

礦務70載
70 Years of Mines Division

土木工程拓展署

Civil Engineering and Development Department


礦務
70
載
Years
of Mines Division

發展局常任秘書長 (工務) 的話

Message from the Permanent Secretary for Development (Works)

2021 年是土木工程拓展署(土拓署)轄下礦務部成立 70 週年，是這個專門部門的一個重要里程碑。礦務部與香港建造業一同成長，同事多年來以專業工作態度監管爆炸品及管理本地石礦場，對建築業界作出重大貢獻，我謹此衷心致謝。

礦務部是一個特別的部門，其專責職能不單支援基建工程的順利推展，亦與香港的節日慶典和娛樂製作等息息相關，我相信大家可以透過這本70週年特刊了解更多礦務部的日常工作。

礦務部由成立、重組到後來的合併，隨時代經歷了不少變革求新，但不變的是其務實的專業精神。我深信礦務部的專業團隊定能繼往開來，繼續為社會的發展及公眾安全努力不懈，作出貢獻。謹此祝願礦務部百尺竿頭，更進一步。

The year 2021 marks the 70th anniversary of the Mines Division under the Civil Engineering and Development Department (CEDD), an important milestone for this specialised division that has matured together with the construction industry of Hong Kong. I would like to take this opportunity to express my sincere gratitude to all of the colleagues of the division for their tremendous contributions to the industry, exemplified by the professionalism they have exhibited throughout the years regarding the regulatory control of explosives and management of local quarries.

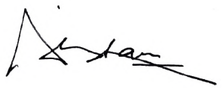
The Mines Division is a special division. Its specialised duties not only provide support for the smooth implementation of infrastructure works, but are also crucial for local festivities and entertainment production. I believe readers will know more about the daily duties of the Mines Division through this 70th anniversary commemorative booklet.

Since its establishment, the Mines Division has undergone restructuring and amalgamation with other government bodies, as well as many reforms, over time. Nevertheless, pragmatic professionalism remains its core value. I am confident that the professional team of the Mines Division will continue to go from strength to strength and work tirelessly to ensure public safety while contributing towards the development of the society. I wish the Mines Division every success in excelling itself.



劉俊傑 先生, JP
發展局常任秘書長 (工務)
Mr LAU Chun-kit, Ricky, JP
Permanent Secretary for Development (Works)

二零二一年十二月
December 2021



序言 Foreword

今年是土木工程拓展署土力工程處轄下礦務部成立 70 週年，實在非常值得紀念。身為土木工程拓展署署長兼礦務處處長，我很高興成為這件盛事的一份子。

礦務部早於 1951 年成立，前身為隸屬勞工處的「鑛務組」，歷史遠比本署悠久，而且職能獨特。礦務部專責處理一系列相關職務，包括監管第一類危險品的製造、貯存、運送及使用；營運政府爆炸品倉庫；管理本地石礦場；以及規劃本地石材供應。其職能既關乎公眾安全，又與建造業息息相關。香港的基建發展和土地平整等大型工程多涉及開山劈石、移山填海，這些工序得以順利進行，實有賴礦務部的支援。這本 70 週年特刊正好讓大家回顧礦務部的歷史與演變，並對它現在的職能和責任有更深入的了解。當中一些歷史照片呈現的不單是昔日礦務工作的點滴，更是香港人默默耕耘的精神，彌足珍貴。

最後，我感謝礦務部同事悉心製作此特刊。希望各位讀者和我一樣，喜歡這本特刊。

This year marks the memorable occasion of the 70th anniversary of the Mines Division under the Geotechnical Engineering Office of the Civil Engineering and Development Department (CEDD). As Director of Civil Engineering and Development and Commissioner of Mines, I am delighted to be a part of this memorable event.

The Mines Division is entrusted with unique responsibilities and has a rich history that long predates the Department. The Mines Division was established in 1951 as the "Mines Section" under the Labour Department. The Mines Division has been responsible for highly specialised tasks, including regulatory control of manufacture, storage, conveyance and use of Category 1 Dangerous Goods; operation of the Government Explosives Depots; management of local quarries; and planning of local aggregate supply. Its specialised functions are related not only to public safety but also closely to the construction industry. In Hong Kong, large-scale projects such as infrastructure development and site formation usually involve mountain cutting, rock breaking, hills levelling and reclamation, and the support from the Mines Division is crucial for the smooth implementation of these works. This 70th anniversary commemorative booklet allows us a review of the history and evolution of the Mines Division for a better understanding of its present roles and responsibilities. Some of the precious historical photographs published in this booklet not only bring back memories of the Mines Division in the past, but also capture the down-to-earth and hardworking attitude embraced by Hong Kong people.

Lastly, I would like to extend my appreciation to the colleagues of the Mines Division for producing this commemorative booklet. I hope you will enjoy reading it as much as I do.



李偉彬 先生, JP
土木工程拓展署署長及礦務處處長
Mr LEE Wai-bun, Albert, JP
Director of Civil Engineering and Development and Commissioner of Mines

二零二一年十二月
December 2021



序言 Foreword

政府的礦務工作歷史悠久。能夠加入礦務部的大家庭，幾年來與本部同事共同努力，支援本港發展，我由衷感到榮幸。

礦務部大部分工作，都與岩土工程有密切關係。除此以外，礦務部也負責監管工業用爆炸品及爆竹煙花製品，工作除涉及專門知識外，也需要與其他專業部門和紀律部隊協作，殊不簡單。屈指一算，礦務部已成立 70 年。昔日一些礦務工作，今天已經成為歷史。不過，礦務部傳承了前人的寶貴經驗和智慧，努力開拓新的工作領域和迎接不同挑戰，以回應時代的需要。近年，我們開展與混凝土新技術相關的研究和地下採石先導計劃，這些專案對建造業界的未來影響深遠。與此同時，礦務部亦與時並進，應用各種創新科技，最近更推出電子化的爆炸品牌照及許可證管理系統，為服務使用者帶來前所未有的便利。

我感謝礦務部同事將本部 70 年來的工作點滴結集成這本特刊，希望大家可以一同在本特刊中回顧本部歷史，從中審視現在，思考未來。

The Government has a long history of administration of quarrying matters. It is my honour to join the Mines Division and work alongside my colleagues throughout the past few years to provide support for the development of Hong Kong.

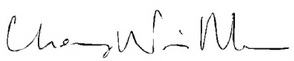
The majority of duties of the Mines Division are closely related to geotechnical engineering. The Division is also responsible for regulatory control of explosives for industrial use and manufactured fireworks. This daunting duty requires specialised knowledge and collaboration with other professional departments and the disciplined services. The Mines Division has been established for 70 years. Looking back, some duties of the Division have already become part of the history. Nevertheless, with the valuable experience and wisdom passed down from our predecessors, we strive to explore new areas of work and take on different challenges to address the needs of our time. In recent years, we have embarked on new projects that have far-reaching impact on the future of the construction sector, such as the commencement of studies related to new concrete technology and the launch of pilot underground quarrying schemes. Meanwhile, the Mines Division also keeps abreast of new innovative technology. An electronic system for licensing and management of explosives has been launched recently, bringing unprecedented convenience to our clients.

I would like to thank my colleagues for producing this commemorative booklet and guiding us down the memory lane of the Mines Division over the past seven decades. I invite you to read this booklet and savour the Division's history, a foundation upon which we can review the present and consider the way forward.



張偉文 博士, JP
土力工程處處長及副礦務處長
Dr CHEUNG Wai-man, Raymond, JP
Head of Geotechnical Engineering Office
and Deputy Commissioner of Mines

二零二一年十二月
December 2021



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礦務部今昔 The Mines Division: Then and Now

1



1.1 礦務部的誕生與蛻變
Establishment and Transformation of the Mines Division

19 世紀中葉，香港正值開埠初期，城市建設需要大量石材，當時政府因此決定就地取材在發展區附近開發多個石礦場。最早關於香港石礦業的紀錄，可追溯至 1841 年的人口普查資料。花崗岩石塊為香港早期建築物、擋土牆、水塘及 海堤的主要建築材料。

在 1940 年代，香港出現了相當程度的非法採礦，導致政府在土地特許權使用費和租賃等方面的收入有所損失。到了 1951 年，政府認為有需要對本地採礦和採石作業實行嚴格規管，以保障政府的經濟利益，同時也有助保障業內工人的健康和安全。因此，政府在勞工處轄下成立了「鑛務組」，以監管採礦作業。到了 1954 年，「鑛務組」改名為「鑛務處」。其後，鑛務處經過多次的重組及更名，並於1991年歸入土木工程拓展署 (當時為土木工程署)，現稱「礦務部」。到了 2021 年，「礦務部」自 1951 年成立以來已運作了 70 年，主要由土力工程師與爆炸品主任組成的團隊提供服務。



都爹利街石階
Duddell Street Steps



西營盤社區大樓
Sai Ying Pun Community Complex

Hong Kong began to develop in the mid-19th century during which time the city needed an abundant amount of stone materials. The Government therefore started quarrying at a number of sites near the development areas. The earliest reliable records relating to quarrying in Hong Kong came from a census conducted in 1841. In the early days, granite blocks were used for constructing buildings, retaining walls, reservoirs and seawalls.

In 1940s, there was a considerable degree of illegal mining taking place, resulting in the loss of revenue to the Government on royalties, leases and so forth. In 1951, the Government considered that the time had come to enhance management and control of local mining and quarrying, not only in the interests of the economic benefit of the Government, but also of the health and safety of workers engaged in the industry. The Mines Section was therefore set up under the Labour Department to exercise control over mining operations. In 1954, the Mines Section was renamed the Mines Department. Subsequently, after a number of restructuring and renaming, the Mines Department was placed under the Civil Engineering and Development Department (the then Civil Engineering Services Department) in 1991, and is now known as the Mines Division. In 2021, the Mines Division has operated for 70 years since its first establishment under the Labour Department in 1951 and provides services mainly by a team of geotechnical engineers and explosives officers.

