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Anglo American Exploration (India) Pvt. Ltd.  
1/25, Goverdhan Vilas Main road,  
Opp. Goverdhan Sagar, Nr. Technoy Motors,  
National Highway No. 8  
Udaipur - 313 001, Rajasthan - India

20<sup>th</sup> Dec 2007

To,

1. The Controller General,  
Indian Bureau of Mines,  
Indira Bhawan, Civil Lines  
NAGPUR - 440 001
2. The Director General,  
Geological Survey of India,  
27, Jawaharlal Nehru Road,  
KOLKATA - 700 016
3. The Director Mines and Geology  
Government of Rajasthan  
Khaniz Bhawan,  
Shastri Circle  
UDAIPUR - 313 001

Sub: Final Report of Reconnaissance Work Done  
(Under Rule 7 (iii) & 7 (vii) of Mineral Concession Rules, 1960)

Ref: Ajmer - Kayar RP-1/2003 (1982.30 sq km)

Mineral(s): Copper, Lead, Zinc, Silver, Gold, Precious metals and Associated minerals

Dear Sir,

Please find enclosed herewith the Final Report of Reconnaissance Work Done over the above Reconnaissance Permit as required under Rule 7 (iii) & 7 (vii) of Mineral Concession Rules, 1960. All data and information acquired during the reconnaissance operations is attached.

We request you that the contents of the report are kept confidential under Rule 7(viii) of MCR, 1960.

Yours faithfully,

STA(AK)  
MS  
7/11/07

Signature  
7/11/07

Signature:

*Brijendra Singh Gahlot*

Name in full: Brijendra Singh Gahlot  
Designation: Director

Place: UDAIPUR  
Date: 20<sup>th</sup> Dec 2007

Enclosure 1: Reconnaissance report  
Enclosure 2: Data in Compact disc

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6/11/08

Anglo American Exploration (India) Private Limited  
Regd Office: 214, South Extension II, 389, Masjid Moth, South Extension, PT-II, NEW DELHI -110 049  
Tel: (011) 2625 8172, 2625 1711 Fax: (011) 2625 0551

Report by Anglo American Exploration (India) Private Limited

**Final Report of Reconnaissance Work Done**

(See Rule 7 (iii) & 7 (vii) of MCR, 1960)

**A. INTRODUCTION -**

In October 2004, Anglo American Exploration (India) Private Limited (AAEIPL) executed Reconnaissance Permit (RP) over an area of 1982.30 sq km (Kayar RP) in Ajmer & Pali district of Rajasthan. The area has been licensed for prospecting of Copper, Lead, Zinc, Silver, Gold, Precious metals and Associated minerals.

This final report describes the reconnaissance work accomplished in the Reconnaissance permit area and data and information collected during reconnaissance operations.

**B. AREA OF RECONNAISSANCE -**

The RP (see Figure 1) constitute an area of 1982.30 sq km in Rajasthan, falling mainly within Ajmer & Pali district in the state of Rajasthan.

Location, area and date of execution of the RP are tabulated below and depicted in Figure- 1.

RP Block	Falls in District	Date of execution	Original Area (sq km)	Relinquished Area (sq km)	Present Area (sq km)
RP-1/2003	Ajmer & Pali	18-October-04	1982.30	1982.30	00.00

**C. GEOLOGY OF THE AREA -**

**Regional Geology:**

Regionally, the rocks of the area belong to North Delhi Fold Belt of Proterozoic age. The rocks are primarily meta-sediments comprising of pelites, meta-carbonates and quartzites. A number of ENE trending structures traverse the area. Metamorphic grade varies from middle amphibolite to granulite facies.

Kayar zinc deposit, located to the South of the RP area, is hosted in the pelitic rocks of the North Delhi Fold Belt. Generative work carried out by AAEIPL indicates that this area is prospective for base metal mineralisation.

AAEIPL carried out geological mapping based on regional traverses and interpretation of available datasets including ground magnetics to come up with interpreted geological map for the area, which is shown in Figure 2. AAEIPL used consultants from outside to help in preparing the geological map of the area, as the area is too complex metamorphically and structurally to interpret.

