Abstract

Kinta district, in Perak state of Malaysia is one of the richest districts that rose from tin mining production and is located strategically in the middle of Perak. The physical evidence of this former tin mining landscape which surrounds Kinta offers a narrative about this past mining history. The glorious years of Kinta occurred era between 1884 until 1895. The purpose of this paper is to investigate the mining heritage significance in Kinta district. A critical literature review and field surveys are used as the initial identification of significance places having regard to the remaining surviving evidence that can be promoted for conservation.

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Keywords: Investigate significance of mining places; heritage conservation; industrial heritage; Perak former tin mining areas

1. Introduction

Perak Darul Ridzuan is situated on the west coast of Peninsular Malaysia and once hosted lush alluvial tin deposits that spread over its districts, largely concentrated in the Kinta, Batang Padang and Larut Matang districts. In Malaysia, although tin is not the only mineral that has been exploited, tin is one of the major minerals that contributed to Malaysia’s economy since the early 18th century. Tin can only be found in Peninsular Malaysia with Perak state as the leading venue for tin production. Former tin mining landscapes in Perak are of state and national eminence, and have lead to the growth of Perak’s economy and the expansion of its social and culture diversity that forms Malaysia today.

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Osman & Ishak (2012) highlighted that the ex-mining land of Perak covers 81,750 ha or 3.9% of the state’s land. Kinta district has the highest hectarage of ex-mining land with 47,614 ha (58.2%) followed by Batang Padang 21,064 ha (25.8%), Perak Tengah 5,095 ha (6.2%), Larut Matang 4,610 ha (5.6%), Kuala Kangsar 1,581 ha (1.9%), Hulu Perak 982 ha (1.2%), Manjung 661 ha (0.8%), and Hilir Perak 143 ha (0.2%). While all are of importance and significance, this paper only concentrates on investigating the historic mining landscapes in the Kinta district that once brought fame to Perak.

2. Literature review

2.1. The character of mining heritage sites, areas and landscapes

The Department of National Heritage Malaysia (2005) defines heritage as “sites, objects and underwater cultural heritage whether listed or not in the Register”.

Heritage significance or values which are related to the cultural place can be defined as “the capacity or potential of the place to demonstrate or symbolize, or contribute to our understanding of, or appreciation of, the human story” (Sim, 1997) as quoted from (Pearson & Sullivan, 1995).

Mining heritage places are “the sites which minerals and other minerals of value were dug from the ground. The broader context in which mining occurred and that other places, including whole landscapes, might in themselves be of heritage significance because of mining” (Pearson & McGowan, 2000).

Former mining landscapes are classified as extraction industrial heritage and fall under the category of evolving culture landscapes. According to Australia ICOMOS (n.d), evolving landscapes reflect the transformation of land use which might include ‘relic’ or ‘continuing’ landscapes, UNESCO acknowledges historic mining landscapes as being part of their cultural landscape definition that demonstrates interaction between man and its environment. There are more than 60 industrial sites under the UNESCO World Heritage List and 24 sites related to mining areas and landscapes (Dozolme, 2013). Historic mining sites consist of physical evidence and its processing activity which include mine workings, machinery, quarries, shafts, bridges, roads/tracks, surface dumps, slag heaps, surface structures and settlement patterns (Ballinger, 2012; Drew, 2012). Pearson and McGowan (2000) have proposed a very detailed list of mining features that should be recorded as follows:

- Mine working and operational areas from all periods of a mine’s operation sluicing, open cuts, pits, costeans, shafts, adits, headframes, winders, engines, boilers, equipment and machineries, mullock and tailings heaps, shower blocks, administration buildings etc;
- primary processing batteries and mills (crushers, roasters, chimneys and flues etc.) and secondary processing plant, such as smelters and refineries;
- Miner’s living sites- miners’ housing, villages and towns (huts, barracks, tent sites, village sites and buildings, cemeteries, etc.);
- Transportation-roads and tramways associated with the movement of mining supplies and minerals;
- infrastructure to support the mine, such as water supply(dams, races, pipelines) timber mills, smithies and foundries, brickworks, hydro-electric plant;
- aspects of settlement stimulated by mining— agriculture and market gardening, closer settlement, port development, railway extension;
- landscape modification due to mining such as deforestation, pollution induced barren areas, silted dams, open cuts, embankments and mounds, tailings dumps, dredged streams, modified vegetation, etc.
2.2. Steps in identifying values of historic mining landscape