(任命鑛務總監
Superintendent of Mines was appointed)

1951 鑛務組，勞工處
Mines Section, Labour Department

(成立鑛務處處長
Commissioner of Mines was established)

1954 鑛務處，勞工處
Mines Department, Labour Department

Before 1966年前 石礦組，土木工程處，工務司署
Quarries Section, CEO, PWD

1977 鑛務科，勞工處
Mines Division, Labour Department

1977 石礦組，土力工程處，工程拓展署
Quarries Section, GCO, EDD

(鑛務科的行政管理由土木工程署執行
Mines Division was administratively placed under CESD)

1990 鑛務科，土力工程處，土木工程署
Mines Division, GCO, CESD

(法定權力轉移，鑛務科正式歸入土木工程署
Statutory powers transferred and Mines Division was officially placed under CESD)

1991 鑛務及石礦部，土力工程處，土木工程署
Mines and Quarries Division, GCO, CESD

(土木工程署與拓展署合併成為土木工程拓展署
CED merged with TDD to form CEDD)

2004 礦務部，土力工程處，土木工程拓展署
Mines Division, GEO, CEDD

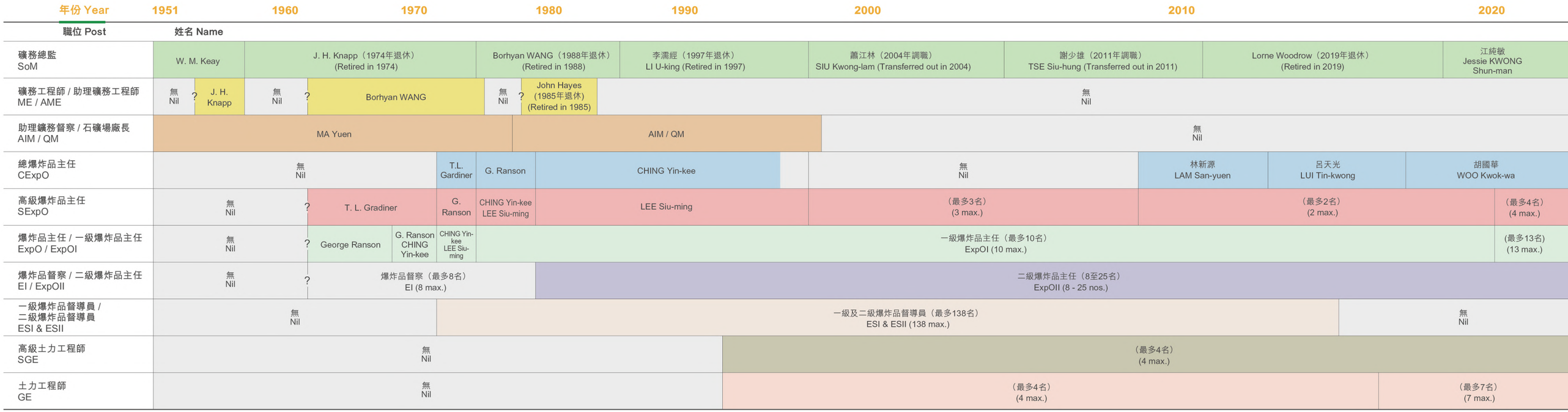
2021 礦務70載 Years of Mines Division

1.2 架構的演變 Evolution of the Organization

今天，礦務部以總土力工程師為首，轄下分為 3 組，而各組則由 1 名高級土力工程師負責。

Today, Mines Division is headed by a Chief Geotechnical Engineer. The Division comprises 3 Sections, with each Section managed by a Senior Geotechnical Engineer.

1951至2021年間礦務部要員 Key Staff of the Mines Division between 1951 and 2021



圖例 Legend：

？實際年期不詳（依記錄推斷）
Year demarcation not certain (inferred from records)

註 Note：

不包括石礦場監管人員
Supervisory staff for quarries not included

1.3 專責職能・任重道遠 Responsibilities and Duties

礦務部的工作範疇涉及若干專門領域，包括監管第一類危險品(爆炸品及爆破劑)、管理政府爆炸品倉庫和本地石礦場，以及審視石材供應策略。其專責職能既關乎公眾安全，又與建造業及一些大型基建工程息息相關。礦務部乃行使法例授予礦務處處長的權力並執行處長在法例上的職責，代表礦務處處長按《危險品條例》負責監管爆炸品的製造、貯存、運送(陸路)和使用，並向其他政府部門提供涉及爆炸品(包括煙花匯演)的技術支援。

礦務部每年平均發出超過 7,700 張危險品牌照及許可證，並進行約 800 次工地視察爆破工作，當中涉及的爆炸品數量超過 810 噸。

The work of the Mines Division involves certain specialised fields, including the control of Category 1 Dangerous Goods (explosives and blasting agents), management of the government explosives depots and local quarries, and review of quarry rock supply strategy in Hong Kong. Its specialised functions are related to public safety as well as the construction industry and some large-scale infrastructure projects. The Mines Division exercises powers vested in the Commissioner of Mines (CoM) and performs duties imposed on the CoM under the legislation. The Mines Division, on behalf of the CoM is the regulatory authority for the manufacture, storage, conveyance (on land) and use of explosives under the Dangerous Goods Ordinance. It is also responsible for providing technical support to other government departments on matters relating to explosives, including fireworks displays.

Each year, the Division issues an average of over 7,700 licences and permits for dangerous goods, and conducts about 800 blasting site inspections, involving over 810 tonnes of explosives.



狗虱灣政府爆炸品倉庫
Kau Shat Wan Government Explosives Depot



隧道爆破
Blasting in tunnel



典型石礦場
A typical quarry site



維港煙花匯演
Fireworks display at Victoria Harbour

爆炸品掠影
A Glimpse of Explosives

2

2.1 香港的爆炸品監管
Control of Explosives in Hong Kong

甚麼是爆炸品?

今天，聯合國及香港法例均有就爆炸品作出定義:

〉 聯合國規章範本：爆炸性物質（或混合物），是一種固態或液態物質（或物質的混合物），本身能夠通過化學反應產生氣體，而產生氣體的溫度、壓力和速度之大，能對周圍環境造成破壞。

〉 《危險品條例》第 295 章：爆炸品包括任何為藉爆炸而產生實際效果或為產生煙火效果而使用或製造的物質。

What are Explosives?

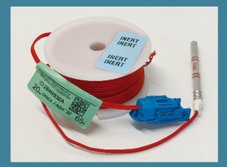
Today, both the United Nations and the Hong Kong Legislation define explosives as follows:

〉 UN Model Regulations: Explosives substance (or mixture) is a solid or liquid substance/mixture which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings.

〉 Dangerous Goods Ordinance Cap 295: Explosive includes any substance used or manufactured with a view to producing a practical effect by explosion or a pyrotechnic effect.

炸藥的用途 Uses of Explosives

1. 岩石爆破 Rock Blasting



電子雷管
Electronic detonator



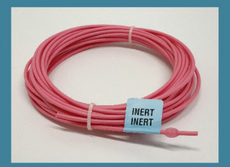
非電雷管
Non-electric detonator



條裝乳化炸藥
Cartridge emulsion explosives



起爆柱
Cast boosters



導爆索
Detonating cord

2. 娛樂 Entertainment



煙花
Fireworks

3. 彈藥 Ammunition



子彈
Bullets

4. Industrial Use



電纜戳穿器
Cable spiker

5. 救生 Life-saving



安全氣袋
Airbag



安全帶預拉系統
Seat belt pre-tensioner



求生訊號彈
Distress signals

爆炸品監管掠影
Highlights in Explosives Control

Before 1850前 > 1851-1900 > 1901-1950 > 1951-1960 > 1961-1970 > 1971-1980 > 1981-1990 >

1848

監管火藥製造及管有的**《火藥條例》**實施，總緝捕官負責發出管有火藥相 關牌照。

The **Gunpowder Ordinance** regulating the manufacture and possession of gunpowder was enacted, and the Chief of Police was the licensing authority for possession of gunpowder.

1867

《1867年火藥貯存條例》在一宗於昂船洲附近停泊的火藥貯放舢板發生嚴重爆炸後實施。

The **Gunpowder Storage Ordinance 1867** came in force after a disastrous explosion of a gunpowder storing junk moored near Stonecutters Island.

1873

《1873年危險品條例》實施，規管範圍特別涵蓋危險品的貯存、管有及運載。在法例監管下，火藥爆炸品、炸藥、黃色炸藥及雷管 等被列為危險品。

The **Dangerous Goods Ordinance 1873** was enacted, covering inter alia storage, possession, transport of dangerous goods. Under the Ordinance, explosives of gunpowder, blasting powder, dynamite, detonators, etc. were regarded as dangerous goods.

1875

英國通過**《爆炸品法》**，**《香港危險品條例》**或參考該條例成立。

The UK passed the **Explosives Act**. Development of the **Hong Kong Dangerous Goods Ordinance** appears to have been based on the UK Act.

1901

規管此等物料製造、出售及運輸的**《火藥及煙花條例》**實施。

Gunpowder and Fireworks Ordinance regulating the manufacture, sale and transportation of these materials was enacted.

1903

修訂後的**《1899年商船整併條例》**新增條文，成為首項打擊以爆炸品捕漁的法例。**《1911年漁業(炸藥)條例》**隨後實施。

Merchant Shipping Consolidation Ordinance 1899 was amended with an addition as the first legislation against fishing with explosives. **The Fisheries (Dynamite) Ordinance 1911** was then enacted.

1964

《危險品條例》及相關附屬法例的修改大致完成，並接近現今沿用的一套。

Development of the **Dangerous Goods Ordinance and its subsidiary legislation** to the present form appears to have been completed.

爆破意外率高企，引爆手訓練課程需求有增無減。

The need of training courses for shot firers was raised due to high blasting accident rate.

1965

《香港爆破概覽：爆炸品使用指南》出版。

"Blasting in Hong Kong: A Guide for Users of Explosives" was issued.

1956

全新《1956年危險品條例》實施，以整合 / 修訂之前的法例。

A **new Dangerous Goods Ordinance 1956** was enacted to consolidate/amend the previous legislation.

1966

鑛務處開辦**引爆手訓練課程**。

The Mines Department started new **training courses for shot firers**.



官塘石礦場的爆石工程（攝於1956年）
Rock blasting at Kwun Tong Quarry (Photo taken in 1956)

1967

鑑於發生社會動蕩及工地爆炸品失竊事件，當局禁止設立臨時工地爆炸品倉庫。爆炸品安全事宜由警務處（包括輔警）及民安隊負責。同年，**《1967年緊急（煙花）規例》**亦通過，禁止公眾人士管有煙火。

Temporary site storage of explosives ceased due to social disruption and theft of explosives from site magazines. Security of explosives rested with the Police (including the Auxiliary Police) and Civil Aid Service. In the same year, the **Emergency (Firework) Regulations 1967** were also passed to ban the possession of fireworks by members of the public.

1975

1975年5月，**煙花匯演因英女皇訪港獲批**，為1967年暴動後首次舉行的煙花匯演。

A **fireworks display was permitted for the Royal Visit** in May 1975, the first after the social disruption in 1967.

1982

1967年暴動後的**首次農曆新年煙花匯演**獲批舉行，隨後每年農曆 新年及其他慶祝活動中均有煙花匯演。

1st Chinese New Year fireworks display was permitted since the 1967 social disruption. Since then, fireworks displays have taken place in CNYs and other celebratory events.

1984

首次陸上煙花匯演為慶祝八佰伴百貨公司開幕於沙田舉行。

1st fireworks display on land took place in Shatin for the opening of Yaohan department store.

康山發生爆破意外後，當局要求**強制使用爆破防護籠 / 垂直屏障（排柵）**。

Use of blasting cages/vertical screens was required after the blasting incident at Kornhill.

爆炸品監管掠影
Highlights in Explosives Control

1991

筲箕灣海澄街爆破工程導致有人因岩石崩塌受傷。事件發生後，當局**訂立爆破評估要求**。

A rock slide causing an injury occurred due to blasting in Hoi Ching Street, Shau Kei Wan. After the incident, the **requirement for a Blasting Assessment was introduced**.

2003

佐敦谷飛石事件導致有人受傷，當局隨後公布**爆破工程須由爆破工程師、工程地質學家及合資格爆破督導員**監督，並由一名合資格人士擬訂**施工方法說明書**。

A flyrock incident causing injuries occurred at Jordan Valley. **Requirements for supervision by Blasting Engineers, Engineering Geologists and Blasting Competent Supervisors** as well as preparation of a **method statement** by a Competent Person were then promulgated.

2012-2021

《**危險品條例**》（**第295章**）**的修訂**令香港的危險品分類跟從國際標準（即**聯合國橙書**）。

Amendment to DGO (Cap. 295) to align the classification of DGs in HK with the international standards (i.e. the **UN Orange Book**).

2011

當局要求為爆炸品運輸車加裝全球定位系統以加強保安。

GPS system was required for explosives delivery vehicles to enhance security.



