |
| 167629   | ROCKCHIP    | 429095   | 5407655   | AMG66_5  | Sample RC5. Pyritic Moina sandstone.   | 103.0000 | 66.0000   |
| 167630   | ROCKCHIP    | 429605   | 5408430   | AMG66_5  | Sample RC14. Dark green chloritic schist, minor pyrite.  | 0.4000   | 30.0000   |
| 331943   | ROCKCHIP    | 427205   | 5408175   | AMG66_5  | weakly pyritic granite; field sample 1   | 0.9000   | 15.0000   |
| 331944   | ROCKCHIP    | 427185   | 5408195   | AMG66_5  | field sample 2   | 7.7000   | 9.0000    |
| 331945   | ROCKCHIP    | 427155   | 5408225   | AMG66_5  | disseminated Py in an siliceous aplitic granite; field sample 3                                      | 0.8000   | 6.0000    |
| 331946   | ROCKCHIP    | 426895   | 5408355   | AMG66_5  |  | 0.9000   | 43.0000   |
| 331947   | ROCKCHIP    | 426590   | 5408450   | AMG66_5  |  | 0.3000   | 103.0000  |
| 331948   | ROCKCHIP    | 427410   | 5408175   | AMG66_5  |  | 0.7000   | 7.0000    |
| 331949   | ROCKCHIP    | 427555   | 5408160   | AMG66_5  |  | 0.7000   | 14.0000   |

646175

| SampleID | Au      | Ba        | Bi      | Ca        | Cd       | Co      | Cu        | Fe        | K         | Mg        | Mn        | Na        | Ni       |
|----------|---------|-----------|---------|-----------|----------|---------|-----------|-----------|-----------|-----------|-----------|-----------|----------|
| 167617   | 29.0000 | 63000.000 | 20.3000 |           | 66.7000  | 5.0000  | 4230.0000 | 9350.0000 |           |           | 38.0000   |           | 11.0000  |
| 167618   | -0.01   | 835.0000  | 0.3000  | 55.0000   | 0.2000   | -5.0000 | 23.0000   | 30500.000 | 34500.000 | 3130.0000 | 91.0000   | 275.0000  | -10.0000 |
| 167619   | 0.0100  | 770.0000  | 0.2000  | 105.0000  | 0.2000   | -5.0000 | 19.0000   | 25500.000 | 45500.000 | 8530.0000 | 52.0000   | 605.0000  | 18.0000  |
| 167620   | -0.0100 | 655.0000  | 0.8     | 13000     | 0.2      | 13      | 8         | 37500     | 35000     | 18500     | 1050.0000 | 6600      | 26       |
| 167621   | -0.0100 | 600.0000  | 0.9000  | 455.0000  | 0.2000   | 11.0000 | 139.0000  | 49000.000 | 34500.000 | 12000.000 | 140.0000  | 210.0000  | 11.0000  |
| 167622   | 0.34    | 615       | 1.6000  | 820.0000  | 0.3000   | 7.0000  | 18.0000   | 31500.000 | 34500.000 | 8130.0000 | 440.0000  | 640.0000  | 25.0000  |
| 167623   | 0.04    | 1100.0000 | 0.1000  | 9770.0000 | 0.5000   | 14.0000 | -5.0000   | 49000.000 | 25000.000 | 13700.000 | 2250.0000 | 26500.000 | -10.0000 |
| 167624   | -0.0100 | 59.0000   | 0.2000  | 1700.0000 | 0.2000   | 12.0000 | 40.0000   | 13800.000 | 6600.0000 | 1430.0000 | 85.0000   | 285.0000  | 15.0000  |
| 167625   | -0.0100 | 180.0000  | 1.8000  | 185.0000  | 0.3000   | 16.0000 | 72.0000   | 111000.00 | 5750.0000 | 29000.000 | 1310.0000 | 100.0000  | 130.0000 |
| 167626   | 15.1    | 25.0000   | 1.0000  | 17400.000 | 625.0000 | 10.0000 | 530.0000  | 95000.000 | 1100.0000 | 17900.000 | 10800.000 | -50.0000  | 34.0000  |
| 167627   | -0.0100 | 1930.0000 | 0.3000  | 275.0000  | 39.9000  | 11.0000 | 98.0000   | 140000.00 | 23000.000 | 1170.0000 | 890.0000  | 1100.0000 | -10.0000 |
| 167628   | -0.01   | 670.0000  | 5.0000  | 145.0000  | 2.3000   | -5.0000 | 369.0000  | 40000.000 | 28500.000 | 3270.0000 | 135.0000  | 455.0000  | 14.0000  |
| 167629   | 0.0200  | 47.0000   | 0.8000  | 300.0000  | 10.1000  | -5.0000 | 30.0000   | 10500.000 | 5550.0000 | 1320.0000 | 200.0000  | 95.0000   | -10.0000 |
| 167630   | -0.01   | 120.0000  | 5.1000  | 235.0000  | 0.3000   | 14.0000 | 120.0000  | 161000.00 | 3950.0000 | 30500.000 | 1640.0000 | 90.0000   | 150.0000 |
| 331943   | 0.001   | 1870.0000 | -0.1000 |           | 1.0000   | 7.0000  | 32.0000   | 27500.000 |           |           | 1290.0000 |           | 16.0000  |
| 331944   | 9.0000  | 3570.0000 | 2.0000  |           | 0.2000   | 36.0000 | 71.0000   | 45500.000 |           |           | 230.0000  |           | 17.0000  |
| 331945   | -1.0000 | 2000.0000 | 0.2000  |           | 0.2000   | 16.0000 | 75.0000   | 29000.000 |           |           | 325.0000  |           | 13.0000  |
| 331946   | 1.0000  | 1120.0000 | -0.1000 |           | 1.2000   | 7.0000  | 37.0000   | 20500.000 |           |           | 415.0000  |           | 41.0000  |
| 331947   | 37.0000 | 3590      | 0.1000  |           | 0.5000   | 20.0000 | 95.0000   | 35000.000 |           |           | 200.0000  |           | 43.0000  |
| 331948   | -0.001  | 930.0000  | 0.1000  |           | 0.2000   | 7.0000  | 10.0000   | 19700.000 |           |           | 415.0000  |           | 33.0000  |
| 331949   | -1.0000 | 660.0000  | 1.6000  |           | 0.2000   | 7.0000  | 32.0000   | 23000.000 |           |           | 140.0000  |           | 26.0000  |