The Nizhny Tagil Charter for Industrial Heritage, that was drafted by the International Committee for the Conservation of Industrial Heritage (TICCIH) in 2003, asserts that “buildings and structures built for industrial activities, the processes and tools used within them and the towns and landscapes in which they are located, along with their tangible and intangible manifestations, are of fundamental importance” (The International Committee for the Conservation of the Industrial Heritage (TICCIH), 2003). This Charter highlights the process of identifying values of industrial heritage that involves identification, survey, recording and assessment to identify heritage significance. The Nizhny Tagil Charter was adopted by TICCIH to form the Joint ICOMOS-TICCIH principles for the conservation of industrial heritage sites, structures, areas and landscapes in 2011 and these principles have been recognised internationally by the UNESCO. The first principle emphasizes understanding and documentation and the second principle highlights the conservation and protection of industrial heritage sites, areas and landscapes (ICOMOS-TICCIH, 2011). Pearson and McGowan (2000, 2009) have adopted Burra Charter, the Australia ICOMOS Charter for Places of Cultural Significance in assessing the heritage value of the former mining sites. The strategy articulated by Pearson and McGowan involves 4 stages; gather information, understand the history of the place, record the main features of the site and assess using heritage criteria.

2.3. Assessment for heritage significance

In preparing the statement of significance, the heritage assessment criteria will be used as a tool in determining the values of the sites, areas and landscapes. These heritage criteria will vary from one country to another but generally they emphasize the aspects of historical, scientific, social and aesthetic importance. In Australia, the heritage assessment criteria for mining places suggested by Pearson and McGowan (2000) has been accepted as the national criteria for assessment of mining places. In the United Kingdom, Historic Landscape Characterisation (HLC) is the main tool for assessing rural landscapes and historic mining sites, areas and landscapes whereas in Malaysia, although there is legislation that is designed for conservation, none of these Acts highlight the importance of industrial heritage or specifically embrace mining heritage conservation. Malaysian legislation that relates to conservation includes the Urban Development Corporation Act 1971 (Act 46), Antiquities Act 1976 (Act 168) (Replaced by National Heritage Act 2005), Local Government Act 1976 (Act 171), Town and Country Planning Act 1976 (Act 172), Federal Territory Planning Act 1982 (Act 267), Town and Country Planning Act 1995 (Revised) (Act A933), Melaka Enactment No.6 1988, Johore Enactment No.7 1988, National Heritage Act 2005 (Act 645) (A. G. Ahmad, 2009; Idrus, Khamidi, & Sodangi, 2010). The Department of National Heritage (2005 pg.47) has listed nine criteria for inclusion on the national heritage register and to be inscribed, a place, object and monument must at least meet one of the nine criteria listed below:

- The historical importance, association with or relationship to Malaysian history
- The good design or aesthetic characteristics;
- The scientific or technical innovations or achievements;
- The social or cultural associations;
- The potential to educate, illustrate or provide further scientific investigation in relation to Malaysian cultural heritage;
- The importance in exhibiting a richness, diversity or unusual integration of features;
- The rarity or uniqueness of the natural heritage, tangible or intangible cultural heritage or underwater cultural heritage;
The representative nature of a site or object as part of a class or type of a site or object; and

Any other matter which is relevant to the determination of cultural heritage significance.

Other than the above assessment criteria that forms a national-level measurement tool for assessing heritage sites, areas and landscapes, the individual elements of the site can also be assessed by grading and ranking significance (Heritage Branch Department of Planning, 2009). According to the Heritage Branch of the Department of Planning NSW (2009 pg.4), these grading of significances are design specific for historical archaeological sites and ‘relics’ and the rankings of significance include;

- (A) Exceptional— rare or outstanding item of local or state significance. High degree of intactness. Item can be interpreted relatively easily.
- (B) High— high degree of original fabric. Demonstrates a key element of the item’s significance. Alterations do not detract from significance.
- (C) Moderate— altered or modified elements. Elements with little heritage value but which contribute to the overall significance of the item.
- (D) Little— alterations detract from significance. Difficult to interpret.
- (E) Intrusive— damaging to the item’s heritage significance.

3. Methodology

The method used to conduct this study involves a critical literature review which highlights the components and characteristics of mining heritage landscapes in Kinta district, Perak. The literature also focuses on reviewing methods of assessment which emphasis heritage criteria and grading for ranking significance which are later adopted in this study. In reference to Pearson and McGowan (2000, 2009), whom adopted the Burra Charter process, gathering information and understanding the history of the place are essential steps as they intensify the level of understanding regarding the evolution, timeline, technology and landscape that maybe of significance.