1991-2000 > 2001-2010 > 2011-2021 >

1998

當局委託第三方機構為**狗虱灣政府爆炸品倉庫進行獨立安全審核**，確保其安全營運。

An independent safety audit was commissioned to ensure the safe operation of the **Kau Shat Wan Government Explosives Depot**.

2005

爆破規例顧問委員會成立，與業界人士商討爆炸品及爆破相關事宜。

The Consultative Group on Blasting Regulations was established to discuss with the industry for issues relating to explosives and blasting.

2006

訂立了**就爆破工程提交投標前「爆破評估報告」**的規定。

The requirement of a **pre-tender blasting assessment report for blasting** works was promulgated.

2009

當局提供相關**訓練課程**，應對引爆手及合資格爆破人員短缺問題。

Training courses were arranged to address the shortage of shot firers and competent blasting-related personnel.

2010

當局要求駐場人員團隊必須包括**駐工地爆炸品督導員**。

Resident Explosives Supervisors were required as part of RSS team.

《危險品條例》（第 295 章）的修訂時序 Timeline for Amendments to Dangerous Goods (DG) Ordinance (Cap. 295)

1956	2002	2012	2021
第 295 章 — 《危險品條例》 Cap. 295 — Dangerous Goods Ordinance	第 295 章 — 《危險品(修訂)條例》 **(將於2022年實施)** Cap. 295 — DG (Amendment) Ordinance 2002 **(to be implemented in 2022)**	–	第 295 章 — 《2021年危險品（雜項修訂）條例》 **(將於2022年實施)** Cap. 295 — DG (Miscellaneous Amendments) Ordinance 2021 **(to be implemented in 2022)**
第 295A 章 — 《危險品（適用及豁免）規例》 Cap. 295A — DG (Application and Exemption) Regulation	–	第 295E 章 — 《2012 年危險品（適用及豁免）規例》 **(將於2022年實施)** Cap. 295E — DG (Application and Exemption) Regulation 2012 **(to be implemented in 2022)**	第 295E 章 — 《2021 年〈2012 年危險品(適用及豁免)規例〉（修訂）規例》 **(將於2022年實施)** Cap. 295E — DG (Application and Exemption) Regulation 2012 (Amendment) Regulation 2021 **(to be implemented in 2022)**
第 295B 章 — 《危險品（一般）規例》 Cap. 295B — DG (General) Regulation	–	–	第 295G 章 — 《危險品（管制）規例》 **(將於2022年實施)** Cap. 295G — DG (Control) Regulation **(to be implemented in 2022)**
第 295C 章 — 《危險品（船運）規例》 Cap. 295C — DG (Shipping) Regulation	–	第 295F 章 — 2012 年危險品（船運）規例》 **(將於2022年實施)** Cap. 295F — DG (Shipping) Regulation 2012 **(to be implemented in 2022)**	–
第 295D 章 — 《危險品（政府爆炸品倉庫）規例》 Cap. 295D — DG (Government Explosives Depots) Regulation	沒有變更 Unchanged		

2.2 爆炸品的貯存
Storage of Explosives



狗虱灣政府爆炸品倉庫
Kau Shat Wan Government Explosives Depot



九龍政府爆炸品倉庫
Kowloon Government Explosives Depot

香港有兩個政府爆炸品倉庫:

地點	大嶼山	沙田嶺
投入使用年份	1997 年	1969 年轉至鑛務處轄下
最高貯存量	共有 10 個地下貯存所及 8 個地面貯存所，最高貯存量達淨爆炸品含量 500 公噸	倉庫規模較小，有 8 個地面貯存所，最高貯存量為淨爆炸品含量 1.3 公噸
主要貯存品	爆破用爆炸品及充公之煙花爆竹	臨時貯存爆炸品、煙花爆竹及煙火特別效果物料

此外，隧道爆破工程及其他有特別規定工地的承建商，亦可向礦務部申請設置工地爆炸品貯存所，用作臨時貯存爆炸品，使安排爆破工作時更靈活。這些領有牌照的工地倉庫稱為「甲類貯存所」；而貯存不超過 20,000 發安全彈藥筒及小型槍械彈藥筒，以及不超過 200 公斤爆竹及煙花製品的貯存所則稱為「乙類貯存所」。

There are two government explosives depots in Hong Kong:

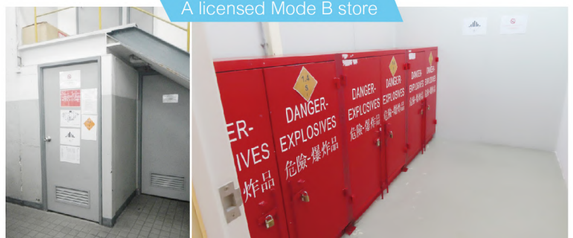
Location	Lantau Island	Sha Tin Heights
Year of commissioning	1997	Transferred to the Mines Department in 1969
Storage capacity	A total of 10 underground magazines and 8 surface magazines, with a notional storage capacity of 500 tonnes of net explosives content	A smaller depot with 8 surface magazines, with a notional storage capacity of 1.3 tonnes of net explosives content
Main storage items	Blasting explosives and confiscated fireworks	Temporary storage of explosives, fireworks and pyrotechnic special effects materials

In addition, contractors of tunnel blasting works and other sites with special requirement can also apply to the Mines Division to set up a site magazine for the temporary storage of explosives which may give the contractor more flexibility in scheduling blasting works. These licensed site magazines are called Mode A stores, while stores for safety cartridges and cartridges for small arms not exceeding in the aggregate 20,000 rounds, or manufactured fireworks not exceeding in aggregate 200 kg, are called Mode B stores.

典型領有牌照的工地倉庫（甲類貯存所）
A typical licensed site magazine (Mode A store)



領有牌照的乙類貯存所
A licensed Mode B store



同事現身說法:

「走私」救生煙霧彈

轉眼間已在礦務部工作 10 年了。記得有一次在狗蝨灣政府爆炸品倉庫負責銷毀一批走私充公的海上救生煙霧彈，我們拉開煙霧彈的保險絲，待它釋出煙霧後便立刻放進密封的容器裡。雖然銷毀步驟十分簡單，但我們每天仍一絲不苟穿好防護衣物，包括面罩、口罩和手套等，確保能安全完成任務。

包裝上的標籤聲稱噴出的煙霧可以維持 3 至 5 分鐘，以便在海上求生時較容易被救援人員發現。可是我們在銷毀煙霧彈的過程中卻發現煙霧往往只能維持 1 至 2 分鐘，有些煙霧彈甚至完全沒有釋出煙霧！這次經歷令我覺得我的工作份外有意義，銷毀了這些「走私」煙霧彈，它們才不會流出市面，遺禍人間。

署理一級爆炸品主任羅德健

Sharing by Colleagues:

Smuggled Smoke Signals

It has already been 10 years since I started working in the Mines Division. I recalled that I had worked at the Kau Shat Wan Government Explosives Depot for a period of time, destroying a batch of smuggled marine smoke signals that had been confiscated. We had to pull out the safety fuse of the signals, allow them to give off smoke and put them inside sealed containers immediately. The task was very simple, but we had to make sure it was completed safely. Therefore, we wore personal protective equipment properly throughout the procedure, including face shields, masks and gloves.

The labels on the signals claimed that the smoke could last for 3 to 5 minutes to facilitate detection of persons in distress at sea by the rescuers. However, we found out in the destruction process that in most of the cases, the smoke could only last 1 to 2 minutes, and some of the signals were even nonfunctional. This made me realise that my duty was very meaningful. Only after these signals had been destroyed could ensure that they would not end up in the hands of those who truly needed them.

LAW Tak-kin
Acting Explosives Officer I



香港爆炸品貯存一瞥
A Glimpse of Explosives Storage in Hong Kong



興建中的萬宜水庫（攝於1974年）
Construction of High Island Reservoir in progress (Photo taken in 1974)

1867

1867 年以前，所有進口火藥均貯存於停泊昂船洲附近的**一艘私人舢板**上。舢板發生嚴重爆炸後，政府接管火藥貯存，並購入一座**大型貯存所**（停泊於昂船洲附近），成為**最早期的政府爆炸品倉庫**。

Prior to 1867, all imported gunpowder was stored in **a privately owned junk** moored near Stonecutters Island. The Government took control of gunpower storage after a disastrous explosion of the junk, and purchased **a hulk** (anchored off Stonecutters Island) as the **earliest Government Explosives Depot**.

昂船洲一座**舊監獄**亦用作彈藥貯存所。

An **old jail** on Stonecutters Island was also used for gunpowder storage.

1876

昂船洲一座**火藥庫**落成。

A **gunpowder magazine** was built on Stonecutters Island.

1964

海事處處長及危險品常務委員會決定**減少青洲爆炸品倉庫的貯存量**，並計劃另覓倉庫地點。

The Director of Marine and the Dangerous Goods Standing Committee decided to **reduce the storage capacity of the Green Island Explosives Depot** and sought to relocate the depot.

Before 1900前 > **1901-1950** > **1951-1960** > **1961-1970** >

1906

青洲火藥（爆炸品）倉庫落成。

The **Green Island Gunpowder (Explosives) Depot** was established.



青洲火藥倉庫（攝於1970年代）
The Green Island Gunpowder Depot (Photo taken in 1970s)

1965

船灣水上爆炸品倉庫落成。其後被移至糧船灣作為興建萬宜水庫之用，並於 1989 年退役。

The **Plover Cove Floating Magazine** was established. It was later relocated to High Island for the construction of the High Island Reservoir and decommissioned in 1989.

1967

因發生社會動蕩及工地爆炸品失竊事件，**當局停止設立臨時工地爆炸品貯存倉**， 並於 1967 年 8 月下旬把工地爆炸品貯存倉的所有爆炸品轉運至青洲爆炸品倉庫貯存。

Temporary site magazines were banned due to social disruption and thefts of explosives from site magazines. All explosives in site magazines were then transferred to the Green Island Explosvies Depot for storage in late August 1967.

1969

海事處轄下的**青洲爆炸品倉庫**由鑛務處接管。

The Mines Department took over responsibilities for the **Green Island Explosives Depot** from the Marine Department.

同年，**九龍政府爆炸品倉庫**亦由鑛務處接管，並於 1976 年用作地鐵觀塘綫項目的爆炸品貯存所。

In the same year, the **Kowloon Government Explosives Depot** was transferred to the management of the Mines Department and was used as an explosives magazine for the MTR Kwun Tong Line project in 1976.

香港爆炸品貯存一瞥
A Glimpse of Explosives Storage in Hong Kong

1975

英軍同意於昂船洲放置若干工業用爆炸品，**以便停用青洲爆炸品倉庫**。
The British Army agreed to store some industrial explosives on Stonecutters Island to facilitate the **decommissioning of the Green Island Explosives Depot**.

1981

青洲爆炸品倉庫退役。
The Green Island Explosives Depot was decommissioned.

畢拉山爆炸品倉庫（政府）因應地鐵港島綫爆破工程落成，並於 1985 年停運。
The **Mount Butler Explosives Depot (Government)** was established to facilitate blasting works for the MTR Island Line. It ceased to operate in 1985.

