Orientation Series 2014

The Society of Earth Science, DES, HKU

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Preface

歡迎大家來到礦產事業公司 SERS，我們正在招募新礦工，正需要大家加入。但是採礦不是輕鬆的工作，不是普通人可以勝任。為了測試你們，就先要大家到香港各個地點，並完成任務。獲得的分數越高，以後的工作也更容易。

Welcome to SERS Mining Company Limited. We are now taking recruitments and we need your participation. However, mining itself is not a job easily completed by a normal person. To test your ability, we would like everyone to visit various checkpoints around Hong Kong and finish its task. The more points earned during those checkpoints, the easier the job will be in the future.

Tommy Lau

General Manager and CEO

SERS Mining Company Limited

Rundown

O – Camp

20th August	Morning	Gathering Ice-Breaking Games HKO Briefing
	Afternoon	HKO
	Evening	Refresh from HKO BBQ Room Games
21st August	Morning	Breakfast at 0800 Hiking
	Afternoon	Refresh from Hiking Mass Games Dinner
	Evening	Mystery Session Room Games
22nd August	Morning	Breakfast at 0800 Mass Games Sharing Group Photo

Hong Kong Orientation

終點：香港青年協會賽馬會西貢戶外訓練營

完結時間：18:00

規則：

- 每組須要自行規劃路線。
- 每組須預留最少三十分鐘完成午餐，提早離開將被扣分，每五分鐘 500 分，不足五分鐘亦作 5 分鐘計算。
- 每個地點均附有 1 至 2 項任務，有不同難度及分數，每組只可選其中一項。
- 每個分區均有一定分數，若每組完成該分區所有任務並在任務得分，則可獲得該分區分數。
- 所有任務必須在所有出席組員在場下進行，組員不可於沒有通知 OC 情況下離隊。
- 每組有五次放棄任務機會，放棄任務者不會被扣分。五次之後，將會每次扣 50 分。
- 當每組所有組員集合於任務地點，OC 方會提供任務內容。若任務編號旁有(*)，則組員可在準備時間向 OC 詢問任務內容，若 HKO 已經開始，OC 將不會再提供任務內容。
- 每組使用交通工具可得分數，如使用八種交通工具則可得 1000 分，每多一項加 1000 分。
- 前往各大專院校即可得分。
- 每組組員每人不得以多於$100 使用交通工具，使用金額將以 OC 作準。
- 每組須於指定時間內抵達終點，遲到者每五分鐘 500 分，不足五分鐘亦作五分鐘計算。

Code	Districts	Checkpoint	Mission 1		Mission 2	
			Pts.	Diff.	Bonus	Diff.
HKS-01	南區	海洋公園	300	1	300	4
HKS-02		珍寶海鮮舫碼頭	300	3		
HKS-03		明德學院	250	2		
HKS-04		數碼港	250	2		
HKS-05		赤柱正街	350	3		
HKS-06		淺水灣	300	1		
HKS-07		港大同學會書院	300	3		
		分區分數	500			
HKCW-01	中西區	士美菲路市政大廈	100	2	200	3
HKCW-02		中聯辦	150	1		
HKCW-03		石塘咀街市	100	2	200	3
HKCW-04		西區警署	100	1	300	5
HKCW-05		中山紀念公園	100	1		
HKCW-06		西港城	100	1		
HKCW-07		上環市政大廈	100	1		
HKCW-08		信德中心	150	2		
HKCW-09		中環街市	150	1		
HKCW-10		荷李活道	150	2		
HKCW-11		匯豐銀行總行	150	2	100	2
HKCW-12		中環碼頭	150	3	200	3
HKCW-13		蘭桂坊	150	2		
HKCW-14		國際金融中心二期	150	1	200	4
HKCW-15		香港大會堂	200	3		
		分區分數	500			
HKWC-01	灣仔	演藝學院	200	3		
HKWC-02		政府總部	100	1		
HKWC-03		灣仔碼頭	200	3		
HKWC-04		鵝頸橋(堅拿道天橋)	200	3		
HKWC-05		藍屋	100	1		
HKWC-06		維多利亞公園	200	4		
HKWC-07		中央圖書館	100	2	200	3
HKWC-08		時代廣場	250	3		
		分區分數	500	1		