646176

| SampleID | P        | Pb        | Sb      | Sn      | Tl      | Zn        |
|----------|----------|-----------|---------|---------|---------|-----------|
| 167617   |          | 33000.000 | 48.9000 | 1.0000  |         | 17800.000 |
| 167618   | 76.0000  | 195.0000  | 5.3000  |         | 0.9000  | 104.0000  |
| 167619   | 380.0000 | -50.0000  | 2.2000  |         | 1.0000  | 17.0000   |
| 167620   | 375      | -50       | 2.2     |         | 0.5     | 99        |
| 167621   | 420.0000 | -50.0000  | 2.3000  |         | 0.8000  | 62.0000   |
| 167622   | 260.0000 | -50.0000  | 4.5000  |         | 0.9000  | 93.0000   |
| 167623   | 720.0000 | 1540.0000 | 1.2000  |         | 0.5000  | 1015.0000 |
| 167624   | 900.0000 | -50.0000  | 2.1000  |         | -0.5000 | 11.0000   |
| 167625   | 350.0000 | 390.0000  | 2.3000  |         | -0.5000 | 1275.0000 |
| 167626   | 325.0000 | 72000.000 | 28.2000 |         | -0.5000 | 82000.000 |
| 167627   | 560.0000 | 5050.0000 | 7.2000  |         | 0.9000  | 14100.000 |
| 167628   | 285.0000 | 710.0000  | 3.9000  |         | 1.3000  | 431.0000  |
| 167629   | 30.0000  | 1510.0000 | 2.7000  |         | -0.5000 | 1445.0000 |
| 167630   | 275.0000 | 235.0000  | 2.9000  |         | -0.5000 | 1390.0000 |
| 331943   |          | 94.0000   | 1.6000  | 11.5000 |         | 504.0000  |
| 331944   |          | 38.0000   | 1.1000  | 6.3000  |         | 96.0000   |
| 331945   |          | 26.0000   | 0.6000  | 4.0000  |         | 102.0000  |
| 331946   |          | 170.0000  | 1.9000  | 2.2000  |         | 186.0000  |
| 331947   |          | 44.0000   | 6.8000  | 3.6000  |         | 77.0000   |
| 331948   |          | 135.0000  | 2.7000  | 3.3000  |         | 134.0000  |
| 331949   |          | 28.0000   | 2.1000  | 2.6000  |         | 33.0000   |