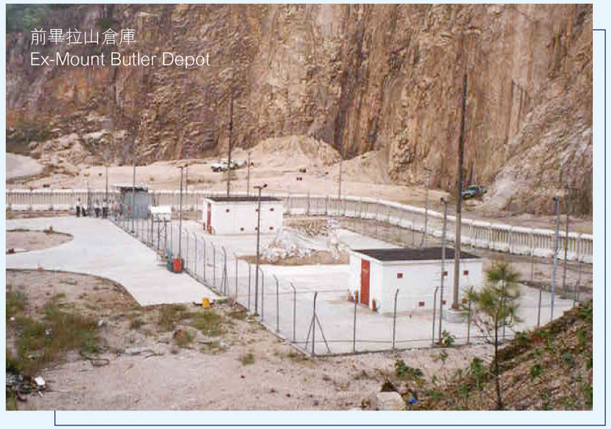
1990

赤鱲角臨時政府爆炸品倉庫因應機場項目落成，並於 1995 年停運。
A **temporary Government explosives depot at Chek Lap Kok** was set up for the airport project. It ceased to operate in 1995.

1997

鑑於昂船洲的軍事設施主權於 1997 年移交中國人民解放軍，**狗虱灣獲選為政府爆炸品倉庫**新址。狗虱灣政府 爆炸品倉庫於 1997 年開始運作。
Kau Shat Wan was chosen as the new government explosives depot site due to the handover of military facilities on Stonecutters Island to PLA in 1997. The **Kau Shat Wan Government Explosives Depot** has started opeartion since 1997.

> 1971-1980 > 1981-1990 > 1991-2000 >


前畢拉山倉庫
Ex-Mount Butler Depot

1998

畢拉山甲類貯存所因應地鐵鰂魚涌延伸項目於 1998 年投入服務，並在 2000 年工程完成後隨即移交予香港警務處。現時是香港警務處的爆炸品處理課基地。
The **Mount Butler Mode A Store** was established in 1998 for the MTR Quarry Bay Extension project. It was then handed over to the HKPF after completion of the project in 2000. It is now the base of the Explosive Ordnance Disposal Bureau of the HKPF.

1999

百勝角甲類貯存所因應地鐵將軍澳綫落成，並於 2001 年 1 月停運。
Pak Shing Kok Mode A Store was established for the MTR TKO Line. It ceased to operate in January 2001.


百勝角
Pak Shing Kok

2000

海安路甲類貯存所因應西鐵線（大欖隧道段）工程落成，並於2001年3月關閉。
Hoi On Road Mode A Store was established for the West Rail Line (Tai Lam Tunnel Section). It was closed in March 2001.


海安路
Hoi On Road

香港爆炸品貯存一瞥
A Glimpse of Explosives Storage in Hong Kong



昔日位於楠道（現為何文田公主道）的工地火藥庫（攝於1960年代）
An old site magazine at Nairn Road (now Princess Margaret Road at Homantin) (Photo taken in 1960s)

2005

香港迪士尼樂園甲類貯存所因應煙花匯演開始營運。
The **HK Disneyland Mode A Store** commenced to operate for fireworks display.



昔日位於九龍仔的工地火藥庫（攝於1956年）
An old site magazine at Kowloon Hills (Photo taken in 1956)

2022-2026

因應搬遷沙田污水處理廠往岩洞工程而設的**亞公角甲類貯存所**將於 2022 年開始營運。
The **A Kung Kok Mode A Store** for the project "Relocation of Sha Tin Sewage Treatment Works to Caverns" will commence to operate in 2022.

2001-2010 > 2011-2020 >

2010-2016

其他甲類貯存所位於**域多利道**（2010 年 10 月至 2013 年 3 月）、**掃管笏**（2011 年 1 月至 2014 年 2 月）、**大樹下**（2011 年 7 月至 2017 年 9 月）及**將軍澳第 137 區**（2012 年 5 月至 2016 年 3 月）等。
Other Mode A stores were located at **Victoria Road** (Oct 2010 to Mar 2013), **So Kwun Wat** (Jan 2011 to Feb 2014), **Tai Shu Ha** (Jul 2011 to Sep 2017) and **TKO Area 137** (May 2012 to Mar 2016), etc.









2.3 爆炸品的運送
Transportation of Explosives



爆炸品的運送

爆炸品從海上進口至狗虱灣政府爆炸品倉庫的過程由海事處負責。貯存於狗虱灣政府爆炸品倉庫內的爆炸品，須每日由政府爆炸品運輸船運送至指定的爆炸品卸貨地點，然後再由政府爆炸品運輸車運往各爆破工地或工地爆炸品貯存所（甲類貯存所），以策安全。如甲類貯存所持牌人或燃爆許可證持有人擬以車輛經公用道路自行運送爆炸品，須按其甲類貯存所牌照或燃爆許可證的條件向礦務處處長遞交申請，以供審批爆炸品運輸車。

Transportation of Explosives

Explosives imported by sea to the Kau Shat Wan Government Explosives Depot are controlled by the Marine Department. Explosives stored at the Kau Shat Wan Government Explosives Depot are delivered daily by a government explosives delivery vessel to designated barging points. For the benefit of safety, Government explosives delivery vehicles then convey the explosives to different blasting sites or site magazines (Mode A store). If the holder of a Mode A Store Licence or a Blasting Permit intends to transport explosives by vehicle on a public road from a Mode A store to blasting sites, an application must be submitted to the Commissioner of Mines for approval of the explosives delivery vehicle.





2.4 爆破工程
Blasting Works

香港有不少基建項目均需進行爆破工程，一提到爆破工程，大家多會聯想到礦場開採、地盤平整、隧道及岩洞挖掘等工程。在爆破工程前，礦務部會因應承建商的要求，從政府的爆炸品倉庫把「條裝」炸藥和「雷管」運送到爆破現場，然後再由引爆手裝進預先鑽挖好的「炮孔」。爆破時，現場適當的位置會設置爆破防護籠和垂直屏障（排柵）等保護措施，以確保不會有飛石危害生命和財產。

Many infrastructure projects in Hong Kong require blasting, including quarrying, site formation, and tunnel and cavern excavation, etc. The Mines Division is responsible for the delivery of the required explosives from the Government Explosives Depots to the site. The cartridge explosives and detonators are then placed in predrilled blast holes by shot firers at the blast location. Protective measures, such as, blasting cages and vertical screens are provided at the blast location, with a view to protecting against flyrock affecting lives and properties.

同事現身說法:

港鐵金鐘站爆破工程－繁忙過後，寂靜而不平凡的夜晚

繁忙時間在港鐵金鐘站月台上轉車時的熙來攘往，相信大家都不會陌生。然而，大家未必知道大約在十年前，工程團隊在月台下的地底小心翼翼地挖掘，以爆破及其他方式建造「隧道中的隧道」－由金鐘至海怡半島的南港島線。當時的爆破工作十分艱巨，既要鑿開堅硬的花崗岩層，又要避免損壞近在咫尺的月台結構，我們一眾前線人員可謂如履薄冰。為了不影響鐵路的正常運作，我們往往要在列車停止服務的深夜時分，車站人去樓空，才進行爆破，而且要爭分奪秒，趕及在翌日清晨列車開始服務之前完成。不許遲，也不能錯。

現在，每當我在港鐵金鐘站沿着扶手電梯鑽進低層月台轉乘南港島線，都彷如在昔日的爆破前線「舊地」重遊，不其然地憶起那個年頭，與炸藥共渡的每個夜晚。

高級爆炸品主任李國志

Sharing by Colleagues:

Blasting Works at the MTR Admiralty Station — Silent Nights, Hectic Nights

I guess everyone is familiar with the busy interchange platforms of the MTR Admiralty Station during peak hours, where commuters jostle one another for their trains. However, only a handful of people know what it was like over a decade ago, when our project team excavated carefully under the platform to build "a tunnel inside the tunnel" — the South Island Line running from Admiralty to South Horizons, by blasting and other methods. The blasting works were arduous as we had to cut our way through the strong granite while refraining from causing damages to the platform structure nearby. It was like treading on thin ice for our frontline staff. In order not to affect the normal operation of the railway, we often had to conduct the blasting works after service hours at midnight when the station was empty, and made good use of every second so that we could complete the task before the first train early in the morning. No delay and mistakes would be allowed.

Now, whenever I take the escalator down the Admiralty Station to the platform of the South Island Line, it feels like taking a trip to the past and visiting the frontline of blasting, and memories of the many nights spent with the explosives come flooding back.

LEE Kwok-chi
Senior Explosives Officer

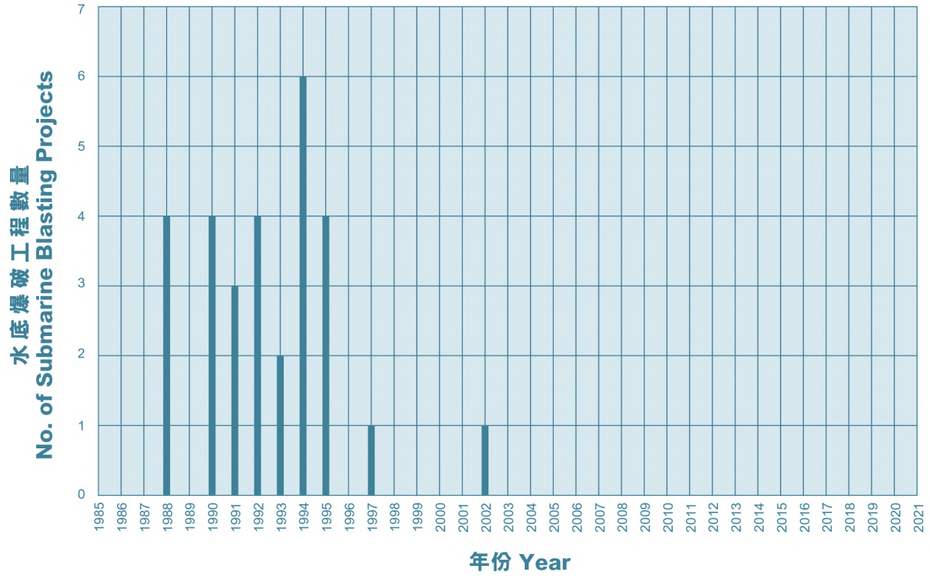


水底爆破

由 1988 年至今，礦務部共批出了 29 宗水底爆破工程牌照。最近一宗進行的水底爆破已是 2002 年渠務署位 於深井的海底污水排放管道爆破工程。渠務署當時採取了嚴謹措施，以減低爆破工程對附近水域的海洋生物的影響。工程合共燃爆了 34 更炮，香港科技大學的專業團隊全程監察，沒有在附近馬灣養魚區量度到爆破工程產生的水波壓力。

Submarine Blasting

Since 1988, the Mines Division has issued licences for 29 submarine blasting projects. The most recent submarine blasting project was the blasting of the submarine sewage pipeline in Sham Tseng by the Drainage Services Department (DSD) in 2002. DSD took stringent measures to minimize the impact of submarine blasting on marine life in nearby waters. A total of 34 blasts were fired under the project. The professional team of the Hong Kong University of Science and Technology monitored the entire blasting operation. No wave pressure produced by the blasting project was recorded near the waters of Ma Wan Mariculture Zones.