Other than critical literature review, activities including field surveys and inspections also be conducted although some information relating to mining extent and its landscape can be viewed through Goggle Earth and Google Street View (Stuart, 2012). Stuart concludes that “nothing online can replace the sense and understanding that comes from actually being in the landscape and moving through it”. To understand and to be able to perform heritage assessments, it is important to record the main features of the site(s) and to know the current condition of the significant features identified. For the purpose of this study, two assessment tools have been selected; the criteria for Malaysian national inscription which describes the overall historic landscape and also the grading system used for ranking of significance applied by the Heritage Branch of the NSW Department of Planning that focus on individual items or features of heritage importance. Some 15 mining towns in Kinta, that evolved during ‘tin rush’ and its expansion era back in 1880s until 1900s, have been chosen for this study (Khoo & Lubis, 2005). The results from grading the individual items that form the overall historic mining landscape for the specific town will then analyzed using the national heritage criteria as stated in the National Heritage Act 2005.

4. Findings

According to Khoo and Lubis (2005), the 15 towns and areas that evolved during the expansion of mining era in Kinta are; Batu Gajah, Chemor, Gopeng, Kampar, Kota Bahru and Malim Nawar, Kuala Dipang and Sungai Siput, Lahat and Pengkalan Pegoh, Menglembu, Papan, Pusing and Siputeh, Sungai Raia and Kampong Kepayang, Tambun and Ampang, Tanjung Rambutan, Tanjung Tualang and Tronoh. Gopeng was once the important mining town in Kinta while the administration of Kinta was managed at Batu Gajah while Kampar was dominated by Chinese miners and emerged to be the second largest town
after Ipoh. The middle of 18th century witnessed the migration of Chinese, who brought with them new mining technologies for concentration mining activities. It was the Chinese who turned Peninsular Malaya into a world tin producer (S. Ahmad & Jones, 2013) cited from (Khoo & Lubis, 2005). An initial survey was carried out to record and to assess the current condition of the features and to rank whether these items fulfill or not the criteria for state and national listing in Malaysia. This study serves as an initial platform to assess whether the conservation for the historic mining landscape in Kinta is necessary, important and warranted.

Table 1. Grading is based on the ranking of significance outlined by Heritage Branch, Department of Planning NSW (2009) specifically for historical archaeological sites and ‘relic’

| Features of historic mining sites, areas and landscapes | Batu Gajah | Chemor | Gopeng | Kampar | Kinta Blan | Malim Nawar | Kuala Dipang & Sej. Siput | Ipoh | Mengkablu | Papan | Pasir | Sej. Raia & Kg. Kepong | Tambun | Ampang | Tg. Rambutan | Tg. Tealang | Tromoh |
|-------------------------------------------------------|------------|--------|--------|--------|-----------|-------------|------------------------|-----|-----------|-------|-------|------------------------|--------|--------|--------------|------------|-------|
| Mine working and operational areas from all periods of a mine’s operation sluicing, open cuts, pits; | D C D B B B C D C D D C B B | | | | | | | | | | | | | | | | |
| Costeans, shafts, adits | C - - - - - - - - - - A | | | | | | | | | | | | | | | | |
| Equipment and machineries; headframes, winders, engines, boilers, dredge | C B C B B - C D C C D D C B B | | | | | | | | | | | | | | | | |
| Mullock and tailings heaps, shower blocks | - - - - B B - - - - - B | | | | | | | | | | | | | | | | |
| administration buildings etc | | | | | | | | | | | | | | | | | |
| Primary processing batteries and mills (crushers, roasters, chimneys and flues etc.) | - - - - - - - - - - - - | | | | | | | | | | | | | | | | |
| Secondary processing plant, such as tin smelters and refineries (Amang Retreatment Plants) | - - - B - - - - B B B - - - | | | | | | | | | | | | | | | | |
| Miner’s living sites-miners’ housing, villages and towns (huts, barracks, tent sites, village sites and buildings, cemeteries, etc.); | C C C B B B C C C C D C B C | | | | | | | | | | | | | | | | |
| Transportation – roads and tramways associated with the movement of mining supplies and minerals; | B B C B B C C C C C C C | | | | | | | | | | | | | | | | |
| Infrastructure to support the mine, such as; | | | | | | | | | | | | | | | | | |
| water supply (dams, races, pipelines) | - - A - B B - - - - - - B | | | | | | | | | | | | | | | | |
| timber mills, | - B B B - - B B - B - B - B C | | | | | | | | | | | | | | | | |
5. Discussion and analysis