646177

**Rock Chips collected from the Round Mountain workings**

| SampleID | Sample Type | UTM East | UTM North | UTM Grid | Comments  | Ag   | As  |
|----------|-------------|----------|-----------|----------|---|------|-----|
| 274796   | ROCKCHIP    | 429400   | 5406760   | AMG66_5  | Round Mountain workings, 5-15mm, 85-220 S0 parallel galena vein.<br>Located just in the river mouth of the #1 adit. | 300  | 146 |
| 274797   | ROCKCHIP    | 429400   | 5406760   | AMG66_5  | galena vein 80-205, located 5m from entrance of dead end adit<br>~5m south of #1 adit.                              | 765  | 114 |
| 274798   | ROCKCHIP    | 429400   | 5406760   | AMG66_5  | 20-190, S0 parallel galenapyrite chlorite vein in anticlinal hinge .<br>within the #1 adit                          | 300  | 419 |
| 274799   | ROCKCHIP    | 429350   | 5406860   | AMG66_5  | 2-3mm galena veins within the moina sandstone.  | 15.7 | 105 |

646178

| SampleID | Au    | Ba  | Bi   | Cd   | Co | Cu   | Fe     | Mn   | Ni  | Pb     | Sb    | Sn   | Zn   |
|----------|-------|-----|------|------|----|------|--------|------|-----|--------|-------|------|------|
| 274796   | is    | 33  | 5.4  | 29.3 | 28 | 395  | 42000  | 930  | 34  | 586000 | 58.6  | 4.9  | 1005 |
| 274797   | 0.74  | -10 | 510  | 54.5 | 22 | 1210 | 23000  | 205  | 21  | 750000 | 269   | 3.5  | 492  |
| 274798   | 1.79  | 32  | 16.9 | 26.6 | 43 | 6190 | 138000 | 2060 | 105 | 520000 | 146.5 | 10.1 | 566  |
| 274799   | 0.045 | 51  | 4.8  | 1.3  | 5  | 654  | 10500  | 115  | 14  | 32000  | 14.4  | 1.6  | 142  |

646179

**APPENDIX 6**

**Round Mountain Pb Isotope Report**

Andrew

Below are the results of the Pb isotope analysis of your three galena samples from Round Mountain and two galena samples from Tullah. 274796 was completed in duplicate as you requested.

The duplicate analysis of 274796 and the single analysis 274798 give the same Pb isotopic composition. 274797 is slightly higher in  $^{206}\text{Pb}/^{204}\text{Pb}$ ,  $^{207}\text{Pb}/^{204}\text{Pb}$  and  $^{208}\text{Pb}/^{204}\text{Pb}$ . Although the Pb isotopic composition of these samples plot close to the Hellyer ellipse, they are slightly greater in  $^{206}\text{Pb}/^{204}\text{Pb}$ , and as a whole they represent Devonian age mineralisation. To date no Cambrian mineralisation has been recognised with a Pb isotopic composition greater than those values representing the Hellyer ellipse.

The two galena samples 330553 and 330566 from Tullah plot within the Queen Hill ellipse and have a Pb isotopic composition that is consistent with a Devonian age.