爆破拆卸

香港歷來僅有兩宗利用爆炸品以控制爆破方式拆除大型建築的案例。

第一宗工程發生在 1992 年 11 月 15 日，涉及拆卸位於屯門樂安排海水化淡廠的兩座煙囪。該爆破工程的複雜程度和所涉及的風險都較後來進行的爆破拆卸工程低。

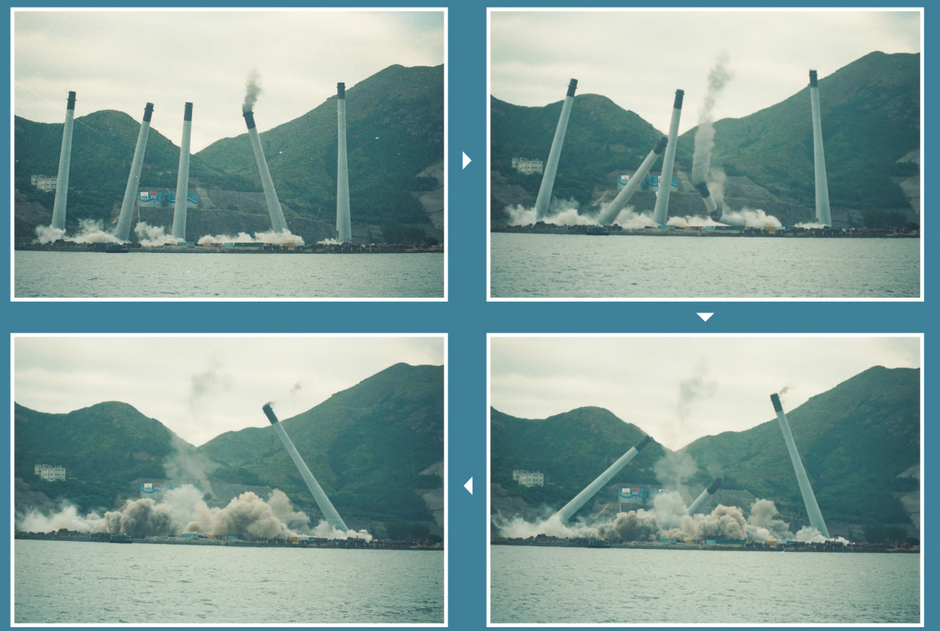
第二宗爆破拆卸工程則發生在 1998 年 11 月15 日上午 7 時 30 分，當時青衣發電廠的 5 支 130 米至 150 米高、總重量逾 20,000 噸的煙囪成功以控制爆破方式在 10 秒內被拆毀。該大型工程十分罕見，故當時獲本地媒體廣泛報導。

Demolition of Structures

There are two cases in Hong Kong where massive structures were demolished by controlled blasting using explosives.

The first case occurred on 15 November 1992 where two chimneys of the Lok On Pai seawater desalination plant in Tuen Mun were demolished. The complexity of the blasting works and the level of risk associated with the operation in this case were lower than the latter case.

The second case took place on 15 November 1998 at 7:30 am, where five chimneys of the Tsing Yi Power Station, each of 130 m to 150m tall, weighing over 20,000 tonnes in total, were demolished successfully in 10 seconds by controlled blasting. The operation, being a rare scene, was widely reported by the local media.



同事現身說法:

[經一事，長一智]難以預期的「百密一疏」爆石工程的飛石意外

從事岩石爆破工作，與炸藥「為伍」，時刻都不能掉以輕心。然而，有時難免「人算不如天算」，在爆破時發生意外。在 2003 年，位於九龍一幅用地發展工程工地，其中一次爆石進行期間，因為該爆破位置的未知特殊複雜地質狀況，即使承建商已經放置一系列防護措施，但仍有碎石從爆破位置飛向遠至 210 米以外的行車道，導致 9 人受傷以及 5 架車輛受損，當中包括一輛停站的巴士。部分路邊欄杆及工地對外路段的一個巴士站上蓋亦告損毀。當時，我們作為監管部門，盡力配合駐地盤工程師及承建商進行善後，及隨即展開詳細調查。亡羊補牢，我們事後編訂全新作業守則並更新相關指引，務求更嚴格監控位於市區內的爆破工程，另要求委派爆破工程師及其他主要人員參與大型爆破工程，進一步保障公眾安全。

香港大學房地產及建設系兼任副教授文家輝
(前礦務部同事)

Sharing by Colleagues:

Learning from Experience: Flyrock Accident Arising from Blasting Works

People involved with rock blasting works and handling explosives should stay vigilant all the time. However, sometimes unforeseeable things just happen, and accidents can occur during blasting works. Owing to the unforeseen complex geological conditions at the blast location, an accident occurred in 2003 at a development site in Kowloon when rock blasting was conducted. Although a series of flyrock protective measures had been installed, some rock fragments still managed to fly to a carriageway, up to 210 m away from the blast location, resulting in 9 people being injured and 5 vehicles being damaged, including a bus laying at stop. Some roadside railings and a bus stop canopy on the road off the site also sustained damages. At that time, we worked with the resident site staff and contractor to handle the aftermath and conducted thorough investigations immediately. Subsequent remedial actions included drawing up a new code of practice and updating relevant guidelines with a view to imposing more cautious control on blasting works within the urban areas to ensure public safety. We also started to impose provision of Blasting Engineers and other staff to participate in major blasting works thereafter.

MAN Ka-fai, Adjunct Associate Professor
The Department of Real Estate and Construction of The University of Hong Kong
(Former colleague of the Mines Division)



同事現身說法:

史上最長的失響

最難忘的是發生在 2012 年 10 月 31 日的一宗隧道爆破工地失響事件，因炮王處理電子雷管出了問題，引至部分炮孔失響。鑑於環境所限，失響炮孔內的炸藥無法取出處理，又因安全考量，不能使用大型機械挖掘，只可以人手挖掘並用水沖出填塞物。其間進行了 3 次補救爆破工序，之後再用兩日時間徹底搜索現場，最終在 2013 年 1 月 15 日確認再無炸藥遺留，長達 70 多日失響事件才告結束，這次亦是香港有紀錄以來歷時最長的失響事件。

處理失響是最危險的工序，一個失誤就可引至傷亡，所以每一個步驟都要小心安排。事件中我得到很多難得的經驗，此事亦突顯出部門工作的重要性。經此一役，令我更有信心面對將來的挑戰。我很感恩可以在礦務部工作，並以此作為終生職業！

署理高級爆炸品主任吳少明

Sharing by Colleagues:

The Longest Case of Misfire

The most unforgettable event for me was a case of misfire that happened on a tunnel blasting site on 31 October 2012. The misfire was due to a mistake on the part of the shot firer when handling electronic detonators. Site constraints rendered the explosives irrecoverable, and out of safety concerns, it was impossible to use large-scale machines for excavation, leaving us with no choice but to use specific tools for manual digging and water for flushing out the stemming. Three more remedial blasts were conducted, and we spent 2 more days afterwards for a thorough search of the site. Eventually, we confirmed that there was no unexploded explosives left on site on 15 January 2013, ending this misfire case that had lasted for more than 70 days, the longest duration on record in the history of Hong Kong.

Handling of misfire is the most dangerous work procedure, and it can take just one mistake to cause casualties. Therefore, every step must only be taken after careful deliberation. I have gained a lot of invaluable experiences from the incident, which has highlighted the importance of our work. I emerged from the incident with greater confidence to tackle challenges in the future. I am very thankful for being able to serve the Mines Division and take it as my lifelong career!

NG Siu-ming
Acting Senior Explosives Officer



2.5 煙花綻放
Fireworks Display

維港煙花匯演

香港每年農曆新年都會在維多利亞港上空進行煙花匯演。

為了短短 23 分鐘的煙花發放，礦務部同事其實早於活動舉行前數月便已展開準備工作，包括與活動籌辦者及相關部門緊密聯繫，就有關煙花匯演的技術詳情、躉船位置及裝置安排等提供專業意見，審批煙花燃放主管/助理的技術水平和煙花輸入香港的申請。

煙花匯演期間，礦務部同事需密切監督煙花燃放的情況，活動完結後仍需堅守崗位，繼續監督和搜尋躉船上及維港兩岸仍未爆發的煙花，直至所有未使用或沒有爆發的煙花被送往銷毀，任務才告結束。

Fireworks Display at Victoria Harbour

The annual Chinese New Year fireworks display has become a popular celebratory event. To facilitate a fireworks display of merely 23 minutes, colleagues from the Mines Division would start liaising with event organisers and related departments several months in advance to provide professional advice on the technical details of the fireworks display, positions of the barges and installation arrangements, examine the technical standards of the Fireworks Masters and Assistants and process the import applications of fireworks into Hong Kong.

During the fireworks display, colleagues of the Mines Division will closely monitor the discharge of the fireworks. After the show, they will stay in their positions to supervise and look for any misfired fireworks on the barges or on either side of Victoria Harbour, until all misfired fireworks are removed for destruction.


羅馬燭光
Roman Candles


禮花彈
Aerial Shells


盤花
Cakes


羅馬燭光效果
Effect of Roman Candles

禮花彈(上)及盤花(下)效果
Effect of Aerial Shells (upper) and Cakes (lower)

香港迪士尼樂園煙花匯演

由迪士尼樂園開幕至今，礦務部一直都為公眾安全把關。樂園的煙花審批、貯存、運送、使用、甚至銷毀，都與礦務部的工作息息相關。

在迪士尼煙花匯演期間，礦務部的爆炸品主任會經常到樂園內視察煙花的安裝和燃放，並跟進燃放後的狀況。未能燃放的煙花，則會被送回相關的甲類爆炸品貯存所暫時存放，待稍後送到狗虱灣政府爆炸品倉庫進行銷毀。

Fireworks Display at Hong Kong Disneyland

Since the opening of Hong Kong Disneyland, the Mines Division has been safeguarding the public by vetting the applications for approval, storage, transportation, use and even disposal of fireworks.

During the days with fireworks displays, Explosives Officers of the Mines Division will visit the park frequently to inspect the installation and discharge, and follow up on the condition after discharge. All misfired fireworks will be sent back to the related Mode A store for temporary storage before being disposed of at the Kau Shat Wan Government Explosives Depot.



同事現身說法:

急中生智，化險為夷 -「無聲」放煙花

礦務部有別於一般政府部門，辦公時間不限於朝九晚五，深夜工作絕不是新鮮事，而且不時需要處理突發事件，情況彷如急症室。猶記得在 2014 年尾，社會發生「佔中」事件，原定 10 月 1 日在維多利亞港舉行的國慶煙花匯演，在最後關頭決定取消。礦務部隨即統籌相關部門進行緊急會議，商討如何處理本已「如箭在弦」的煙花。在各方出謀獻策的努力下，終於制定出快捷，可行又安全的方案，就是把安裝好在躉船上的煙花運到大嶼山以南的大鴉洲，在兩日內分 5 批銷毀。在過程中，雖然曾引發過幾處小山火及被傳媒追蹤，最後都化險為夷，煙花就在「無聲」之中化作了輕煙。

總爆炸品主任胡國華



Sharing by Colleagues:

Quick Wit to Defuse Crisis — A "Silent" Fireworks Display

The Mines Division differs from other normal Government departments in that its working hours are not confined to the usual 9-to-5 pattern. Working late into the night is definitely not a new thing, and like an emergency room, the Division is often required to handle emergency situations. I recall that towards the end of 2014, the "Occupy Central" event took place and the National Day Fireworks Display, originally scheduled to be held on 1 October over the Victoria Harbour, was cancelled at the very last minute. The Mines Division immediately held meetings with relevant departments to discuss how to handle these fireworks that were so close to being launched. With the contributions of ideas from all concerned parties, we worked out a quick, feasible and safe plan of transporting all the fireworks that had already been loaded on barges to Tai A Chau, an island located south of Lantau Island, for their destruction in five batches over the next two days. During the process, a few minor cases of hill fire occurred, and the media was following up on the situation closely, but we were able to defuse the crisis eventually. All the fireworks were destroyed and went up in smoke "silence".

