

CALCINE SAND GOLD MINE TAILINGS AROUND BULL STREET, CASTLEMAINE

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In the Castlemaine region, gold occurs as free grains in quartz reefs but also attached to minerals such as pyrites and arsenopyrite. In the early days of gold mining, the free gold associated with the quartz was obtained through crushing and separation with water. The gold associated with pyrite and arsenopyrite minerals was not able to be extracted with this process. As technology developed, miners were able to extract the gold associated with the pyrite and arsenopyrite minerals. Calcining was a process used in Castlemaine to extract gold associated with pyrites and arsenopyrites.

CALCINING AND CALCINE SANDS

The calcining process used tailings from which free gold had been extracted, and treated the tailings with chemicals, followed by roasting in kilns. This process released the gold associated with the pyrite and arsenopyrite minerals. The tailings from this process are known as calcine sands. Typically, calcine sands are a purple colour.

HOW ARE CALCINE SANDS DIFFERENT TO OTHER GOLD MINE TAILINGS?

In the central Victorian goldfields, arsenic and gold naturally occur together, therefore the soils are usually higher in arsenic than in other areas of Victoria.

Tailings that result from the extraction of free gold from quartz reefs are usually grey-blue or yellow in colour and can have high levels of arsenic. Although the tailings can be high in arsenic, they only pose a risk to human health if significant quantities are ingested.

Calcine sand tailings are also high in arsenic but as a result of the calcining process, it is thought that the arsenic may be more available to humans. Therefore a higher level of management may be required for calcine sands.

CALCINE SANDS AROUND BULL STREET CASTLEMAINE

Very few calcining facilities operated in Castlemaine. A calcining facility operated from 1868 – 1890 on what is now crown land at the eastern end of Bull Street. Deposits of calcine sands have been located in the vicinity of where it is believed the facility was. Calcine sand deposits have been located on both private and Crown land.

LIVING WITH MINE TAILINGS

Central Victorians have been living with mine tailings for over 100 years. Further information on living with mine tailings can be found in the Department of Human Services publication, *Are you living in an area with Mine Tailings?*

MANAGEMENT OF CALCINE SANDS?

The same procedures for living with normal mine tailings should be followed if calcine sands occur on your property. However, given that it is believed that the arsenic in calcine sands may be more available to humans, EPA, Department of Human Services and Mt Alexander Shire will be undertaking an assessment to further identify the location of calcine sand deposits. The assessment will also identify what is the appropriate management of the calcine sands to minimise the risk to health and the environment. The information from the assessment will be provided back to those residents directly impacted by calcine sands. In the meantime, the procedures outlined in the publication *Are you living in an area with Mine Tailings?* should be followed.

FURTHER INFORMATION

Further information can be obtained from;

EPA Victoria, North west Region 5442 4393

Department of Human Services 5434 5555

Mt Alexander Shire Council 5471 1700