

「南科液晶電視及產業支援工業區(樹谷園區)開發計畫」 環境監測報告

一、依據「南科液晶電視及產業支援工業區開發計畫環境影響說明書」第八章 8.3 執行環境監測計畫，藉以建立環境品質資料庫，以研判受計畫工業區開發影響情形及程度，作為必要時提出改善、補救措施或適當調整施工計畫及作業方式之依據。

二、環境測定機構如下：

1 監測執行期間及項目

本季環境監測自 107 年 10 月至 107 年 12 月止，進行施工期間、營運期間及周邊環境品質調查，主要執行類別及點次摘要說明如下：

1.廠區內

- (1)放流水質：13 點次(每週 1 點次)。
- (2)地下水質：1 點次(每季 1 點次)。
- (3)噪音振動：2 點次(假日及平日各 1 點次)。

2.廠區外(每季或特定期間執行)

- (1)空氣品質：3 點次(每季 3 點次，100 年第三季起，加測服務中心)
9 點次(102 年 3 月起，每月加測懸浮微粒 PM₁₀ 中之鎳、
砷、鎘、錳、鉍、鉛、總鉻化合物、氨氣及氯氣)。
- (2)噪音振動：4 點次(假日及平日各 1 點次)。
- (3)道路交通：4 點次(假日及平日各 2 點次)。
- (4)陸域動物：1 次【鳥類 (3~7 月針對環頸雉、彩鵲等珍貴稀有保育鳥類之繁殖棲地及巢位進行調查)、兩棲類(5 月)】。
- (5)地面水質：3 點次。
- (6)放流水質：3 點次。
- (7)營建噪音：6 點次。

2 執行監測單位

101 年 7 月 3 日之前是委託佳美環境科技股份有限公司，101 年 7 月

3 日起本案監測係委託南台灣環境科技股份有限公司（環保署許可第 050 號環境檢驗測定機構）負責統包；其中陸域動物委託「屏東野鳥協會」辦理，農藥、空氣中酸氣、空氣中 VOCs、噪音振動、懸浮微粒 PM₁₀ 中之鎳、砷、鎘、錳、鈹、鉛及總鉻、氯氣及水中重金屬鉬、銻、鎘、錫、硒及酚類等委託上準環境科技有限公司執行。

3 分析方法

類別	檢測項目	檢驗方法	方法編號
空氣品質	二氧化硫	紫外光螢光法	NIEA A416.13C
	氮氧化物	化學發光法	NIEA A417.12C
	一氧化氮	化學發光法	NIEA A417.12C
	二氧化氮	化學發光法	NIEA A417.12C
	一氧化碳	紅外線法	NIEA A421.13C
	臭氧	紫外光吸收法	NIEA A420.12C
	總碳氫化合物	火焰離子化法	NIEA A740.10C
	甲烷		
	非甲烷碳氫化合物		
	氫氟酸	離子層析電導度法	NIEA A435.71C
	鹽酸		
	磷酸		
	硝酸		
	硫酸		
	※醋酸	氣相層析法	勞委會 5010 方法
	總懸浮微粒(TSP)	高量採樣法	NIEA A102.12A
	粒徑小於 10 微米之懸浮微粒(PM ₁₀)	貝他射線衰減法	NIEA A206.10C
		手動法	NIEA A208.12C
	砷	高量採樣法/粒狀污染物含量/連續式氫化砷原子吸收光譜法	NIEA A102.12A NIEA A301.11C NIEA R318.11C
	懸浮微粒(PM ₁₀)中之鎳、砷、鎘、錳、鈹、鉛、總鉻	感應耦合電漿質譜儀	NIEA A305.10C
	氯氣	離子層析電導度法	NIEA A425.70C
	氨氣	靛酚/分光光度法	NIEA A426.72B
	揮發性有機化合物(VOCs)	不銹鋼採樣筒/氣相層析質譜儀法	NIEA A715.14B
風速	風杯法	—	
風向	風標法	—	
氣溫	吸引電熱法	—	
溼度	薄膜電容法	—	
噪音振動	噪音	環境噪音測量方法	NIEA P201.96C
	振動	環境振動測量方法	NIEA P204.90C
交通	※交通組成、服務水準、延遲時間	2011 年台灣公路容量手冊	—