WOO Kwok-wa
Chief Explosives Officer

2.6 特別效果物料的規管
Control of Special Effects Materials

特別效果物料常用於電影拍攝、舞台表演等娛樂節目的特別效果製作，物料可分為煙火特別效果物料和非煙火特別效果物料。前者本質上屬於爆炸品，如：光珠、花筒、閃光粉等，而後者則是不含爆炸品成份的危險品，如：石油氣、汽油、壓縮 二氧化碳等。

在香港，特別效果物料受《娛樂特別效果條例》第560章及其附屬法例所規管，並由商務及經濟發展局轄下的創意香港電影 服務統籌科特別效果牌照組負責執行監管。特別效果牌照組由 1 名高級土力工程師、1 名高級爆炸品主任和5名爆炸品主任組成，他們都是從礦務部借調的。

Special Effects Materials (SEM) are commonly used to produce special effects in film shootings, stage performances and other entertainment programmes, which can be classified into pyrotechnic special effects materials (PSEM) and non-pyrotechnic special effects materials (non-PSEM). PSEM are of explosives in nature, such as, stars, gerbs, flash powder, etc.; whereas non-PSEM are dangerous goods without explosive contents, such as, liquefied petroleum gas, gasoline, compressed carbon dioxide, etc.

In Hong Kong, SEM are controlled under the Entertainment Special Effects Ordinance, Cap. 560 and its subsidiary legislation which are administrated by the Special Effects Licensing Unit (SELU) of the Film Services Office in Create Hong Kong under Commerce and Economic Development Bureau. SELU is staffed by a Senior Geotechnical Engineer, a Senior Explosives Officer and five Explosives Officers who are seconded from the Mines Division of CEDD.



電影拍攝中的爆炸場面
Explosion scene of film shootings

香港的石礦業 Quarrying in Hong Kong

3

3.1 本地石礦場的發展
Development of Local Quarries

1844

許可證石礦場

香港早期的石礦場採用「許可證制度」管理。香港第一次石礦場開採權的招標 / 拍賣在 1844 年舉行，當時政府以一份合約批出整個港島的石礦開採權。1862 年，政府以類似方式分別批出港島和九龍半島的石礦場開採權。

Permit Quarries

Soon after Hong Kong became a British colony, the local quarry industry was regulated using a permit system. The first tender/auction for a permit to operate a 'quarry farm' was granted in 1844. In 1862, tendering for quarries was held separately for Hong Kong Island and the Kowloon Peninsula.

1841

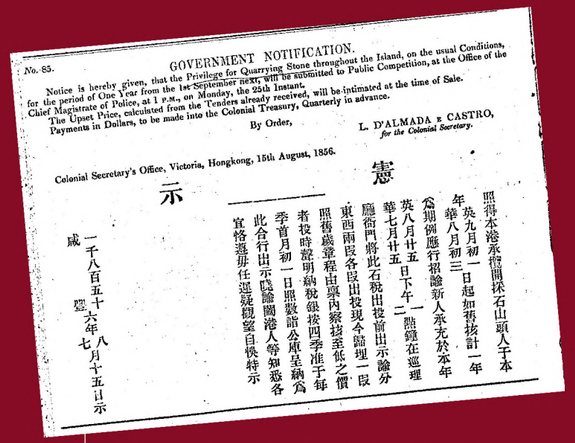
最早關於香港石礦業的紀錄，可追溯至 1841 年的人口普查資料。當時有 22% 人口是採石匠。

The earliest reliable records relating to quarrying in Hong Kong come from a census conducted in 1841. 22% of the population were masons.

1850

香港石礦場出產的花崗岩出口至南中國、澳洲及美國。石礦場以投標 / 公開拍賣方式向政府租借營運。當時政府總收入有 3.2% 是來自石礦場牌照。

Granite stones produced from quarries in Hong Kong were exported to South China, Australia and USA. Quarries operated on a system of leasing from the government through tendering/public auction. 3.2% of Government's total income was from stone quarry licences.



No. 85. GOVERNMENT NOTIFICATION.

Notice is hereby given, that the Privilege for Quarrying Stone throughout the Island, on the usual Conditions, for the period of One Year from the 1st September next, will be submitted to Public Competition, at the Office of the Chief Magistrate of Police, at 1 P.M., on Monday, the 25th Instant.

The Upset Price, calculated from the Tenders already received, will be intimated at the time of Sale.

Payments in Dollars, to be made into the Colonial Treasury, Quarterly in advance.

By Order,

L. D'ALMADA E CASTRO,
for the Colonial Secretary.

Colonial Secretary's Office, Victoria, Hongkong, 15th August, 1856.

憲示

照得本港承管開採石山頭人千本
年 英九月初一日起如有投計一年
華八月初三 為期例應行招驗新人承充於本年
英八月廿五日下午二 點鐘在巡理
華七月廿五 廳衙門將此石稅出投當出示驗分
東西兩段各段出投現今歸理一段
照舊歲章程由撫內察按至低之價
者投時聲明納稅銀按四季准于每
季首月初一日照數繳公庫呈納為
此合行出示曉諭闔港人等知悉各
宜恪遵毋任違玩望自快特示

咸 一千八百五十六年八月十五日示

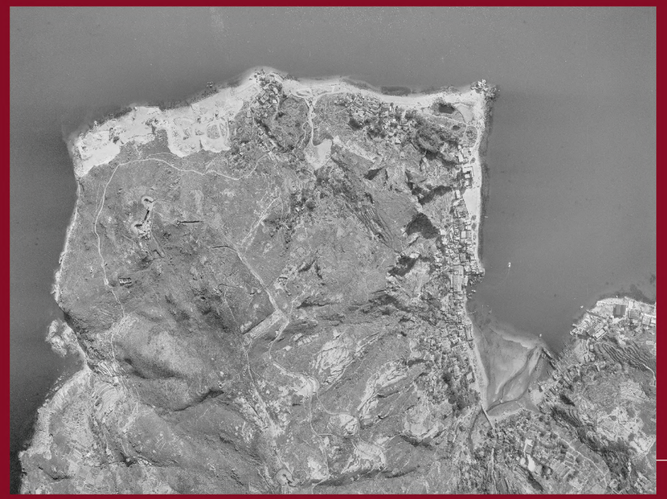
1856 年政府憲報 — 香港島石礦場開採權招標公告
Tender notification for the "privilege of quarrying stone" throughout Hong Kong Island, Hong Kong Government Gazette, 1856

1880s 年代

薄扶林及大潭水塘興建工程需要大量石料，海旁填海計劃展開後行業發展更達至巔峰。當時石礦場利用爆炸品（炸藥）開採岩石。

The construction of the Pokfulam and Tai Tam Waterworks required a large supply of stones, and the industry reached a peak when the Praya Reclamation Scheme commenced. Explosives (dynamite) were used for rock excavation in quarries.

1841-1860 > 1861-1880 > 1881-1900 >



鯉魚門一帶的石礦場
（攝於1963年）
Quarries at Lei Yue Mun
(Photo taken in 1963)

1900s 年代

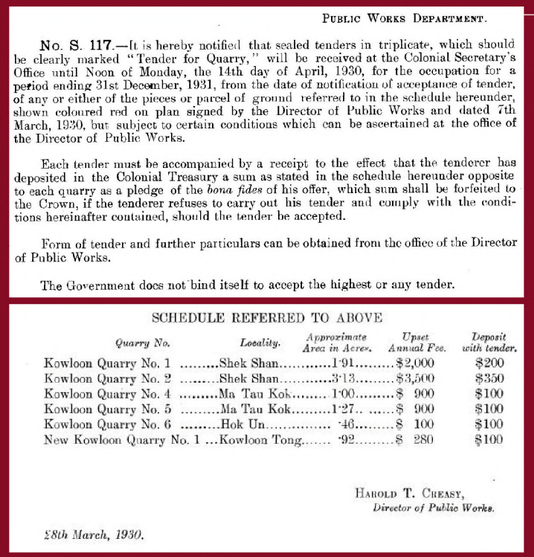
越來越多建築及工程項目使用混凝土，以致市場對石礦場生產的石料需求上升。

Use of concrete in building and works projects started to become popular, rendering an increase in demand of aggregate production in quarries.

1907

20 世紀初，政府**修改招標制度**，將港島和九龍半島的石礦場開採權按單一礦場方式逐一招標。根據紀錄，港島、九龍半島和新界在 1907 年分別有 5 個、8 個及 101 個石礦場。由於許可證並未要求營運者修復開採後的岩面，因此很多舊日的石礦場仍保留近乎垂直的岩壁，個別石礦場的開採面更高達 100 米。

In the early 1900s, the Government **revised the tendering system** and split the rights to operate quarries on Hong Kong Island and the Kowloon Peninsula into leases for individual quarries rather than the two entire areas of the territory. In 1907, the number of permit quarries on Hong Kong Island, the Kowloon Peninsula and the New Territories reached 5, 8 and 101, respectively. As no requirement for rehabilitation of the quarry face was included in the permit, this led to a legacy of high and near vertical rock faces in many old quarries, in some cases extending up to 100 m in height.



PUBLIC WORKS DEPARTMENT.

No. S. 117.—It is hereby notified that sealed tenders in triplicate, which should be clearly marked "Tender for Quarry," will be received at the Colonial Secretary's Office until Noon of Monday, the 14th day of April, 1930, for the occupation for a period ending 31st December, 1931, from the date of notification of acceptance of tender, of any or either of the pieces or parcel of ground referred to in the schedule hereunder, shown coloured red on plan signed by the Director of Public Works and dated 7th March, 1930, but subject to certain conditions which can be ascertained at the office of the Director of Public Works.

Each tender must be accompanied by a receipt to the effect that the tenderer has deposited in the Colonial Treasury a sum as stated in the schedule hereunder opposite to each quarry as a pledge of the *bona fides* of his offer, which sum shall be forfeited to the Crown, if the tenderer refuses to carry out his tender and comply with the conditions hereinafter contained, should the tender be accepted.

Form of tender and further particulars can be obtained from the office of the Director of Public Works.

The Government does not bind itself to accept the highest or any tender.

SCHEDULE REFERRED TO ABOVE

Quarry No.	*Locality.*	*Approximate Area in Acres.*	*Upset Annual Fee.*	*Deposit with tender.*
Kowloon Quarry No. 1	Shek Shan	1·91	$2,000	$200
Kowloon Quarry No. 2	Shek Shan	3·13	$3,500	$350
Kowloon Quarry No. 4	Ma Tau Kok	1·00	$ 900	$100
Kowloon Quarry No. 5	Ma Tau Kok	1·27	$ 900	$100
Kowloon Quarry No. 6	Hok Un	·40	$ 100	$100
New Kowloon Quarry No. 1	Kowloon Tong	·92	$ 280	$100

HAROLD T. CHEASY,
Director of Public Works.

28th March, 1930.



