

## **Who Owns the Map?**

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**Key words:** Cartography; Legislation, Copyright, Intellectual Property Right, Map, Literary, Artistic

### **SUMMARY**

In the context of map publication, a copyright work means a piece of original literary or artistic work in which copyright subsists. However, copyright does not automatically subsist in a work unless the requirements with respect to qualification for copyright protection are met. Unlike making a sculpture or writing a song, mapping the real world with on ground features visible by everyone is obviously not a simple creative work. It is arguable and sometimes difficult to prove someone has infringed the intellectual right of other's work in the absence of distinct and objective evidences.

The geographic features on the earth surface such as lakes, rivers and roads are objective phenomena which everyone can visualize. However, presenting these features on the map involves artistic design and very much depended on the map author's professional knowledge and judgment. Moreover, the collection of these information requires tremendous effort, time and resources to complete. The originality in producing a map is the primary consideration constitutes the subsistence of copyright to a map. Two different pieces of map works, even with the same theme, will not be highly identical if not by imitation.

Illustrated with some examples, this paper will discuss the approaches in collecting evidences to testify whether a particular map work has infringed the copyright of others. By making reference to the court judgments<sup>i</sup>, the authors would also discuss the role and liabilities of different parties in a map copyright infringement case.

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## **1. BACKGROUND**

Like many other places in the world, Hong Kong guards intellectual property rights with great care. Copyright is something real and valuable whose owners enjoy the same level of protection from dishonest behaviour as the owners of ordinary and more tangible property. In May 2003, the publishers of a commercial street guide book “Hong Kong Road Map” [hereinafter referred to as ‘HKRM’] were suspiciously found, without the licence of the copyright owner, make for sale and in possession for the purpose of business, to have infringed the copyright work of the 1:10 000 digital map [hereinafter referred to as ‘B10000’] of the Lands Department, Government of the Hong Kong SAR [hereinafter referred to as ‘LandsD’].

The trial of the case was first held at the Eastern Magistrate’s Court in February 2004. All defendants pledged not guilty and the case was deferred for retrial in late October 2005.

## **2. COPYRIGHT OWNERSHIP**

Copyright is a property right which subsists in original literary, dramatic, musical or artistic works, sound recordings, films, broadcasts or cable programme and typographical arrangement of published editions.

In the context of map copyright, map is considered as a piece of graphic work with artistic elements. Compilation of map data by reason of the selection or arrangement of its contents constitutes an intellectual creation and is a form of literary work. Copyright does not automatically subsist in a work unless the requirements with respect to qualification for copyright protection are met.

The author in relation to a copyright work means the person who creates it. In the case of literary or artistic work which is computer-generated, the author is taken as the person by whom the arrangements necessary for the creation of the work are undertaken. Where the literary or artistic work is made by an employee in the course of his employment, his employer is the first owner of any copyright in the work unless otherwise agreed by both parties.

The copyright owner can take legal action against the person to recover the damages. Under sections 118(1)(a) & (d) and 119(1) of the Copyright Ordinance (Chapter 528), a person commits an offence if he, without the licence of the copyright owner makes for sale or hire, possesses for the purpose of, in the course of, or in connection with, any trade or business with a view to committing any act infringing the copyright.

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A person who commits an offence under section 118(1) is liable on conviction on indictment to a fine at level 5<sup>ii</sup> in respect of each infringing copy and to imprisonment for 4 years. Notwithstanding this, according to section 118(3), it is a defence for the person charged with an offence under section 118(1) of the Copyright Ordinance, to prove that he did not know and had no reason to believe that the copy in question was an infringing copy of the copyright work.

### **3. INVESTIGATION**

Everyone can perceive the ground features on earth surface such as roads, buildings, lakes and mountains which constitute no intellectual copyright. However, modeling these ground features and depicting them on the map is a matter which requires huge effort and expertise knowledge to complete. Map production involves different processes, i.e. from raw data capturing, manipulation and compilation to cartographic presentation on map. Map presentation is an artistic work and is very much depended on the author's personal style and skill sets subject to certain presentation rules. For example, owing to tidal changes, there is not a physical and prominent line on the seashore to delineate the intersection between land mass and the sea. The map author will depict the coast limit by an imaginary line, such as high water mark<sup>iii</sup>, and use boulder symbol to represent a rocky shore. For clarity sake, a narrow and winding road will sometimes be generalized or exaggerated to allow annotation of road name be placed alongside. Scattered squatters will also be aggregated into groups of temporary structure outlined by its extent for simplicity. All these processes involved in the map production constitute an intellectual creation.