類別	檢測項目	檢驗方法	方法編號
水質 水量	生化需氧量	水中生化需氧量檢測方法	NIEA W510.55B
	化學需氧量	密閉式重鉻酸鉀迴流法	NIEA W517.52B
		重鉻酸鉀迴流法(高鹵)	NIEA W516.55A
	懸浮固體	103°C~105°C 乾燥	NIEA W210.58A
	氨氮	流動分析法—靛酚法	NIEA W437.52C
	水溫	水溫檢測方法	NIEA W217.51A
	pH 值	電極法	NIEA W424.52A
	導電度	導電度計法	NIEA W203.51B
	溶氧量	電極法	NIEA W455.52C
	透視度	透視度計法	NIEA W221.50A
	六價鉻	比色法	NIEA W320.52A
	硝酸鹽氮	鎘還原流動分析法	NIEA W436.52C
	亞硝酸鹽氮	鎘還原流動分析法	NIEA W436.52C
	凱氏氮	水中凱氏氮檢測方法	NIEA W451.51A
	磷酸鹽	維生素丙法	NIEA W427.53B
	總磷	維生素丙法	NIEA W427.53B
	總有機碳	紅外線測定法	NIEA W532.52C
	大腸桿菌群	濾膜法	NIEA E202.55B
	總菌落數	混合稀釋法	NIEA E204.55B
	油脂	索式萃取重量法	NIEA W505.52C
	真色色度	分光光度計法	NIEA W223.52B
	氰化物	分光光度計法	NIEA W410.54A
	氟化物	氟選擇性電極法	NIEA W413.52A
	總酚	分光光度計法	NIEA W521.52A
	酚類	線上蒸餾/流動分析法	NIEA W524.50C
	鉻、鋅、鎳、鎘	火焰式原子吸收光譜法 感應耦合電漿原子發射光譜法	NIEA W306.55A
	鉛、銅、錳、鐵		NIEA W311.53C
	砷	自動化連續流動式氫化物原子吸收光譜法	NIEA W434.54B
	銀、硒	感應耦合電漿原子發射光譜法	NIEA W311.53C
	鎳	火焰式原子吸收光譜法	NIEA W306.55A
	汞	冷蒸氣原子吸收光譜法	NIEA W330.52A
	氯鹽	硝酸汞滴定法	NIEA W406.52C
	硫酸鹽	濁度法	NIEA W430.51C
揮發性有機物	吹氣捕捉/氣相層析質譜儀法	NIEA W785.56B	
有機氯農藥	液相萃取法	NIEA W610.53B	
	氣相層析儀/火焰光度偵測器法		
達馬松	液相萃取法	NIEA W610.53B	
	氣相層析儀/火焰光度偵測器法		
除草劑	分光光度計法	NIEA W641.51A	
毒殺芬	液相萃取法 氣相層析儀—電子捕捉偵測器法	NIEA W653.51A	

類別	檢測項目	檢驗方法	方法編號
	五氯酚	氣相層析質譜儀法	NIEA W801.53B
	總毒性有機物 (TTO)	氣相層析質譜儀法 吹氣捕捉/氣相層析質譜儀法	NIEA W801.53B NIEA W785.56B
	鉬	感應耦合電漿質譜法	NIEA W311.53B
	錫	感應耦合電漿質譜法	NIEA W313.52B
	鎘	感應耦合電漿質譜法	NIEA W311.53B
	銻	感應耦合電漿質譜法	NIEA W311.53B
	生物急毒性試驗 (TUa)	水蚤靜水式法 羅漢魚靜水式法	NIEA B901.14B NIEA B902.13B
生態	※陸域動物	沿線調查法/定點觀察法(鳥類) 綜合沿線調查/繁殖地調查(兩棲類)	—