Code	Districts	Checkpoint	Mission 1		Mission 2	
			Pts.	Diff.	Bonus	Diff.
HKE-01	東區	太古城	250	3		
HKE-02		愛秩序灣遊樂場	250	1		
HKE-03		小西灣運動場	300	3		
HKE-04		青年廣場	250	3		
		分區分數	500	1		
KYTM-01	油尖旺區	香港文化中心	400	4	200	3
KYTM-02		香港太空館	250	2		
KYTM-03		1881	200	3		
KYTM-04		星光大道	250			
KYTM-05		九龍公園	150	3		
KYTM-06		香港天文台	200	3		
KYTM-07		圓方	100	3		
KYTM-08		奧運站	250	2		
KYTM-09		行人專用區	250			
KYTM-10		通菜街	300	5		
KYTM-11		紅磡體育館	200	3		
KYTM-12		新世界中心	300	1		
		分區分數	500	2		
KWTS-01	黃大仙區	黃大仙廟	350	3		
KWTS-02		志蓮淨苑	150	1		
KWTS-03		荷李活廣場	250	1		
		分區分數	200	3		
KKT-01	觀塘區	鱷魚恤大廈	150	3	200	4
KKT-02		創紀之城 5 期	150	3	200	3
KKT-03		觀塘碼頭廣場	300	1		
KKT-04		裕民坊	150	3		
KKT-05		淘大花園	100			
KKT-06		佐敦谷遊樂場	150	4		
KKT-07		藍田地鐵站	200	1		
KKT-08		彩虹站	150	3		
		分區分數	500			

Code	Districts	Checkpoint	Mission 1		Mission 2	
			Pts.	Diff.	Bonus	Diff.
KKC-01	九龍城區	九龍寨城	250	2		
KKC-02		公和荳品廠	100	2		
KKC-03		又一城	250	4		
KKC-04		九龍塘火車站	100	1		
		分區分數	400			
KSSP-01	深水埗區	黃金商場	250	4		
KSSP-02		鴨寮街	200	2		
KSSP-03		深水埗警署	10	1		
KSSP-04		深水埗運動場	150	1		
KSSP-05		美孚新邨	100	1		
		分區分數	400			
NTTT-01	荃青區	新都會廣場	300	2		
NTTT-02		葵青劇院	300	2		
NTTT-03		如心廣場	300	1		
NTTT-04		荃灣廣場	300	1		
NTTT-05		三棟屋博物館	400	2		
NTTT-06		深井裕記燒鵝	500	1		
		分區分數	600			
NTTM-01	屯元天區	三聖邨	500	2		
NTTM-02		屯門河	500	2		
NTTM-03		屯門市中心	500	1		
NTTM-04		B 仔涼粉	500	2		
NTTM-05*		濕地公園	600	3		
NTTM-06		紅樓	600	4		
		分區分數	600			
NTTP-01	大埔區	海濱公園	400	1		
NTTP-02		馬料水	350	3		
NTTP-03		科學園	350	2		
NTTP-04*		大尾督	600	4		
NTTP-05		林村	550	1		
NTTP-06		鐵路博物館	400	3		
		分區分數	600	2		