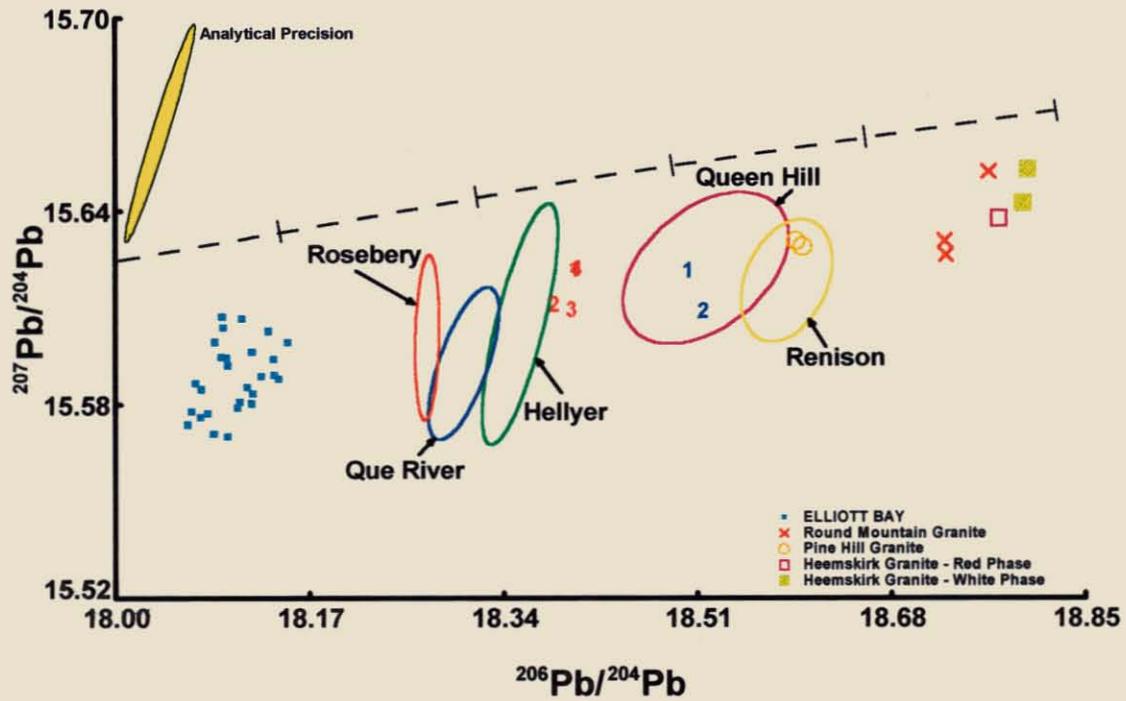
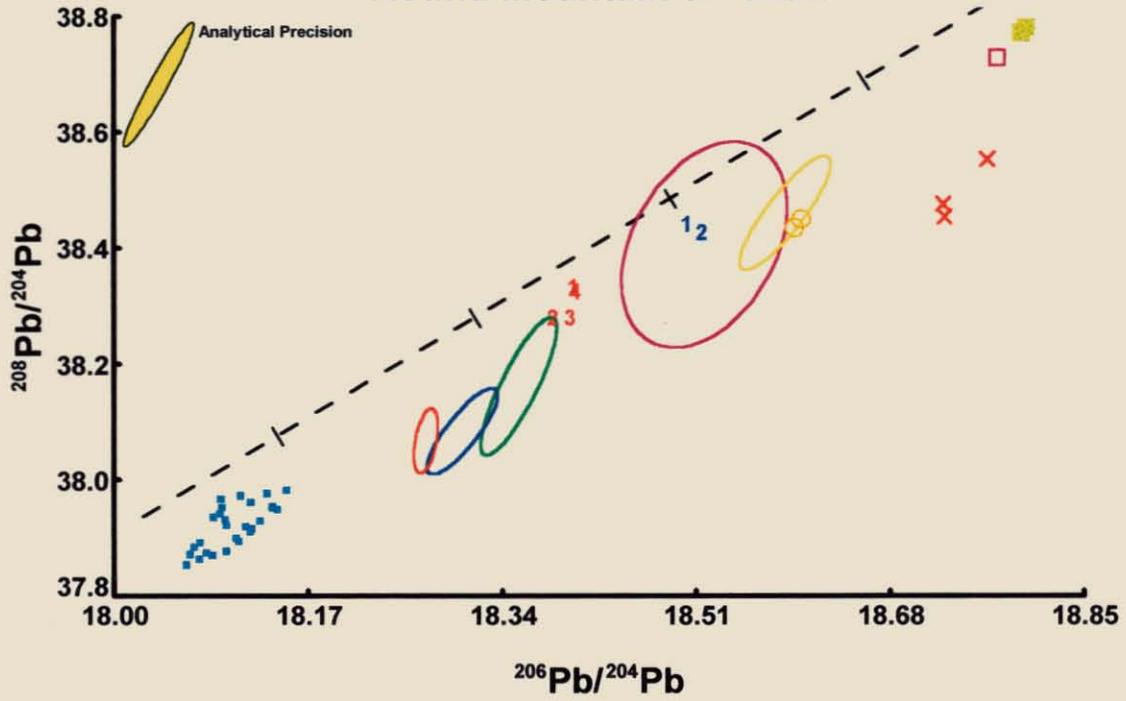
Table 1. The Pb isotopic composition of three samples from Round Mountain, Tasmania.

| Plot No | Sample No | $^{206}\text{Pb}/^{204}\text{Pb}$ | $^{207}\text{Pb}/^{204}\text{Pb}$ | $^{208}\text{Pb}/^{204}\text{Pb}$ | Quality<br>High=0<br>Low=9 |
|---------|-----------|-----------------------------------|-----------------------------------|-----------------------------------|----------------------------|
|         | 274796    | 18.403                            | 15.622                            | 38.332                            | 1                          |
|         | 274796D   | 18.385                            | 15.611                            | 38.278                            | 3                          |
|         | 274797    | 18.400                            | 15.609                            | 38.279                            | 4                          |
|         | 274798    | 18.404                            | 15.622                            | 38.324                            | 3                          |

Table 2. The Pb isotopic composition of two samples from Tullah, Tasmania.