註1：“—”表示環保署環境檢驗所未公告檢驗方法提供認證。

註2：“※”表示無環保署公告檢驗方法，引用其他公告方法檢測分析。

三、監測結果綜合檢討分析

表 3-1 本季監測結果

監測項目		法規標準	環評承諾	107年第4季	監測結果檢討	
空氣品質	二氧化硫	日平均值	0.1 ppm	—	0.001~0.002	各空氣品質項目除了臭氧最高八小時外,其餘均符合空氣品質標準,與鄰近環保署監測站(善化站)資料及歷次監測數據比較,現場未發現異常現象。請參閱空氣品質監測結果比較圖。
		最高小時平均值	0.25 ppm	—	0.002~0.005	
	氮氧化物	日平均值	—	—	0.015~0.023	
		最高小時平均值	—	—	0.031~0.057	
	一氧化氮	日平均值	—	—	0.003~0.006	
		最高小時平均值	—	—	0.005~0.032	
	二氧化氮	日平均值	—	—	0.012~0.017	
		最高小時平均值	0.25 ppm	—	0.022~0.031	
	一氧化碳	最高8小時平均值	9 ppm	—	<0.1~0.2	
		最高小時平均值	35 ppm	—	0.3~0.4	
	總碳氫化合物	日平均值	—	—	2.20	
		最高小時平均值	—	—	2.22~2.24	
	甲烷	日平均值	—	—	1.80	
		最高小時平均值	—	—	1.82~1.84	
	非甲烷碳氫化合物	日平均值	—	—	0.39~0.41	
		最高小時平均值	—	—	0.43~0.45	
	臭氧	最高8小時平均值	0.06 ppm	—	0.049~0.092	
		最高小時平均值	0.12 ppm	—	0.073~0.104	
	氫氟酸	24小時值	—	—	ND<0.00162	
	鹽酸	24小時值	—	—	ND<0.00245	
硫酸	24小時值	—	—	<0.00582~<0.00583		
硝酸	24小時值	—	—	ND<0.00130		
磷酸	24小時值	—	—	ND<0.00113		
醋酸	24小時值	—	—	ND<0.0113		
砷	24小時值	—	—	ND<0.0021		
TSP	24小時值	250µg/m ³	—	99~116		
PM ₁₀	日平均值	125µg/m ³	—	68~82		
PM ₂₅	日平均值	35µg/m ³	—	23~32		

表 3-1 本季監測結果(續 1)

監測項目	法規標準	環評承諾	107年第4季	監測結果檢討
PM ₁₀ 中砷	—	—	0.00053~0.0024	各空氣品質項目均符合空氣品質標準,與鄰近環保署監測站(善化站)資料及歷次監測數據比較,現場未發現異常現象。請參閱空氣品質監測結果比較圖。
PM ₁₀ 中鎳	—	—	0.010~0.0073	
PM ₁₀ 中鎘	—	—	<0.00028~0.00065	
PM ₁₀ 中錳	—	—	0.0049~0.061	
PM ₁₀ 中鉛	—	—	0.0037~0.043	
PM ₁₀ 中鉻	—	—	0.0026~0.042	
PM ₁₀ 中鉍	—	—	ND<0.00000876~<0.00028	
氮氣	—	—	ND<0.0046~0.10	
氧氣	—	—	ND<0.000948	
丙烷	—	—	ND<0.000595~0.0041	
二氯二氟甲烷	—	—	<0.0049	
二氟一氯甲烷	—	—	<0.0039	
二氯四氟乙烷	—	—	ND<0.00175	
氯甲烷	—	—	0.0025~0.0029	
氯乙烯	—	—	ND<0.000537	
1,3-丁二烯	—	—	ND<0.000620	
甲醇	—	—	ND<0.00173~0.025	
溴甲烷	—	—	ND<0.000932	
氯乙烷	—	—	ND<0.000739	
三氯一氟甲烷	—	—	ND<0.00135~<0.0056	
戊烷	—	—	ND<0.000768	
丙烯醛	—	—	ND<0.000688	
1,1-二氯乙烯	—	—	ND<0.00115	
丙酮	—	—	0.010~0.015	
1,1,2-三氯-1,2,2-三氟乙烷	—	—	ND<0.00215	
乙腈	—	—	ND<0.000605~<0.012	
氯丙烯	—	—	ND<0.000688	
二氯甲烷	—	—	0.0035~0.0063	
丙烯腈	—	—	ND<0.000629	
順-1,2-二氯乙烯	—	—	ND<0.00951	
正己烷	—	—	ND<0.000846	
1,1-二氯乙烷	—	—	ND<0.000850	
醋酸乙烯酯	—	—	ND<0.000703~<0.0035	
丁酮	—	—	0.0056~0.013	
反-1,2-二氯乙烯	—	—	ND<0.000912	
氯仿	—	—	ND<0.00117	