Based on regional traverses the area in the strike extension on Kayar prospect was interpreted to be most prospective in terms of Base metal mineralisation and hence most of the exploration activities were confined to that area which lies in the Northern part of the Kayar RP.

#### **D. RECONNAISSANCE WORK DONE -**

##### **GENERAL:**

The area has been covered by airborne geophysical surveys previously. Therefore, there is no plan to conduct aerial survey at this stage. Instead detailed ground magnetic survey was done over part of the area to get better resolution data for geological interpretation.

##### **1. Geology:**

Regional geological traverses were taken to understand the litho package and structure of the area. As the exposures are limited in the permit area so information was collected from well spoils for geological information. Mostly quartzites, granites and carbonates are exposed being more resistive to weathering compared to psammopelites, which occur as recessive units mainly seen in well spoils.

AAEIPL carried out geological mapping based on regional traverses and interpretation of available datasets including ground magnetics to come up with interpreted geological map for the entire area, which is shown in Figure 2. AAEIPL used consultants from outside to help in preparing the geological map of the area, as the area is too complex metamorphically and structurally to interpret.

##### **2. Geochemistry:**

Details of the geochemical activities undertaken in the area are listed below:

###### **a. Regolith Mapping:**

Regolith mapping was done over the entire permit area using Landsat image and field observation. The areas amenable to conventional soil geochemistry were identified and were followed by soil sampling.

###### **b. Soil Sampling:**

Regional soil sampling was carried over potential areas within the RP area. Total 4037 samples were collected at 1000 x 200m & 200 x 50m grid lines (Figure 3). Samples were analysed for 53 elements using ultra-trace analytical methods and ICP-MS / ICP-AES at ACME Laboratories, Vancouver (Canada).

Soil results for the key elements are attached in table 1 and results for all the elements are given in attached CD.

**c. Rock Sampling:**

Besides systematic soil sampling, 211 rock chip samples were collected from well-spoils and outcrops during the process of mapping and sampling. Samples are being analyzed for 53 elements. Figure 4 shows the location of samples that were sent for geochemical analysis.

Rock results for the key elements are attached in table 2 and results for all the elements are given in attached CD.

**3. Test drilling :**

Based on the interpretation of geological, geochemical and geophysical datasets few anomalies were selected for drill testing. A total of nine drill holes (7 percussions & 2 diamond) of 1683.7m were drilled Figure 8 shows location of drill holes.

Drilling failed to intersect significant Pb Zn mineralisation. Summary of the drill holes is given in table 3 and detailed results for all the elements are given in attached CD.

**4. Geophysics:**

**a. Ground Mag:**

Ground magnetic survey was conducted to use different approach in exploration compared with what other companies have done in the past.

4140 line km of ground mag was planned to cover this tenement area. Figure 5 shows the linepath and figure 6 shows the processed TMI grey scale image of the tenement area. This survey was done by using GSM-19 (V6.0) overhauser magnetometers which is having inbuilt GPS. Another magnetometer was used as a base magnetometer to correct the diurnal variations during the survey period. The specifications of the survey is mentioned below:

Total No. of Line km :	4140
Line spacing :	100m
Line Direction :	EW
Station Spacing :	0.5m (approx.)

Data interpretation identified few anomalies to be followed up by ground geophysics.

Raw data is given in attached CD.

b. Ground EM surveys:

Data integration identified certain anomalies, which required ground EM. The area covered by ground EM is shown in Fig 7. Total 32-line km of Ground EM survey was carried out to identify the bedrock conductor.

**E. PERSONS ENGAGED FOR THE WORK -**

Geological mapping and geochemical sampling programmes will be carried out by a number of geologists working for the company as well as consultants from abroad are being used for mapping and data interpretation. Field assistants are hired locally to assist the field teams.

The company geophysicist is undertaking most of the ground geophysical surveys. Several field assistants, as per requirement, are hired locally to carry out the surveys.

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