S 憲示第一百一十七號

工程司紀布告事照得現招人投票開採石塘如欲投票者須繕票三張其封面須註明係投票投石塘字樣於本年四月十四日星期一日正午以前寄至布政司署石塘之批期由通告投票允准之日起至一千九百廿一年十二月廿一日止各石塘號數開列於下投得之人須遵照專辦理該章程可署名所繪之圖內壞紅色處開列之投票者須照下列各石塘底價先交庫務司署取回收條暑詢取又凡欲投票者須照下列各石塘底價先交庫務司署取回收條以為保金即將收條與票一併寄布政司署內封固寄交庫務司署取回收條準之後保金如欲知詳細章程及投票格式可不獲不准領照將保證金充公如欲知詳細章程及投票格式可來署詢取至所投之票價格低昂由政府斟酌辦理總要不取此佈

石塘號數	地段面積約數	每年底價	保證金
九龍石塘號數一	石山 一英畝零一英畝百份之九十一	二千圓	二百圓
九龍石塘號數二	石山 三英畝一英畝百份之十三	三千五百圓	三百五十圓
九龍石塘號數四號	馬頭角 一英畝	九百圓	一百圓
九龍石塘號數五號	馬頭角 一英畝零一英畝百份之十七	九百圓	一百圓
九龍石塘號數六號	鑽圍 二英畝百份之一英畝百份之十六	一百圓	一百圓
新九龍石塘號數一號	九龍塘 二英畝一英畝百份之九十二	二百八十圓	一百圓

一千九百三十年 三月 廿八日

1930年政府憲報 —石礦場開採權拍賣公告
Notification of a public auction for the right to quarry stone, Hong Kong Government Gazette, 1930

1974

最後一個許可證石礦場 — 平山石礦場（位於佐敦谷）關閉。

The last permit quarry, Flat Hill Quarry (located in Jordan Valley), closed.

1941-1945

第二次世界大戰期間，大部份礦井及石礦場都有向日軍供應石材。

During World War II, most mines and quarries supplied rock to the Japanese army.

1901-1920 > 1921-1940 > 1941-1960 > 1961-1980 >

官塘石礦場 — 近乎垂直的開採面
（攝於1956年）
Kwun Tong Quarry — near vertical quarry face
(Photo taken in 1956)



1915

政府石礦場

政府決定自設石礦場生產石材產品，以補充私人石礦場的供應，並為政府合約承包商提供石材。首個政府石礦場設於七姊妹。

Government Quarries

The Government decided to run its own quarries for production of rock products to supplement those from private quarries and also supplied products to contractors performing Government contracts. The first Government quarry was located at Tsat Tsz Mui.

1963-1966

許可證石礦場通常規模較小及鄰近市區，每天僅可生產數百公噸碎石（現代石礦場的每天產量可達數千公噸）。由於小規模的石礦場缺乏抵禦市場風險的能力，在碎石需求下降時（1964 年後）便要停產。因此到了 1966 年，本地的 70 個許可證石礦場中，只有 37 個仍能繼續營運。

The permit quarries tended to be small and located near urban areas, which limited their output typically to a few hundred tonnes of aggregate per day (a modern quarry can produce a few thousand tonnes of aggregate per day). Because small quarries lacked the ability to hedge against market risks, they were easily forced to cease operation when the demand for aggregate dropped (after 1964). In 1966, only 37 out of 70 quarries with permits remained in operation.

合約石礦場

為確保穩定的碎石供應，政府在 1966 年重新審視石礦場政策，建議將許可證石礦場轉為合約石礦場，並推出退還許可證計劃，鼓勵小規模及已停運的石礦場交還牌照。自此，石礦業日漸規範化，並發展出多個大型石礦場，包括藍地、女婆山、南丫島、平山、石澳、安達臣道、鑽石山和畢拉山。

Contract Quarries

To secure a stable supply of aggregate, the Government reviewed the quarry policy in 1966 and embarked on a programme to phase out the award of new permits for quarry sites and replace them with contracts through open tender. Since then, the quarry industry has become gradually standardized and several large-scale quarries were developed, including Lam Tei, Turret Hill, Lamma Island, Flat Hill, Shek O, Anderson Road, Diamond Hill and Mount Butler.



前許可証石礦場 — 何文田
（攝於1963年）
Old permit quarry in Ho Man Tin
(Photo taken in 1963)

1981-1990 > 1991-2000 > 2001-2010 > 2011-2020 >

1989

石礦場的修復

所有在 1989 年後批出的石礦場合約已加入修復元素，將石礦場變成宜人的綠化區。綠化區在完工後亦適合作多種用途，惠及市民。

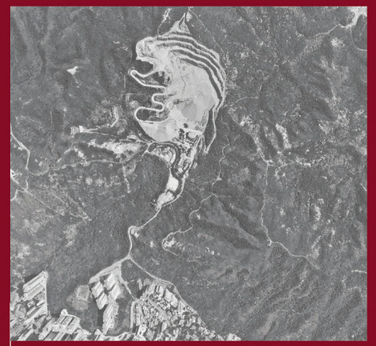
Quarry Rehabilitation Contracts

The sites of all contract quarries awarded after 1989 has been rehabilitated to form a natural environment. On completion, these areas will be suitable for a variety of uses that are beneficial to the community.

1992

位於畢拉山的最後一個政府石礦場停止營運。

The last Government quarry at Mount Butler ceased operation.



位於畢拉山的政府石礦場（攝於1992年）
Government quarry at Mount Butler (Photo taken in 1992)

1995

女婆山石礦場

位於沙田新市鎮的東北面，開採後所形成的平地面積為 4.5 公頃。其修復工程合約於 1995 年完成。昔日石礦場的土地已發展為垃圾轉運站及香港建造學院訓練場，及後香港建造學院訓練場的用地被改劃為骨灰安置所 。

Turret Hill Quarry

Located to the northeast of Shatin New Town and the platform created by quarrying is 4.5 hectares. The rehabilitation contract was completed in 1995. A portion of the site is currently used as a refuse transfer station and part, which was used by the Construction Industry Council Training Academy, will be re-developed into a public columbarium.



女婆山石礦場
（攝於1995年）
Turret Hill Quarry
(Photo taken in 1995)



女婆山石礦場
（攝於2018年）
Turret Hill Quarry
(Photo taken in 2018)

2002

南丫石礦場

位於南丫島索罟灣北面，佔地 49 公頃，並有 1 公里長的海岸線。 開採後所形成的平地面積為 24 公頃。修復工程合約於 2002 年完成。該土地現時為香港基督教青年會南丫島戶外及環保活動中心。

Lamma Quarry

Located on the north side of Sok Kwu Wan and occupies an area of 49 hectares with about 1 km of coastline. The platform created by quarrying is 24 hectares. The rehabilitation contract was completed in 2002. The site is currently the YMCA Lamma Island Outdoor Centre.



南丫石礦場（攝於2021年）
Lamma Quarry (Photo taken in 2021)

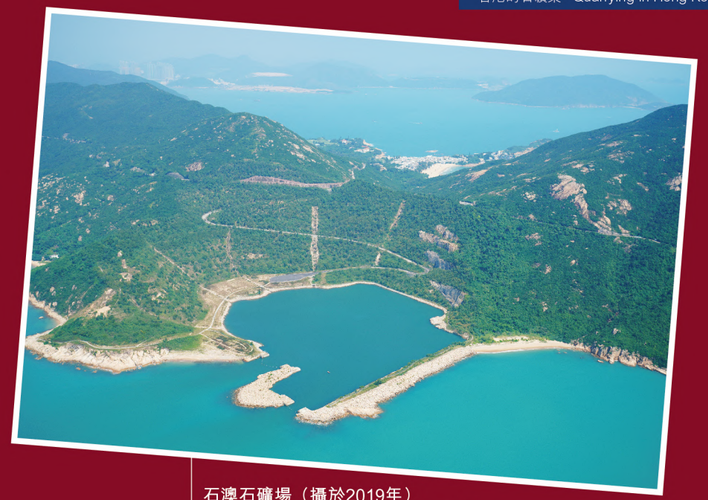
2011

石澳石礦場

位於香港鶴咀半島西岸，佔地 45 公頃。修復工程包括建造了一個人工海灣供康樂用途。該修復合約於 2011年完成。修復合約完成後，該土地預期發展為水上活動中心。

Shek O Quarry

Located on the west coast of Cape D'Aguilar Peninsula on Hong Kong Island and occupies an area of 45 hectares. The rehabilitation work included the construction of a marine cove for recreation purposes. The rehabilitation contract was completed in 2011. Subsequent to completion of the quarry contract, the site has been allocated for development of water sports complex.



石澳石礦場（攝於2019年）
Shek O Quarry (Photo taken in 2019)

2017

安達臣道石礦場

位於九龍半島大上托的西南面山脊，開採後所形成的平地面積為 40 公頃。其修復合約於 2017 年完成。完成開採及修復的安達臣道石礦場現正作房屋發展之用。

Anderson Road Quarry

Located on the south-western ridge of Tai Sheung Tok on the Kowloon Peninsula and the platform created by quarrying is 40 hectares. The rehabilitation contract was completed in 2017. The site is currently being developed for housing.



安達臣道石礦場（攝於2021年）
Anderson Road Quarry (Photo taken in 2021)

時至今日 At present...

藍地石礦場

藍地石礦場位於屯門新市鎮北面約 3 公里，是香港現時唯一一個正在營運的石礦場，其修復及綠化工程預計於2023 年完成。預計開採後所形成的平地面積約為 35 公頃。

Lam Tei Quarry

The Lam Tei Quarry, located about 3 km north of Tuen Mun New Town, is currently the only active local quarry in Hong Kong. The rehabilitation contract of Lam Tei Quarry is scheduled to be completed in 2023. After completion of the contract, the platform created by quarrying is anticipated to be 35 hectares.



藍地石礦場（攝於2021年）
Lam Tei Quarry (Photo taken in 2021)



石礦場冷知識

「揈石仔」年代

石礦場昔日的採石方法相當耗費人力，工人會先用鎚和鑿在石上開鑿石孔，再利用楔子將石塊從岩體分離，有時工人亦會利用炸藥來分裂石塊。在引入碎石機前，為了生產碎石，工人需要使用手鎚將岩石塊逐一鑿碎。早期石礦場營運者受到的規管有限，甚少考慮工人的健康和安全及開挖石礦對環境的影響。隨著政府於 1960 年代開始引入監管爆破和工地安全的法規，情況才逐漸得到改善。

「石」蹤處處

香港很多地方名稱都包含「石」字，例如石塘咀、鑽石山、打石灣（今天的鰂魚涌）、石澳、石排灣和石門，都與昔日石礦業有關。

Fun Facts about Quarries

The Era of Manual Splitting

Quarrying was traditionally a labour-intensive process. Workers would first make a series of holes in the rock mass using hammers and chisels. Steel wedges would then be driven into the holes to split the rock. This could also be done using explosives. Prior to the introduction of machinery to crush the rock, workers broke the rock down manually to produce aggregates. The conditions imposed on quarry operators under the permit system were fairly loose, with minimal consideration given to the safety and health of workers, as well as the environmental impact of the quarry operations. The situation gradually improved in the 1960s after the Government enacted regulations to better control blasting and workplace safety in quarries.

"Rock" Everywhere

Many places in Hong Kong have the word "rock" in their Chinese names, including Shek Tong Tsui, Diamond Hill, Quarry Bay, Shek O, Shek Pai Wan and Shek Mun, which indicate their connection with the quarry industry during the old days.