備註：空氣中 VOCs 除苯、甲苯及二甲苯單位為 ppm 外，其餘測項為 mg/m³。

表 3-1 本季監測結果(續 2)

監測項目	法規標準	環評承諾	107年第4季	監測結果檢討
1,1,1-三氯乙烷	—	—	ND<0.00131	各空氣品質項目均符合空氣品質標準,與鄰近環保署監測站(善化站)資料及歷次監測數據比較,現場未發現異常現象。請參閱空氣品質監測結果比較圖。
四氯化碳	—	—	ND<0.00132	
1,2-二氯乙烷	—	—	ND<0.00101	
苯	0.5ppm	—	ND<0.000703<0.0035	
正庚烷	—	—	ND<0.00102	
三氯乙烯	—	—	ND<0.00118	
1,2-二氯丙烷	—	—	ND<0.00106	
甲基丙烯酸甲酯	—	—	ND<0.000860	
一溴二氯甲烷	—	—	ND<0.00161	
順-1,3-二氯丙烯	—	—	ND<0.000953	
甲基異丁酮 (4-甲基-2-戊酮)	—	—	ND<0.000861	
甲苯	2ppm	—	0.0075~0.014	
辛烷	—	—	ND<0.00112	
反-1,3-二氯丙烯	—	—	ND<0.000953	
1,1,2-三氯乙烷	—	—	ND<0.00120	
四氯乙烷	—	—	ND<0.00163	
二溴一氯甲烷	—	—	ND<0.00179	
二溴乙烷	—	—	ND<0.00161	
氯苯	—	—	ND<0.00115	
乙基苯	—	—	ND<0.00104	
對,間-二甲苯	2ppm	—	ND<0.00204~<0.0087	
鄰-二甲苯	2ppm	—	ND<0.00113	
苯乙烯	—	—	ND<0.000682	
1,1,2,2-四氯乙烷	—	—	ND<0.00144	
1,3,5-三甲基苯	—	—	ND<0.00108	
α-甲基苯乙烯	—	—	ND<0.00870	
1,2,4-三甲基苯	—	—	ND<0.00103	
1,3-二氯苯	—	—	ND<0.00126	
對-二氯苯	—	—	ND<0.00114	
氯化甲基苯	—	—	ND<0.00678	
鄰-二氯苯	—	—	ND<0.00126	
1,2,4-三氯苯	—	—	ND<0.00334	
六氯丁二烯	—	—	ND<0.000853	
以下空白				