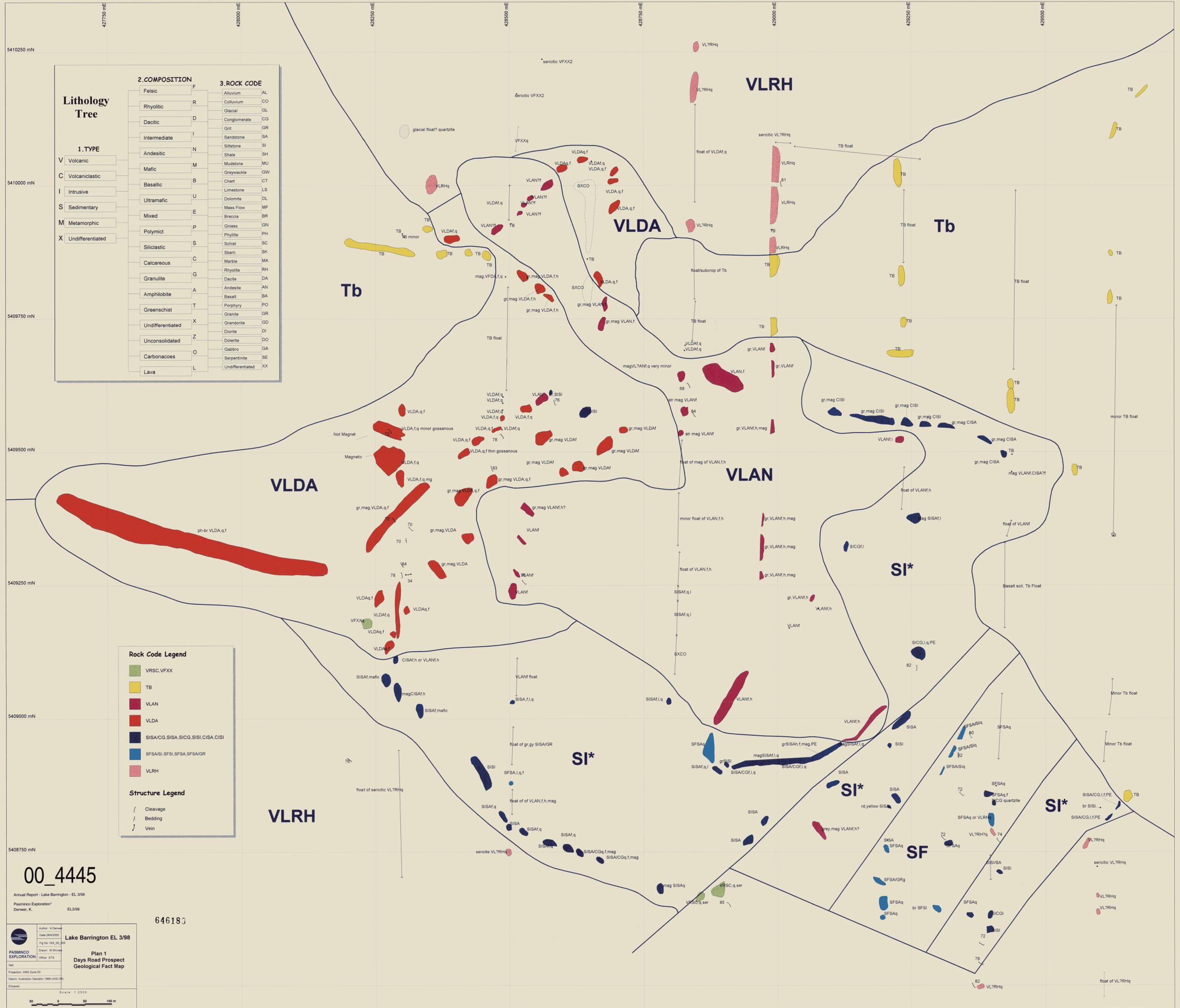
| Plot No | Sample No | $^{206}\text{Pb}/^{204}\text{Pb}$ | $^{207}\text{Pb}/^{204}\text{Pb}$ | $^{208}\text{Pb}/^{204}\text{Pb}$ | Quality<br>High=0<br>Low=9 |
|---------|-----------|-----------------------------------|-----------------------------------|-----------------------------------|----------------------------|
|         | 330553    | 18.502                            | 15.622                            | 38.440                            | 3                          |
|         | 330566    | 18.515                            | 15.609                            | 38.426                            | 3                          |