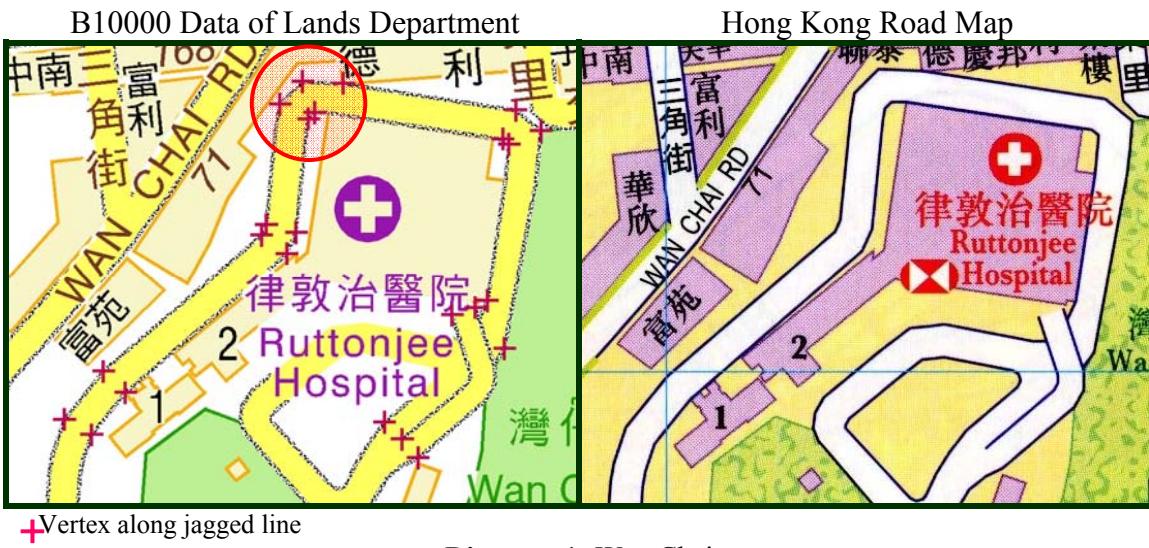
In order to investigate whether the HKRM has infringed the copyright of the B10000, LandsD inspected half of the total pages from the randomly selected 200 seized copies<sup>iv</sup>. Surprisingly, the map features as shown on HKRM were found highly similar to those shown on the B10000. Examples are:

#### **3.1 Digital Signature**

The jagged lines in the B10000 of Lands Department were compiled for the purpose of inheriting the digital signature into LandsD's data. There were *prima facie* evidences that the jagged lines in HKRM were the same as, or substantially similar to, those of the B10000 (*please refer to Diagram 1*).

#### **3.2 Road Alignment**

The B10000 road alignment had undergone substantial degree of generalization. Road widths were exaggerated, with reference to the centre line of B1000 basic map (1:1 000 scale LandsD survey data), to the nearest 10m, 15m or 20m for clarity of presentation. These generalized road alignments presented in HKRM were found to be the same as, or substantially similar to, those of the B10000 (*please refer to Diagrams 1, 2, 3 & 4*).



**Diagram 1:** Wan Chai

### 3.3 Spot Height

Spot heights in B10000 were derived from B1000 which was surveyed by the staff of LandsD to depict the terrain such as hill top, summit, trough of road, ramps and flyovers. In most cases, there is no well defined physical feature on ground to signify the position of the spot heights. It is most unlikely that both the position and height values of these invisible points on ground are identically shown on two different maps if no infringement act has been committed. Nevertheless, the spot height value and position of spot height as shown in HKRM was the same as, or substantially similar to those of B10000 (*please refer to Diagram 2*).

### 3.4 Coastline

The coastline as defined by LandsD in B10000 was a closed polygon which encompassed the features of high water mark, sea wall, pier, breakwater, estuary, nullah outlets, rocky shoreline and the reclamation limits. It is hard to believe that HKRM had adopted substantially similar, or almost the same, combination of symbols to represent the coastline. (*please refer to Diagrams 2, 3 4 & 5*).



Diagram 2: North-west Cheung Chau

### 3.5 Beach Boundary

In the real world, there is no clear definition of the beach boundary. The beach boundary between the land and beach was sometimes defined arbitrarily. The boundary between the beach and sea was defined by the high water mark which was determined by the staff of LandsD. However, the geographical extent of beach in HKRM was found to be the same as, or substantially similar to, those of the B10000 (*please refer to Diagrams 3*).