備註：空氣中 VOCs 除苯、甲苯及二甲苯單位為 ppm 外，其餘測項為 mg/m³。

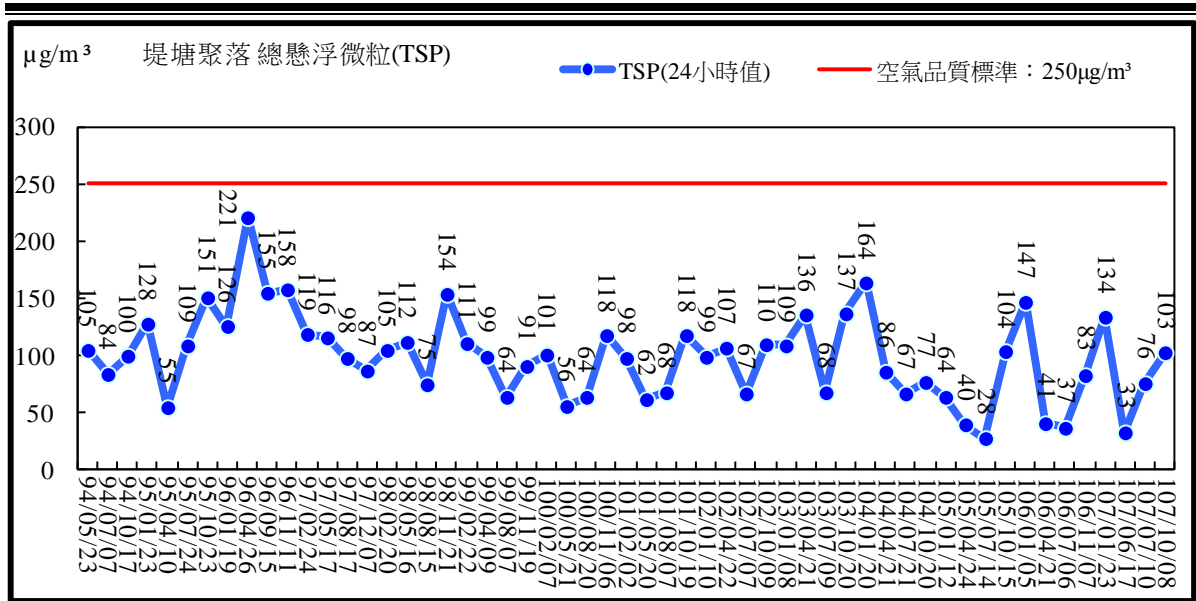


圖 2.1 空氣品質監測結果比較圖(堤塘聚落 TSP)

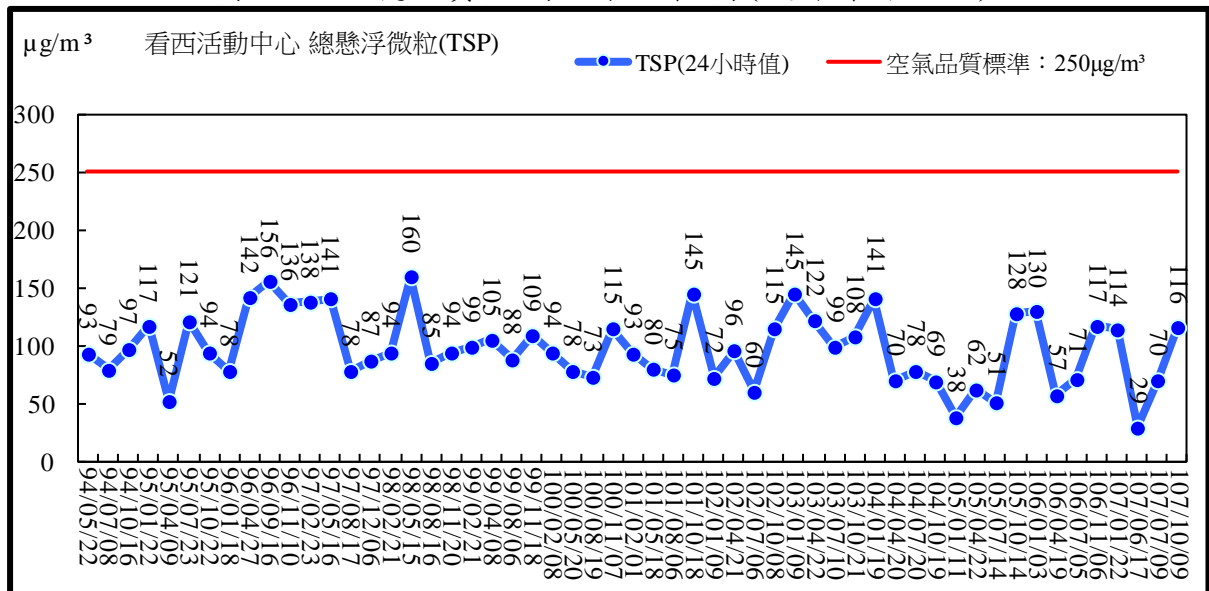


圖 2.2 空氣品質監測結果比較圖(看西活動中心 TSP)