Round Mountain & Tullah



Regards

Geoff Denton



### Lithology Tree

| 1. TYPE            | 2. COMPOSITION   | 3. ROCK CODE        |
|--------------------|------------------|---------------------|
| V Volcanic         | F Felsic         | AL Alluvium         |
| C Volcaniclastic   | R Rhyolitic      | CO Colluvium        |
| I Intrusive        | D Dacitic        | GL Glacial          |
| S Sedimentary      | I Intermediate   | CG Conglomerate     |
| M Metamorphic      | N Andesitic      | GR Grit             |
| X Undifferentiated | M Mafic          | SA Sandstone        |
|                    | B Basaltic       | SI Siltstone        |
|                    | U Ultramafic     | SH Shale            |
|                    | Mixed            | MU Mudstone         |
|                    | Polymict         | GW Greywacke        |
|                    | Siliclastic      | CT Chert            |
|                    | Calcareous       | LS Limestone        |
|                    | Granulite        | DL Dolomite         |
|                    | Amphibolite      | MF Mass Flow        |
|                    | Greenschist      | BR Breccia          |
|                    | Undifferentiated | GN Gneiss           |
|                    | Unconsolidated   | PH Phyllite         |
|                    | Carbonaceous     | SC Schist           |
|                    | Lava             | SK Skarn            |
|                    |                  | MA Marble           |
|                    |                  | RH Rhyolite         |
|                    |                  | DA Dacite           |
|                    |                  | AN Andesite         |
|                    |                  | BA Basalt           |
|                    |                  | PO Porphyry         |
|                    |                  | GR Granite          |
|                    |                  | GD Gneiss           |
|                    |                  | DI Diorite          |
|                    |                  | DO Dolerite         |
|                    |                  | GA Gabbro           |
|                    |                  | SE Serpentine       |
|                    |                  | XX Undifferentiated |

### Rock Code Legend

|                                       |
|---------------------------------------|
| VRSC, VFXX                            |
| Tb                                    |
| VLAN                                  |
| VLDA                                  |
| SISA/CG, SISA, SICG, SISI, CISA, CISI |
| SFSA/SI, SFSI, SFSa, SFSa/GR          |
| VLRH                                  |

### Structure Legend

|   |          |
|---|----------|
| / | Cleavage |
| - | Bedding  |
| ~ | Vein     |

00\_4445

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 Denver, K. EL3/98

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**Lake Barrington EL 3/98**

**Plan 1  
Days Road Prospect  
Geological Fact Map**

Author: K. Daniels  
 Date: 28/4/2000  
 Fig No: GIS\_00\_008

Drawn: M. Shreeve  
 Office: 475

Scale: 1:2500

50 0 50 100 m

5 cm



|  |  |
|--|--|
| <b>Pasmnico Exploration<br/>Lake Barrington EL 3/98</b>  |  |
| Date: 19/4/2020<br>Author: RFD<br>Office: Rosebery<br>Drawing: Plan 2<br>Scale: 1:2500<br>Projection: AMG Zone 56 (AGD 86) | <b>Plan 2</b><br><b>Days Road Prospect:</b><br><b>Location of Partial Leach</b><br><b>Soil Samples</b> |
|  |  |

**00\_4445**  
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 Pasmnico Exploration  
 Denver, K. EL3/98

Autogrid  
 Daysroadprospect  
 \_240cc  
 \_241cc  
 Cethanaroads  
 Withnotroads  
 \_250creeks  
 \_241creeks

646184

**Pasmenco Exploration  
Lake Barrington EL 3/98**

**Plan 3  
Combined Ground and  
Air Magnetics plus EL  
Boundary**

Date: 19/4/2005  
Author: NFD  
Office: Rosebery  
Drawing: Plan 3  
Scale: 1:12000 Projection: AMG Zone 55 (AGD 84)



646185

Autogrid  
Cathanael  
Lakebarr\_5