The results tabulated in Table 1 are based upon a preliminary investigation which is also validated by information gathered from literature reviews. Gopeng and Tanjung Tualang both appear to have very outstanding features which demonstrate a high degree of integrity associated with the heritage mining landscape in Kinta. Ulu Geroh Dam, also known as the Empangan besar Ulu Geroh, located in Gopeng was built specifically to cater for mining activities in Gopeng and its surrounding areas in the early 20th century. In channeling water from this Dam, 2 pipelines were installed 13.6km long by the Gopeng Tin Mining Co. Ltd in 1908 under F.D Osborne to supply water to the mining areas in Gopeng. This Dam and the pipeline has been abandoned due to the cessation of mining operations in 1992 which forced mining operators to stop their mining operation due to low demand because of the tin market collapse in 1985. In relation to the mining closure, the pipeline and its structure were no longer insured and integral to their location, and posed a danger to federal road users. In Julai 2010, after 100 years of installation, this pipeline and its supporting structure was dismantled. Realizing its heritage significance, the contractor who had been appointed to dismantle the pipeline has “generously donate two pipelines with 30meter long to Perak State Government” (Kampar District Council, 2011) [sic].

| Aspects of settlement stimulated by mining; | Smithies and foundries, brickworks hydro-electric plant |
|-------------------------------------------|--------------------------------------------------------|
| Agriculture and market gardening          | B C B C B C B C C C C D B B B                        |
| Closer settlement                         | C - - C C - - - - - - - - - - -                        |
| Port development,                         | C - - - - - - - - - - - - - - -                        |
| Railway extension                         | B B - B B - - - - - - - - - - -                        |
| Landscape modification due to mining such as; | deforestation, pollution induced barren areas silted dams open cuts, embankments and mounds tailings dumps dredged ponds ponds related to open cut by gravel pump / hydraulic methods modified vegetation |
| B C B B C B C C C C C D C B B B           | B C B B C B C C C C C B C B B                        |
| - - - - - - - - - - - - - - - - - - - - - | B C B B C B C C C C C B B B                        |

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According to the National Heritage Act 2005, an archaeological relic means “any archaeological deposit or any artifacts, remains or material evidence associated with an archaeological deposit in any part of Malaysia and is fifty or more years”. As embodied in international terminology on archaeology, this dredge that was built in 1938 in England by FW Payne and operated for 44 years until August 1982, can be classified as an industrial archaeology relic (The Malaysian Chamber of Mines, n.a). After nearly 75 years it still survives and the Malaysia Mining Corporation Berhad (MMC) has donated this dredge to the Perak state government as a legacy for future generations and representative of Kinta’s former mining glory in the late 19th and 20th centuries. This dredge is currently maintained by the Osborne and Chappel Sdn. Bhd. (OCSB); the same subsidiary company that installed the ‘Gopeng giant pipes’. 
Geologically Perak is known for its alluvial mining deposits which can be easily extracted using the ‘power of water’. This method, once used in Kinta district, focuses on panning, gravel pumping, hydraullicing and dredging that created the mining landscape that can be observed in Kinta today. These methods do not involve the primary processing batteries and mills as part of the components or features of tin mining extraction in Perak. There are 4 companies registered for tin smelting in Perak located in Ipoh, Mambang Di Awan and Kampung Kepayang which add to the significance values of the historic mining landscape in Kinta (Malaysia.com, 2013). Amang retreatment plant enable an extraction process and by-product minerals from tin mining production whereby in Kinta, these amang factories are still exist and can be found in Kampar, Papan, Pusing and Siputeh that add value to the overall mining landscape.

Miners living sites, that include villages and towns, still exist in most of the study area and these include main roads that were built in the late 19th century, for easy access of transportation and movement of mining supplies and minerals connecting all the study areas. Cemeteries of different religious and cultural beliefs supported the history of mining expansion in Perak and this obvious land use can be viewed in Kampar where the Chinese incorporated their cultural and religious beliefs in *feng shui* selecting hilly areas for the location of their cemeteries. This cultural landscape supports the mining history in Kinta that validates its domination by Chinese in Kampar and the same scenario can be observed in Gopeng with a Christian cemetery that validates the establishment of European companies in Gopeng since the late 19th century.