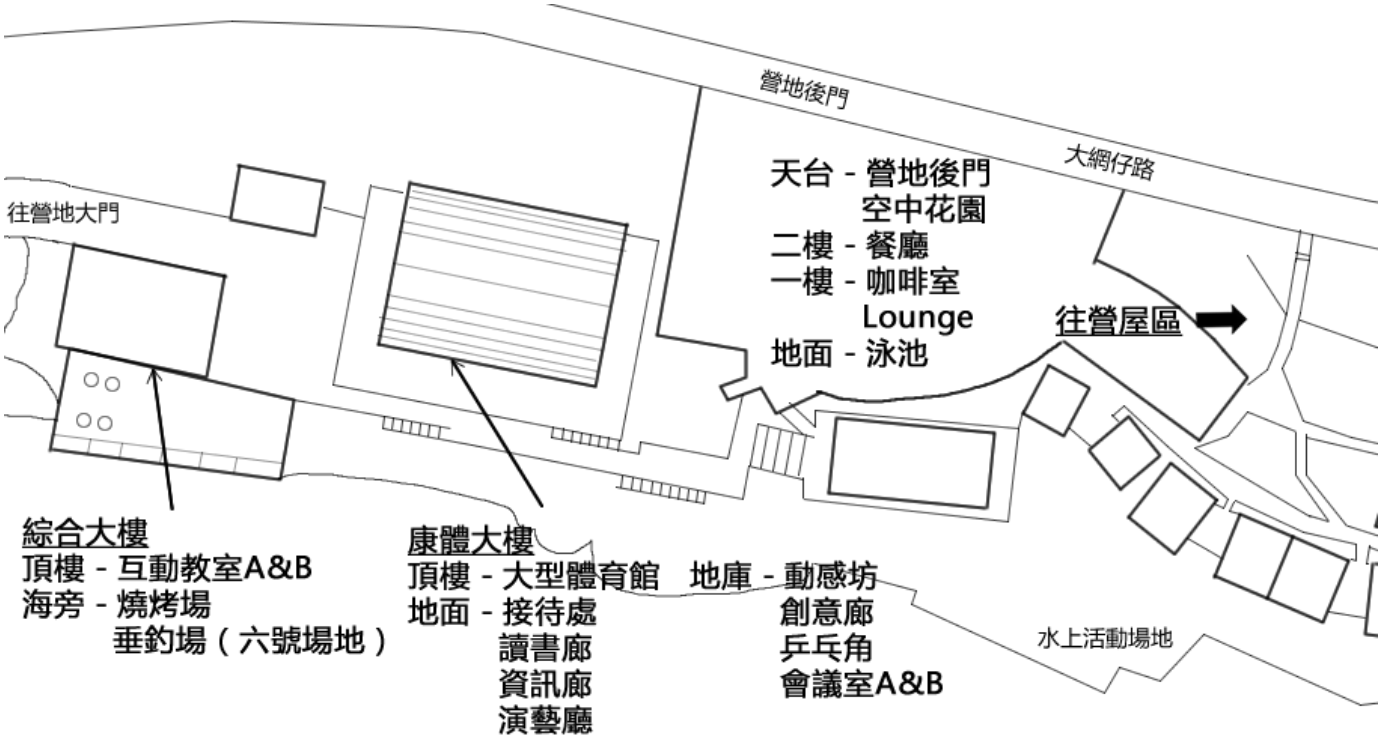
Code	Districts	Checkpoint	Mission 1		Mission 2	
			Pts.	Diff.	Bonus	Diff.
NTST-01	沙田區	沙田污水處理廠	350	1		
NTST-02		馬場	400	5		
NTST-03		體藝學院	250	2	100	2
NTST-04		沙田公園	350	2		
NTST-05		新城市廣場	300	2		
NTST-06		沙田第一城	350	3		
NTST-08		烏溪沙青年新村	400	4		
		分區分數	600			
NTSK-01	西貢區	西貢碼頭	150	1		
NTSK-02*		日出康城	500	3		
NTSK-03		青協西貢戶外訓練營	100	1		
		分區分數	400			
NTOI-01*	離島區	東薈城	500	1	300	4
NTOI-02*		愉景灣	700	4		
NTOI-03*		迪士尼	500	3		
NTOI-04*		機場客運大樓一區	500	2		
NTOI-05*		機場客運大樓二區	500	3		
NTOI-06*		梅窩	800	4		
NTOI-07*		長洲	800	2		
NTOI-08*		大澳	800	2		
NTOI-09*		蒲台島	800	1		
NTOI-10*		昂坪	800	4		
NTOI-11*		南丫榕樹灣	900	5		
		分區分數	5000	1		

Code	交通工具	Points
T1	巴士	10
T2	小巴	20
T3	的士	10
T4	地鐵	10
T5	西鐵	30
T6	東鐵	30
T7	馬鐵	50
T8	電車	10
T9	輕鐵	100
T10	山頂纜車	100
T11	渡海小輪	30
T12	街渡	100

Code	大專院校	Points
U1	中文大學	200
U2	科技大學	500
U3	城市大學	100
U4	理工大學	50
U5	浸會大學	100
U6	嶺南大學	500
U7	樹仁大學	200
U8	教育學院	500
U9	公開大學	200

Tips:

- 由西貢碼頭前往營地有兩種方法：
  - 於西貢巴士總站乘坐 94 號巴士於西貢戶外訓練營站下車
  - 於西貢小巴站乘坐 7 號或 9 號小巴
    知會司機 – 大網仔青協有落
- 規劃路線時可先計算各可行路線的總分數後再作決定


營地後門
大網仔路
往營地大門
天台 - 營地後門
空中花園
二樓 - 餐廳
一樓 - 咖啡室
Lounge
地面 - 泳池
往營屋區
綜合大樓
頂樓 - 互動教室A&B
海旁 - 燒烤場
垂釣場（六號場地）
康體大樓
頂樓 - 大型體育館
地面 - 接待處
讀書廊
資訊廊
演藝廳
地庫 - 動感坊
創意廊
乒乓角
會議室A&B
水上活動場地

Trip to Pak Lap and East Dam

景點推介：
Vistas：

1 萬宜水庫 High Island Reservoir

2 東壩 East Dam

3 白臘灣及白臘村 Pak Lap Wan and Pak Lap Village

Field Trip to Pak Lap and East Dam- Professor L. S. Chan

This trip will focus on the following topics.

- **History of High Island Reservoir and geographical factors considered during the construction**
- **Physiography and Geology of Sai Kung**
- **Coastal landforms**
- **Physiography and Geology of Sai Kung**

Sai Kung area is a hilly terrain deprived of lowlands, indicative of a submerged landscape with dismembered rivers and drowned valleys. The original topography of the area prior to the construction of the reservoir shows a long and narrow waterway trending in a WNW-ESE direction with rivers entering at right angles, reflecting a rectangular drainage system developed along existing geological structures.

The High Island area in Sai Kung Peninsula is occupied predominantly by volcanic rock formations formed during the Jurassic-Cretaceous time. During this “Yenshanian Movement” northward subduction of a plate under South China formed an island arc in the coastal province of South China causing extensive intrusion and extrusion of acid to intermediate igneous rocks.

Sai Kung was probably a caldera, a volcanic depression formed by subsidence of the ground as the magma chamber below was drained. Volcanic centers were present along the rim of the caldera. A sequence of ask over 400m thick was deposited within the caldera. Spectacular column joints and kink bands were formed within the ash layer, seemingly only shortly after the volcanic eruption. Toppling failures are commonly observed in the jointed columns. The last phase of the volcanic activities is represented by intrusion of mafic dykes, sometimes along pre-existing kink bands in the jointed rocks.

The post-Cretaceous tectonics is mainly characterized by faulting events. We now know that during the Cenozoic, the coastal province of South China underwent several phases of extension including at least a phase of N-S extension and a phase of NE-SW extension. The multiple sets of fault and lineaments found in the Sai Kung area are associated with these extensional events. The current tectonic movement is controlled by an E-W directed compression, associated with the collision of the Philippines with Eurasia along Taiwan.

Coastal Landforms

Remarkable erosional landforms can be observed along the coast of Sai Kung Peninsula. The distribution of beaches and headlands reflects the energy conditions. Erosional landforms including sea caves, arches and sea stacks often develop along pre-existing lines of weakness. Depositional features are confined to coves and small bays.

High Island Reservoir Project

The construction of the High Island Reservoir commenced in 1971 in an attempt to alleviate the water supply problem of Hong Kong. The reservoir has a capacity of 280 million cubic meters. Major geotechnical works to build the reservoir included the construction of the east main dam, now standing at 64m above sea level, the cofferdam and the outer layer of concrete dolosse to attenuate wave action. A few villages, Lan Nai Wan in particular, were submerged as the reservoir was filled.