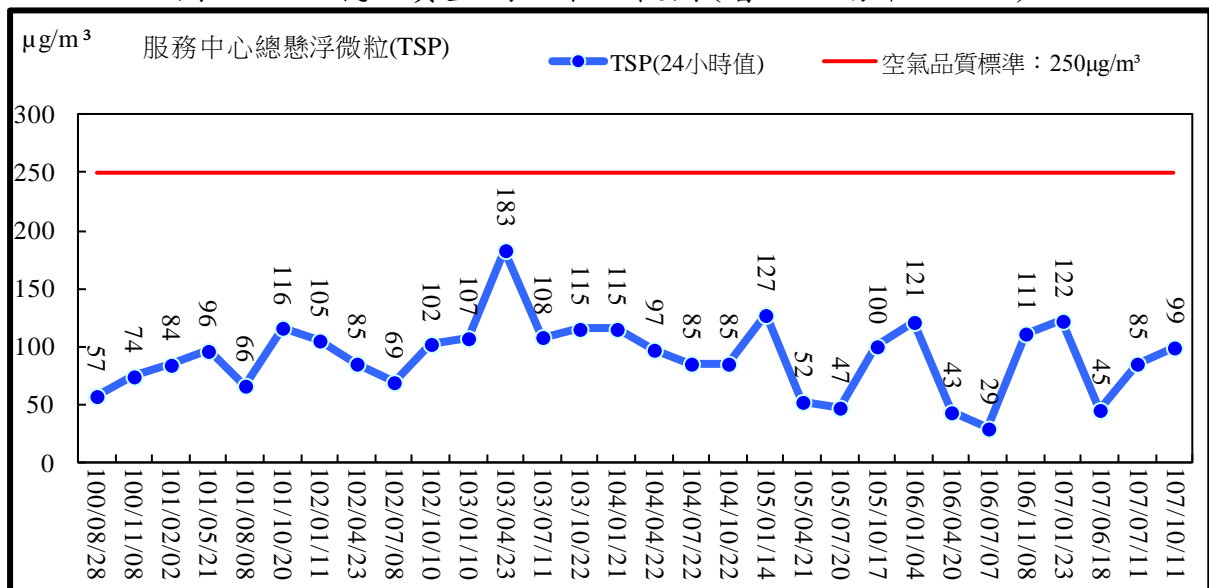


圖 2.3 空氣品質監測結果比較圖(服務中心 TSP)

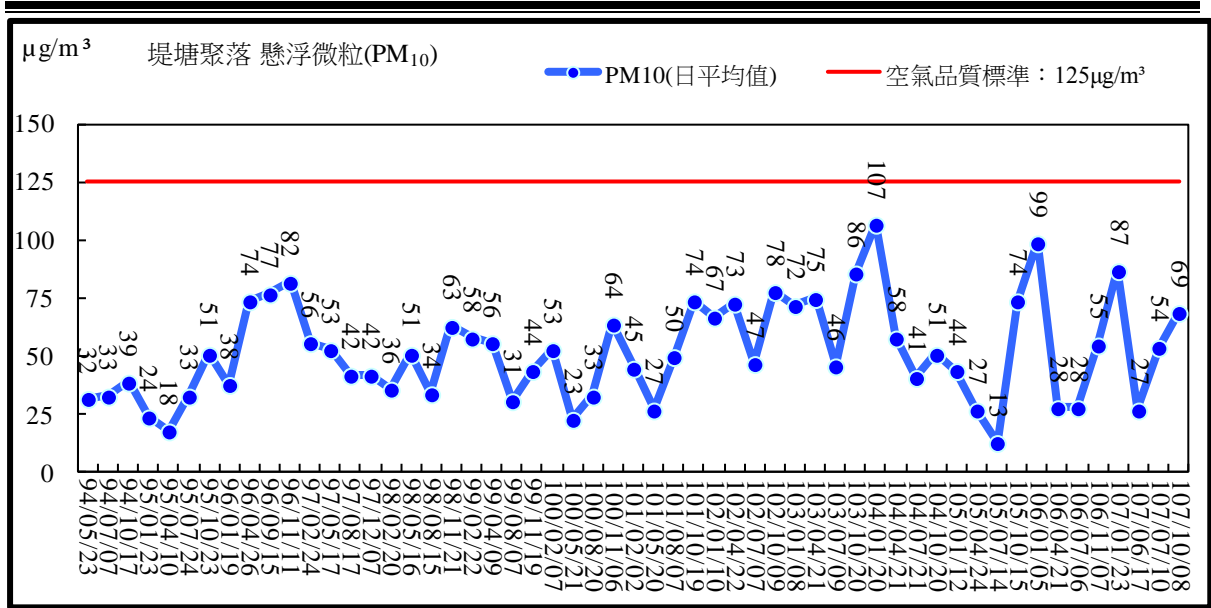


圖 2.4 空氣品質監測結果比較圖(堤塘聚落 PM₁₀)