石礦場 Quarries

3.2 石礦場的重要性
Importance of Quarries

1980 年代之前，香港石礦場的石料產量仍足以應付本地建造業的需求，但隨著香港經濟急速發展，建造業對石料的需求亦大幅增加。到了 1990 年代，香港使用的建築石料當中從內地進口的比例約佔供應總量一半。近年來，本地石礦場陸續完成開採及修復，然而位於近港的廣東省及珠海一帶水域的石礦場也陸續完成開採。因此，為了維持對香港的石料供應，本地建造業需要從內地更偏遠的石礦場進口石料。

總括而言，本地石礦場有着策略性的重要，其角色 / 功能如下:

- 避免過度倚賴進口石料，本地石礦場亦可作為石料儲備，以應付不時之需。
- 加工生產必要的建築材料（例如：石料、混凝土及瀝青）。
- 循環再造建造工程（例如：地盤平整及隧道挖掘工程）的剩餘石材。
- 完成開採及復修後的石礦場可以釋放大片土地作不同的發展用途。

Before the 1980s, the demand for aggregates by the Hong Kong construction industry was entirely met by local quarries. Since then, with the increasing demand for aggregates to meet development needs, Hong Kong has become increasingly reliant on supplies from mainland China, reaching about 50% of local demand in the 1990s. In recent years, local quarries have been rehabilitated and closed one by one. Meanwhile, quarries in close proximity to Hong Kong located in the Guangdong Province and waters of Zhuhai are also closed successively. Consequently, the local construction industry has to source aggregates from further afield within mainland China so as to maintain the aggregate supply to Hong Kong.

Generally speaking, local quarries have strategic significance in their roles/functions as follows:

- To avoid over-reliance on imported aggregate and as storage for rock materials for contingency use.
- To process and produce necessary construction materials (e.g. aggregates, concrete and asphalt).
- To recycle surplus rock from construction projects (e.g site formation and tunneling).
- After rehabilitation, quarry sites will become a source of land supply for different development purposes.



同事現身說法:

居安思危，有備無患

突如其來的 2019 新冠疫情，使香港的經濟發展受到重創，建築業亦難逃疫情的魔爪。礙於香港和內地的封關措施及人口流動限制，海外進口的建築石材亦大受影響。在一波又一波疫情的衝擊下，石料的進口終於在 2020 年 2 月受到重擊，首次陷於停頓。礦務部當下立即聯繫藍地石礦場的承辦商增加供應，以舒緩石料的供應緊張；另一方面又與香港建築業物料聯會密切聯繫，以了解及協商應對措施。可幸是石料的短缺很快得到解決，事情亦暫告一段落。這段小插曲正好突顯出本地石礦場的重要性，在穩定石料供應方面着實有其作用，毋庸置疑。

土力工程師徐誠佑

Sharing by Colleagues:

Save for a Rainy Day

The sudden onset of the COVID-19 pandemic dealt a heavy blow to the economic development of Hong Kong, and the construction sector was not immune. Due to the closure of the border with the Mainland and limitation on the flow of people, the import of aggregates for construction from overseas has been greatly affected. Multiple waves of pandemic coupled with the restrictions on aggregates import pummelled the local construction activities in February 2020 and brought them to a halt for the first time. The Mines Division immediately contacted the contractors of Lam Tei Quarry for an increase in supply of aggregates at the local quarry. At the same time, we worked closely with the Hong Kong Construction Materials Association to understand the situation and discuss counter-measures. Fortunately, the shortage of aggregates was quickly resolved due to the reopening of the border, and the issue was settled. Brief as it seemed, the episode highlighted the importance of local quarries and showcased the function of them in stabilising the supply of aggregates.

SHU Cheng-you
Geotechnical Engineer



3.3 石礦場的未來發展
Future Development of Quarries

為循環再用本地工程項目所產生的剩餘石材，以及維持本地石料的策略性供應，政府已展開可行性研究，以物色可供開發新石礦場的地點，務求令新的石礦場能適時投入運作，以延續本地的石料生產。有關研究除需考慮技術是否可行，還需研究開發新石礦場對經濟及社會所帶來的機遇和挑戰。此外，政府亦積極探討在香港進行地下採石暨岩洞發展的可行性，為石礦業引入新概念。

In order to recycle surplus rock arising from infrastructure projects and maintain the strategic supply of local aggregates, feasibility studies have been commissioned by the Government to identify suitable sites for potential new quarries. The studies of potential quarry sites cover not only technical feasibility, but also the socio-economic opportunities and challenges of setting up new local quarries. In addition, the Government has been actively exploring the feasibility of underground quarrying-cum-cavern development as a new concept to the quarry industry.



露天石礦場 相對 地下採石場
Surface quarry vs underground quarry



你知道嗎 Did you KNOW?

除了石礦場，香港還有多種具重要經濟價值的天然礦藏，政府在 1906 年首次頒布了有關勘探和採礦的條例。

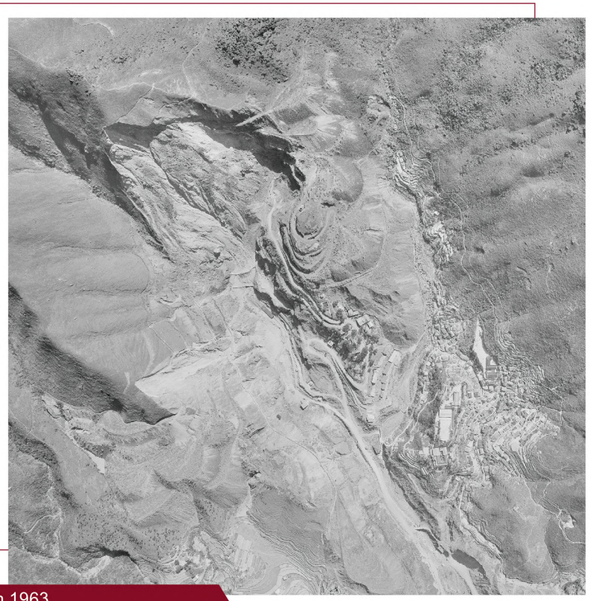
1945 年前的採礦記錄在戰爭中被銷毀。政府把戰後的採礦申請妥善保管在《採礦牌照申請冊》及《採礦牌照登記冊》中。香港的採礦申請主要涉及開採高嶺土、長石、石英、石墨、黑鎢、鐵和鉛等。高質量的金屬礦物多出口海外。

鑛務處的記錄顯示本地採礦業自 1970 年代初開始走向式微。昔日比較大型的採礦場位處蓮麻坑、馬鞍山、針山、青山和茶果嶺。馬鞍山鐵礦是香港歷來最大的礦場，自 1950 年開始營運，及後因產量減少及與日本買家銷售合同的終止，於 1976 年停產。

Apart from rock quarries, Hong Kong possesses a diverse range of natural minerals that are of economic importance. Legislations concerning prospecting and mining were enacted for the first time in 1906.

Most of the mining records prior to 1945 were destroyed during the war. Post-war mining records were properly maintained by the Government in the "Register of Applications for Mining Licences" and "Register of Mining Licences". Mining applications in Hong Kong were mainly for the extraction of kaolin, feldspar, quartz, graphite, wolframite, iron and lead, etc. High grade metallic ores were mainly exported overseas.

Records from the Mines Department have revealed a general decline in the local mining industry since the 1970s. Some large old ore mines were located in Lin Ma Hang, Ma On Shan, Needle Hill, Castle Peak and Cha Kwo Ling. The Ma On Shan Iron Mine was the largest ore mine ever operated in Hong Kong. The mine started operation in 1950 and closed in 1976 due to the depletion in the yield and the end of a sale contract with a Japanese buyer.



馬鞍山礦場 in 1963
Ma On Shan Mine (Photo taken in 1963)

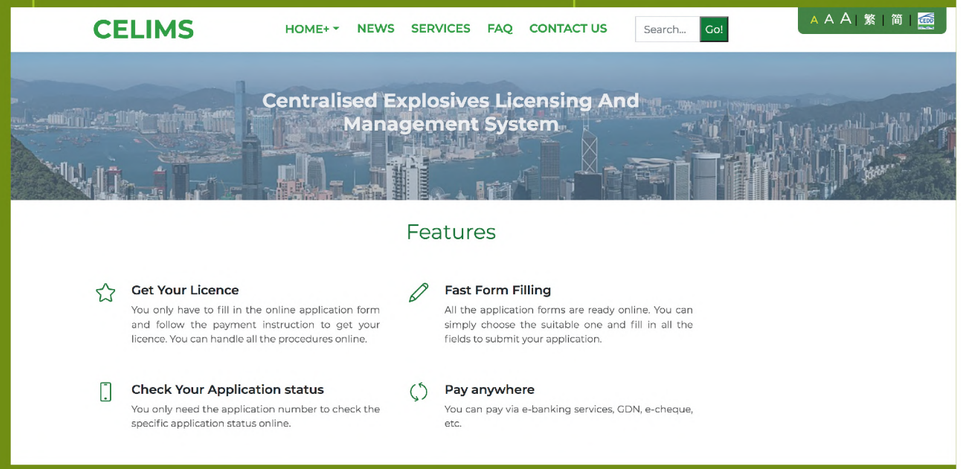
4 發展與機遇 Development and Opportunities

近年，礦務部積極開展不少新領域的工作，包括開發新石礦場的研究、地下採石先導計劃，以及應用香港火山岩資源於混凝土生產的技術研究，以促進採礦業在香港的持續發展。

礦務部亦秉持與時並進的精神。在應用科技方面，2020 年推出的電子化「爆炸品牌照及許可證管理系統」為服務使用者帶來更便利和更具效率的服務。中九龍幹線中段隧道是首項採用該系統於網上申請爆炸品移走許可證和管理爆炸品運送的爆破工程項目。為表揚「爆炸品牌照及許可證管理系統」團隊對土木工程拓展署作出的傑出貢獻，署方向其頒發「2020 年土力工程處處長加許獎項」。

In recent years, the Mines Division has proactively taken up new ventures, including studies of potential quarry sites, pilot projects for underground quarrying and technical study on the use of Hong Kong volcanic rock resources for concrete production. These projects will facilitate the sustainable development of quarrying industry in Hong Kong.

The Mines Division also keeps abreast of the latest innovation. Regarding the application of new technology, in 2020, we launched the electronic Centralised Explosives Licensing and Management System (CELIMS) to facilitate services users, and improve work efficiency. The Central Kowloon Route - Central Tunnel is the first blasting project to adopt CELIMS in online application for Removal Permits and managing explosives deliveries. The team responsible for developing CELIMS was awarded the Head of Geotechnical Engineering Office Commendation Award 2020 for making an outstanding contribution towards the Department.



5 鳴謝 Acknowledgement

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70th Anniversary Commemorative Booklet of the Mines Division

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Highlights of Thematic Events for the 70th Anniversary of the Mines Division

專題巡迴展覽
Thematic Roving Exhibition
8.2021 - 12.2021


土木工程拓展署大樓
Civil Engineering and Development Building


政府總部大樓
Central Government Offices


北角政府合署
North Point Government Offices


西九龍政府合署
West Kowloon Government Offices

礦務70週年座談會：香港的爆炸品監管與採礦業 2021
70th Anniversary of Mines Division: Forum on Control of Explosives and Quarrying in Hong Kong 2021
10.9.2021











參觀狗虱灣政府爆炸品倉庫
Visit to Kau Shat Wan Government Explosives Depot
10.2021 - 12.2021





封面照片：
（上）前許可証石礦場－官塘（攝於1956年）
（中）人手開採岩石 / 孤石（攝於1956年）
（下）安達臣道石礦場－修復工程合約於2017年完成（攝於2017年）

Cover photos:
(Top) Old permit quarry in Kwun Tong (Photo taken in 1956)
(Middle) Manual splitting of rock outcrops/surface boulders (Photo taken in 1956)
(Bottom) Anderson Road Quarry－The rehabilitation contract was completed in 2017 (Photo taken in 2017)



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二零二一年 十二月
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