Highlights

Pak Lap

> Pak Lap Village

> Ecology and wetland environment at Pak Lap

> Beach profile

> Wave refraction

East Dam

> Construction of East Dam

> Geology and rock types

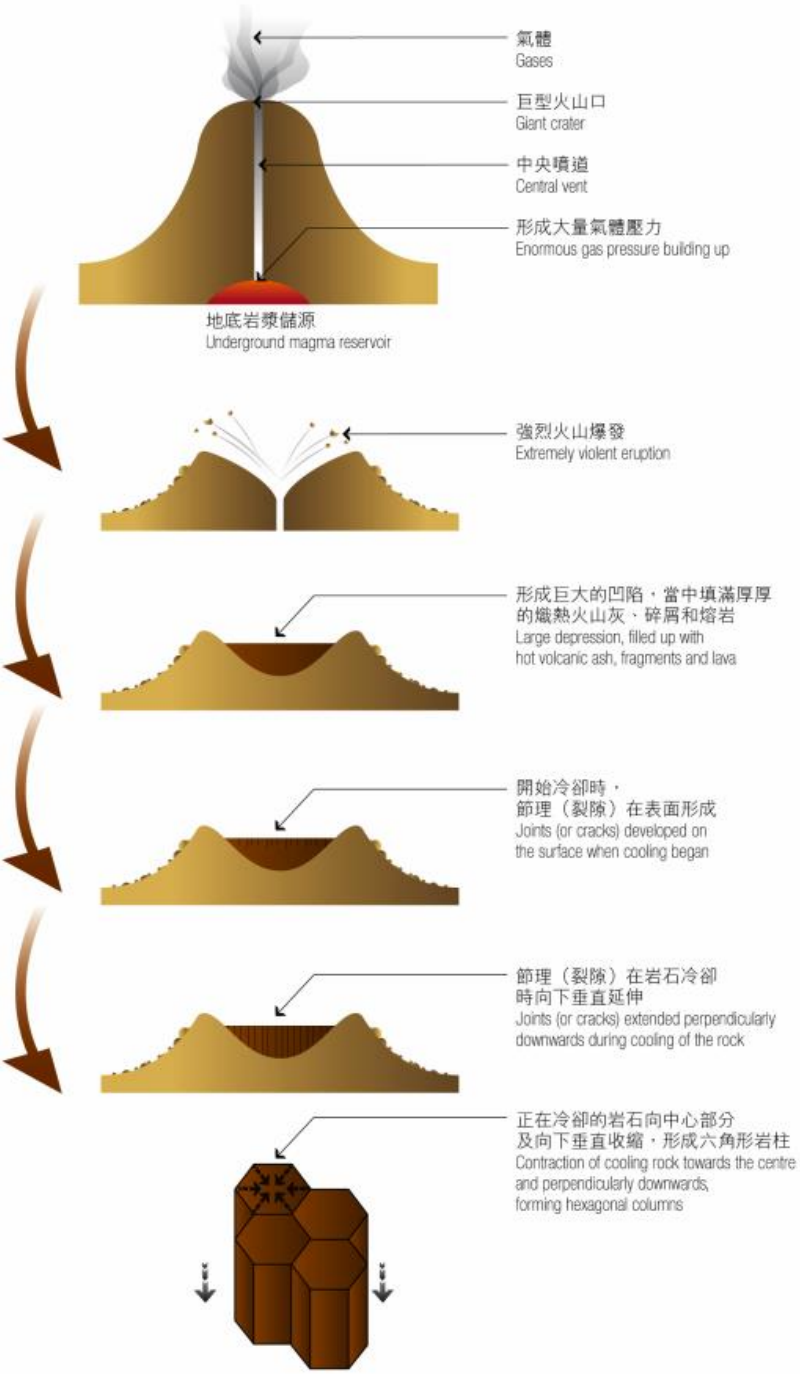
> Pattern and formation of columnar joints

> Fault and fault zones

> Kink banding in rock columns

> Dike intrusion

> Cofferdam and concrete dolosse


氣體
Gases
巨型火山口
Giant crater
中央噴道
Central vent
形成大量氣體壓力
Enormous gas pressure building up
地底岩漿儲源
Underground magma reservoir
強烈火山爆發
Extremely violent eruption
形成巨大的凹陷，當中填滿厚厚的熾熱火山灰、碎屑和熔岩
Large depression, filled up with hot volcanic ash, fragments and lava
開始冷卻時，節理（裂隙）在表面形成
Joints (or cracks) developed on the surface when cooling began
節理（裂隙）在岩石冷卻時向下垂直延伸
Joints (or cracks) extended perpendicularly downwards during cooling of the rock
正在冷卻的岩石向中心部分及向下垂直收縮，形成六角形岩柱
Contraction of cooling rock towards the centre and perpendicularly downwards, forming hexagonal columns

Survival Tips in Department of Earth Sciences

Website of the Department: www.earthsciences.hku.hk/

About Majoring in Earth Sciences / Geology:
www.scifac.hku.hk/file/booklet/1691/HKUjupas_booklet_2015-16.pdf

Tip 1: Professors

Professor Patrick Wu

He is the Head of Department and will be lecturing you in more advanced topic such as Geophysics or Meteorology in the coming years.