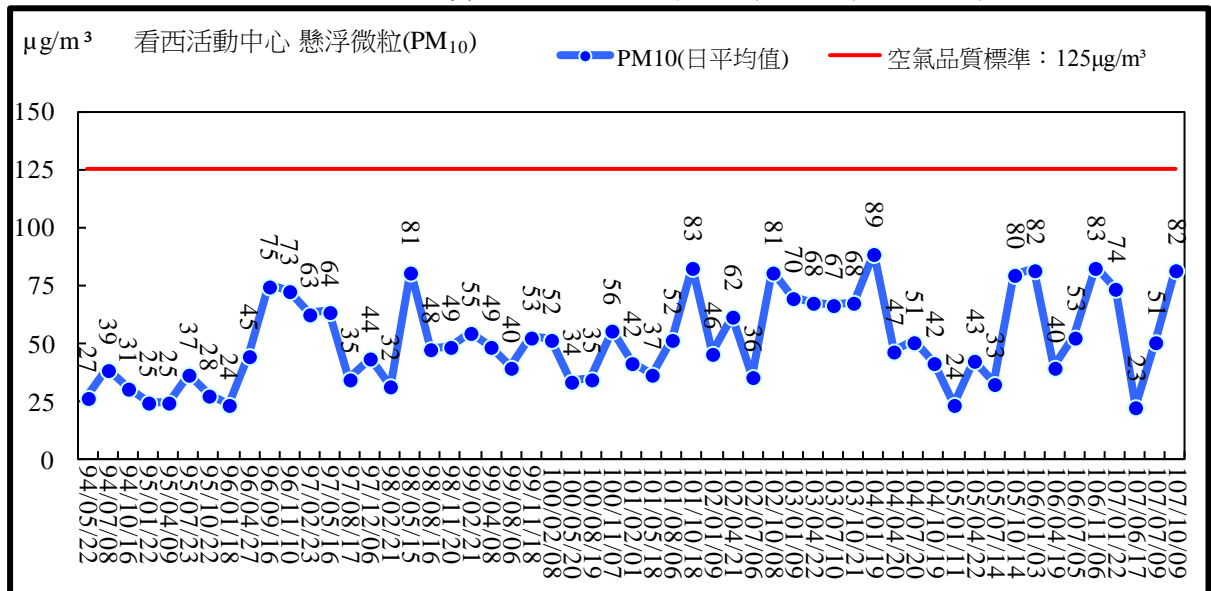


圖 2.5 空氣品質監測結果比較圖(看西活動中心 PM₁₀)

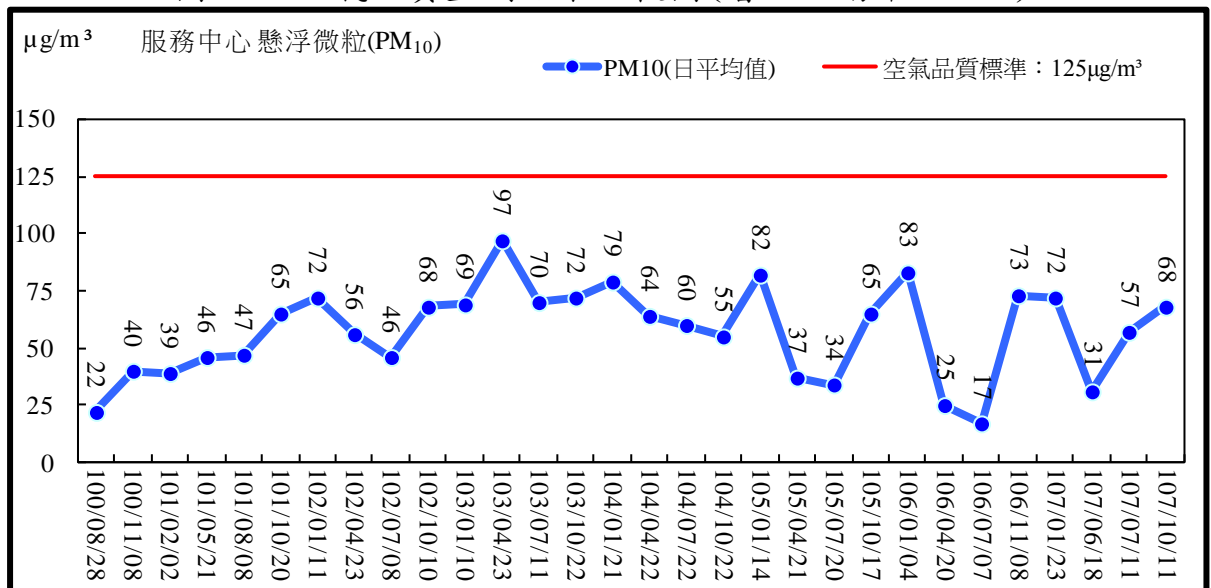


圖 2.6 空氣品質監測結果比較圖(服務中心 PM₁₀)