### 3.6 Rock/Cliff

For simplicity sake, the reefs outside Shek O Headland were generalised and represented by a rock symbol in B10000. This rock symbol was designed by LandsD and arbitrarily placed outside the Shek O Headland for indication purpose. It can hardly be a coincidence that the same rock symbol was found at the same spot in HKRM (*please refer to Diagram 3 & 4*). Similarly, cliff symbol with the same pattern of rock distribution was found on both B10000 and HKRM. The placement and design of these graphic symbols in B10000 were subject to the decision of the original author and they were no doubt an artistic work rather than a precise geographical presentation (*please refer to Diagram 3 & 4*).



Diagram 3: Shek O Headland

### 3.7 Artificial Slope

In B10000, artificial slope was represented by series of tadpole shape symbols bounded by the slope top and slope bottom alignments derived from the B1000 basic map. The number and individual length of these tadpole symbols within the slope extent are quite arbitrary and subject to the design of the original author. It was however found that the same, or substantially similar, slope symbols were found on the corresponding locations in HKRM (*please refer to Diagram 4*).

### 3.8 Building

Restricted area, such as prison and barrack, is always prohibited for public access. Normally, only the Government surveyors can seek the approval from the authorities to carry out topographic survey inside the restricted area. It is very difficult, if not possible, for the commercial publisher to map the features if they did not copy the features directly from the copyright map of LandsD (*please refer Diagram 4*).

B10000 Data of Lands Department



Hong Kong Road Map



**Diagram 4:** Stanley

### 3.9 Layer Tinting

HKRM presented relief with layer tinting but not contour. Oddly enough, the elevation height as shown on HKRM was the same as, or substantially similar to, those of the B10000 in terms of both selection and position. In general, it is not a common practice to show elevation height with no contour line on map (*please refer to Diagram 5*). The layer tinting of different topographic elevations in the HKRM were the same as, or substantially similar to, the contour of B10000.

B10000 Data of Lands Department



Hong Kong Road Map



**Diagram 5:** Sai Kung

#### **4. JUDGEMENT**

The Case eventually came to trial before the Magistrate at the Eastern Magistrate's Court in October 2005. Judging from the indisputable facts, evidence and the demonstration presented by the expert witness on the similarities of B10000 and the HKRM, the Magistrate convicted all defendants, including the publishers and other related personnel of the respective charges, with the findings summarized below:

- a) the derivation from B1000 to B10000 is part of map production, rather than simply a data extraction process. If copyright subsists in B1000, the same shall also subsist in B10000;
- b) B10000 is a piece of artistic and literary work which copyright subsists;
- c) LandsD is the ultimate copyright owner of B10000; and
- d) HKRM has infringed the copyright work of B10000.

The matter later came up on appeal before the Deputy High Court Judge at the Court of First Instance of High Court. All convictions were subsequently quashed in June 2006 for the reason that the trial Magistrate had failed to consider whether the defendants could avail themselves of the statutory defence under section 118(3) of Copyright Ordinance. That is to say the appellants did not know and had no reason to believe that the copies they dealt with were infringed copy of B10000, whose copyright belonged to the LandsD.

Despite the Defence alleged as a ground of appeal that the trial Magistrate erred in ruling that B10000 was both a literary and an artistic copyright work, Defence abandoned this ground of appeal shortly before the hearing of appeal. Hence, the ruling of the trial Magistrate on this aspect remains unchallenged and the copyright of B10000 is still owned by the LandsD.

#### **5. REVIEW**

Despite the convictions to the publishers of the infringing map and the related personnel were quashed by the Court of First Instance of High Court, the trial Magistrate's finding in relation to the copyright of the B10000 has never been overturned. There is sufficient evidence to allege that the Government's copyright subsisting in B10000 had been infringed. In this connection, remedies are being sought against the tortfeasors including damages in the form of unpaid licence fees and royalties or account of profits arising from the trade or business of the infringement activities.

#### **6. CONCLUSIONS**

To nourish the healthy development of the map publication industry, it is considered that the court judgment and the issues in relation to copyright ownership have to be brought up for everyone's attention in the mapping industry.

The advancement of technologies has changed the ways of map production in the past two decades, from paper maps to the digital era. The widespread application of mobile mapping, navigation system and Internet map has also driven a continuous growing demand for up-to-date digital map data in the mapping industry. In view of the high development and

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maintenance cost of the digital map, and more importantly, to ensure the healthy growth of the mapping industry, the legal right of the copyright owner must be protected. To achieve the goal, the following areas should be critically addressed:

### **6.1 Legislation**

Under section 119(1) of the Copyright Ordinance, a person who commits an offence under section 118(1), i.e. without the licence of the copyright owner, make for sale or hire, possesses for the purpose of, in the course of, or in connection with, any trade or business with a view to committing any act infringing the copyright, is liable on conviction on indictment to a fine at level 5 in respect of each infringing copy and to imprisonment for 4 years. It is important to convey a clear message to the public that infringement of intellectual property rights, to the prejudice of copyright owners, will not be treated leniently. In dealing with persons who criminally infringe copyright, a firm deterrent based sentencing policy is vital.