Supporting infrastructure and ancillary industries such as timber mills, brickworks, smithies and foundries still exist in the study area. These offer additional values and can be graded as B and C which is of heritage significance. These enrich the picturesque-ness of historic mining in Kinta especially in Batu Gajah, Chemor, Gopeng, Kampar, Menglembu and Papan. Aspects of adjunct settlements established as a consequence of mining to service agriculture and market gardening can be found widely across the study area. Landscape modifications due to mining are a major extant cultural landscape component that survives and these historic landscapes can be observed in most of the study areas especially in Batu Gajah, Chemor, Papan, Tronoh, Tanjung Tualang, Kampar, Kota Bahru and Malim Nawar. An old map drawn by Tregonning (1963) which tabulates the location of mines in Kinta district in 1960 highlights the location of dregdes, Chinese mines; site that mostly adopted the gravel pump method and also the location of the European mines. Based on this map, the location of dregdes can be identified alongside Kinta river, and this information supported by the extant mining dredge ponds correlate to areas mapped by Tregonning (1963). The dredge ponds, in contrast to the ponds resulted from the open pit mining.
through hydraulic or gravel pump method, would obviously vary in size and are usually smaller than the
dredge ponds. Other than the ponds, mullock and tailing dumps can also be viewed in the study area
especially in Batu Gajah, Tanjung Tualang, Kampar, Kota Bahru and Malim Nawar.

5.1. National heritage criteria

At this stage, results are based on the preliminary survey conducted. From this initial stage, it is
possible to consider the national heritage criteria in assessing the heritage significance in Kinta to gauge
whether they quantify whether each of the sites contain historic values that are able to explain the history,
scientific, social and aesthetic values of the sites, areas and landscapes. Criteria (a) the historical
importance, association with or relationship to Malaysian history, and criteria (e) the potential to educate,
illustrate or provide further scientific investigation in relation to Malaysian cultural heritage would best
describe Kinta as a major mining district in Malaysia. With the expansion of social and cultural
integration, the alluvial mining technology achievement and the aesthetic cultural landscapes
demonstrates significance for the conservation of this historic mining landscape. Thus, the national
heritage criteria is met demonstrating that Kinta district is eligible to be nominated for national cultural
heritage listing.

6. Conclusion and recommendation

Although Malaysia is no longer a leading country in producing tin ore, Malaysia is still ranked as one
of the top ten tin concentrate producers (Minerals and Geoscience Department Malaysia, 2012). Since
mining crafted a dramatic cultural landscape in Kinta, the protection and conservation of these significant
places should be prioritized by the Perak State Government. These extant mining and mining ‘relic’ place
are of state and national significance having regard to the initial heritage assessment that has been
undertaken and discussed in this article. Definitions stated in the National Heritage Act 2005 should be
reviewed as to acknowledging mining heritage sites as being part of cultural landscape conservation
obligations. In reference to the Perak state Structure Plan 2020, Kinta district has been categorized into
the metropolitan district of Kinta Valley recognizing it’s evidence of the expansion of its economy and
physical development that used the former mining land as part of its development expansion strategy
(Department of Town and Regional Planning, 2008). The Department of Town Planning of Perak states
that in 2010, the population in Kinta district was 822,441 and was projected to reach 986,249 by the year
2020. This increased population will result in demands for additional housing and residential areas in
Kinta. In 2002, there were 218,303 units of houses and based on the demographic study, another 175,667
units are needed to accommodate this expanding population. Kinta with an area of 195,804ha host the
highest population in Perak state although in district land comparison, it is smaller than Hulu Perak
(654,304ha), Kuala Kangsar (254,078ha) and Batang Padang (271,172ha) districts. Therefore, the former
mining sites, areas and landscapes in Kinta are facing a threat due to this state planning development
strategy. Hence historic mining conservation of significant area should be one of the main state
development agendas because those places in Kinta meet the national heritage criteria; (a) and (e) for a
national heritage nomination. Those significant sites are scarce and irreplaceable (S. Ahmad & Jones,
2013). Hence, conservation is important as it helps to secure the historical places that stand as testimony
for present and future generations.
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### Appendix A. Yearly export of tin from the whole Perak state from the year 1874-1895