Professor L.S. Chan

He will be leading the hiking session for this camp and is known for being the Hong Kong Rock Expert. He had also been in this department since the beginning and is also the honorary president of our society.

Professor Min Sun

He was the Head of Department back in 2012 and will be teaching a core course "EASC1402 Principles of Geology"

Dr. Petra Bach

She is a German who also knows fluent Cantonese. She is also the curator of the museum and will teach the core course "EASC2402 Field methods"

Details of all the professors can be found in James Lee Building 3/F or through the Earth Sciences website.

Tip 2: Location

As you may know, James Lee Building is the main location for Earth Sciences students to study. Here are some important places in the James Lee Building

James Lee Room 104, 105 and 106

Room 104 is the place we gathered in the O Camp. It is also the place where most Earth Sciences lectures are held. Room 105 and 106 will also be used for labs and society activities.

Department Office (Room 309)

This is the place to submit forms, collect assignments and discuss with matters of the course. You may sometimes need to submit assignments through the mailbox, which is on the wall opposite to the office.

James Lee Building Room 311

This is the office for Dr. Jason Ali. He is the course advisor for this department and you will need to get approval from him for any conflicts with courses such as timetable clash, course overload, course exemption etc. Forms can be downloaded from http://science.hku.hk/

Stephen Hui Geological Museum (James Lee Building G/F and 1/F)

This is the only geological museum in Hong Kong and everyone will eventually have time to visit and even do assignments inside the museum. It is a good place to bring friends or family to visit when you want to introduce them about Earth Sciences or Geology.

Tip 3: Courses

You may wonder some must-take courses for Earth Sciences and Geology. We will introduce some courses which you will come through in the first year.

Compulsory Must Take Course

SCNC 1111 Scientific method and reasoning

SCNC 1112 Fundamentals of modern science

These two courses are required for all science students. It is to give a holistic approach to the science discipline in terms of its nature, concepts and impact on civilization and society. The content encompasses physics, astronomy, earth sciences, chemistry, biology with emphasis on general principles and fundamental laws.

Major/Minor in Earth System Sciences or Major in Geology

EASC1402 Principles of Geology (Offered in 1st Semester)

This course aims to give the fundamental principles of geology, some of which will be mentioned in the hiking session of O camp. It is a must take for any students with a major/minor in this department as it is the ABC's which makes up this discipline

EASC2401 Fluid/solid interactions in earth processes (Offered in 2nd Semester)

This course aims to give an overview of the physical and chemical principles that govern Earth processes. Knowledge of chemistry and physics which will be applied to Earth Science/ Geology will be taught in this course.

EASC2402 Field Methods (Offered in 1st Semester)

You will have to take this course in your 2nd year. But this course is a hands on course which introduces geological field and mapping techniques through different equipment and observation. There will be a 5 day field trip in Lai Chi Chong as well.

Major/Minor in Earth System Sciences

EASC1401 Blue Planet (Offered in both semesters)

This course is the basics of Earth Sciences, which gives an overview of the interactions of Earth's lithosphere, hydrosphere, biosphere and atmosphere through observation, information, hypothesis and communication to be better informed about our planet.

Other interesting courses

EASC1403 Geological heritage of Hong Kong (Offered in 2nd Semester)

This course is to give an overview of the geology of Hong Kong through 4 weekend trips around Hong Kong guided by experts.

EASC2409 Regional Field Studies

This course introduces geology of China and Taiwan through studies and field excursions. Some basic skills on geology will be applied in this course and there will be 15 days of outings in total. In the past years, undergraduates had been to Taiwan, Wuhan and Zhaoqing.

EASC4955 (Capstone) Integrated Field Studies

This course will provide training on geological mapping at an important location overseas. It will use all of your geological skills acquired in the past years of studies. In the past years undergraduates had been to places such as Cyprus, Tibet, Australia and the United States.

Contact List

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Notes

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Orientation Camp Booklet 2014

August 20 -22, 2014