### **6.2 Enforcement**

While copyright owners are encouraged to report all suspected infringement cases to the corresponding authorities for follow up action, the copyright owners may consider issuing warning letters to the suspected infringers before taking any enforcement action. This is to serve a formal notice to inform the infringers of the copyright infringement, and demand them to cease all infringement activities and to settle the necessary licence and royalty charges. Having done that, the infringers can no longer claim for statutory defence under section 118(3) of Copyright Ordinance in subsequent court proceedings.

In the subject case, the total printed volume of HKRM was 35,000 copies with unit sale price at HK\$48.00 each. Judging from the scale of the offence and circumstance of the offenders, the trial Magistrate has ruled out the imprisonment sentence and only applied a unique rate of HK\$3.00 fine per infringing copy as the basis for sentence calculation. As there is no great difference in terms of harm caused to the copyright owners between this sort of conduct and the selling of counterfeits or infringing discs where immediate sentences of imprisonment are generally imposed, the HK\$105,000 fine in total seems not sufficient to act as a deterrent to future offenders.

### **6.3 Public Awareness**

Despite the defendants were finally successful in plea of not guilty in the Court of First Instance of High Court, the copyright of the B10000 has been confirmed by Court and aroused the attention of the public and the mapping industry on intellectual property right protection. Not only the copyright owners should report the suspected infringing cases to the law enforcement units, the owners should also cooperate with the authorities to collect evidences and testify the infringement acts. It is normal that legal proceedings would take few years to settle, involved parties should be prepared for the effort and sufficient resources for the litigation.

## **6.4 Technology**

It is painstaking and cumbersome to prove the copyright of one piece of map work has been infringed by the others. In this case, huge effort was spent in overlaying the HKRM against the B10000 for detailed comparison for similarity. The work would have been much easier if watermarks were embedded in the map content beforehand which make the collection of evidence easier and more convincing before the court.

## **6.5 Partnership**

To encourage the proper use of the copyright map, the map owners should promote and foster business collaboration with the publishers to open up the opportunities to use copyright map, to develop various types of value-added map product. At present, different business opportunities such as the “Value Added Reseller<sup>v</sup> (VAR)”, “Internet Map Permittee<sup>vi</sup> (IMP)” and the “Mapping Information Services through Internet<sup>vii</sup> (MISI) Service” are available in LandsD to meet the business partner’s applications.

- END -

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Law of Hong Kong, Copyright Ordinance, Chapter 528

## **BIOGRAPHICAL NOTES**

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**Academic qualification:** MSc(GIS), Hong Kong Polytechnic University

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**Current Position:** Senior Land Surveyor, Land Information Centre

**Practical Experience:** Cadastral surveying, mapping, engineering surveying and project management

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Examiner of Assessment Professional Competence, HKIS, 1999 & 2005

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<sup>i</sup> Eastern Magistrate's Court Case no. ESCC3095/2005 & Court of First Instance of High Court Magistracy Appeal Case no. HCMA86/2006.

<sup>ii</sup> Fine at level 5 equivalent to a fine at maximum of HK\$50,000 per each infringing copy.

<sup>iii</sup> High Water Mark is an imaginary line to delimit the land and sea on map.

<sup>iv</sup> A total of 12,234 copies of HKRM were seized from different locations of the publisher's office.

<sup>v</sup> VAR Service was aim at opening up the opportunities to business sector to develop various types of value-added map product using LandsD's digital map data.

([http://www.landsd.gov.hk/mapping/en/digital\\_map/service/var.htm](http://www.landsd.gov.hk/mapping/en/digital_map/service/var.htm))

<sup>vi</sup> IMP can make use of LandsD's digital map to develop map information applications for delivery on its web site. ([http://www.landsd.gov.hk/mapping/en/digital\\_map/service/imp.htm](http://www.landsd.gov.hk/mapping/en/digital_map/service/imp.htm))

<sup>vii</sup> MISI service partners can make use of LandsD's digital map as the basis to show on top of the locations of places of interest and community facilities which is freely accessible by the public on the Internet.

([http://www.landsd.gov.hk/mapping/en/digital\\_map/misi.htm](http://www.landsd.gov.hk/mapping/en/digital_map/misi.htm))