Table 2. The yearly export of tin from the whole Perak state from the year 1874 to 1895

| Year | Larut | Kuala Kangsar | Batang Padang | Kinta | Lower Perak | Selama | Kurau & Sg. Tinggi | Total in Pikuls |
|------|-------|---------------|---------------|-------|-------------|--------|-------------------|---------------|
| 1874 | 11,035.42 | - | - | - | - | - | - | 11,035.42 |
| 1875 | 26,601.10 | - | - | - | - | - | - | 26,601.10 |
| 1876 | 30,576.28 | - | - | - | - | - | - | 30,576.28 |
| 1877 | 39,853.09 | - | - | - | - | - | - | 39,853.09 |
| 1878 | 46,172.79 | - | - | - | - | - | - | 46,172.79 |
| 1879 | 55,350.39 | - | - | - | - | - | - | 55,350.39 |
| 1880 | 69,928.03 | 560.11 | 1,800.00 | 14,738.32 | 1,116.91 | - | - | 88,143.37 |
| 1881 | 79,438.88 | 669.75 | 1,929.15 | 17,382.43 | 1,691.74 | - | - | 101,109.95 |
| 1882 | 95,437.80 | 2,259.80 | 2,066.32 | 19,143.08 | 4.85 | - | - | 121,412.21 |
| 1883 | 125,180.86 | 5,062.52 | 2,362.87 | 24,853.89 | 1,935.39 | - | - | 159,395.53 |
| 1884 | 104,281.91 | 8,354.19 | 2,258.93 | 46,925.47 | 795.84 | - | - | 162,618.74 |
| 1885 | 102,834.05 | 5,727.47 | 1,800.00 | 86,498.44 | 754.67 | - | - | 216,652.49 |
| 1886 | 126,999.43 | 6,985.28 | 2,425.85 | 33,572.42 | 986.48 | - | - | 218,838.67 |
| 1887 | 104,019.38 | 7,505.22 | 4,349.37 | 100,179.06 | 986.48 | - | - | 235,651.47 |
| 1888 | 95,336.18 | 5,727.47 | 5,411.93 | 130,185.43 | 793.60 | - | - | 237,157.96 |
| 1889 | 85,731.39 | 5,995.07 | 4,922.98 | 145,328.16 | 754.67 | - | - | 241,962.14 |
| 1890 | 71,973.83 | 7,805.47 | 5,465.82 | 192,671.06 | 729.54 | - | - | 244,962.14 |
| 1891 | 69,892.43 | 10,001.70 | 5,158.03 | 230,725.03 | 754.67 | - | - | 248,582.75 |
| 1892 | 75,699.92 | 6,184.04 | 5,977.74 | 307,385.32 | 729.54 | - | - | 316,120.23 |
| 1893 | 69,944.69 | 3,391.09 | 8,105.73 | 319,171.29 | 754.67 | - | - | 326,291.23 |

Source: Everitt (1952)

### Appendix B. Tin Smelting in Perak

1. **LIOW THAI KONG & SONS SDN. BHD.**  
   Address: Lot 62058, Bukit 5 3/4, Jalan Gopeng, Kampung Kepayang, Perak, 31300  
   Phone number: +60 (0)5 357-1250  
   Business: Manufacturing and Industrial; Tin Smelting; Perak - Kampung Kepayang

2. **CHANG KAM YEE & SONS SDN. BHD.**  
   Address: Lot 3, Mambang Di Awan, Perak, 31950  
   Phone number: +60 (0)5 466-4005  
   Business: Manufacturing and Industrial; Tin Smelting; Perak - Mambang Di Awan

3. **KINLE IRON WORKS SDN. BHD.**  
   Address: 45, Lengkok Lahat, Fahlim, Ipoh, Perak, 30200  
   Business: Manufacturing and Industrial; Tin Smelting; Perak - Ipoh

4. **PERAK METAL INDUSTRIES SDN. BHD.**  
   Address: Lot 63, Persiaran Portland, Kawasan Perindustrian Tasek, Ipoh, Perak, 31400  
   Phone number: +60 (0)5 291-0082  
   Business: Manufacturing and Industrial; Tin Smelting; Perak - Ipoh  
   Source: http://www.malaysia.com/directory/cgibin/directory/search.cgi?;catid=33447;query2=Kampung%20Kepayang%2C%20Perak%2C%2031300%23ixzz2fmAB66Gl
Appendix C. Amang Retreatment Plants Location Map in Perak, 2011

Source: Reproduce from Annual Report; Malaysia Mining Industry 2011 (pg.75)