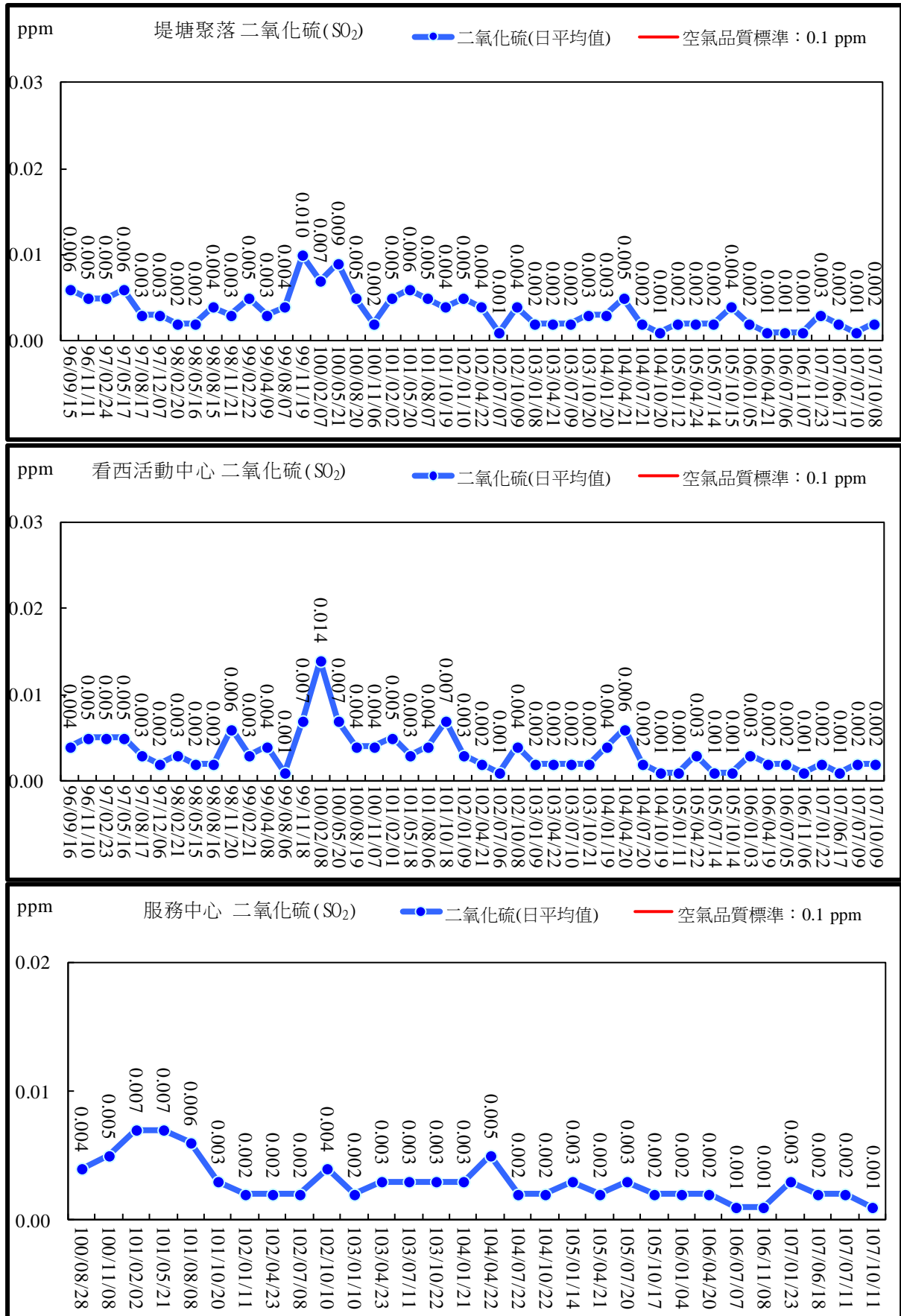


圖 2.7 空氣品質監測結果比較圖(二氧化硫日平均值)

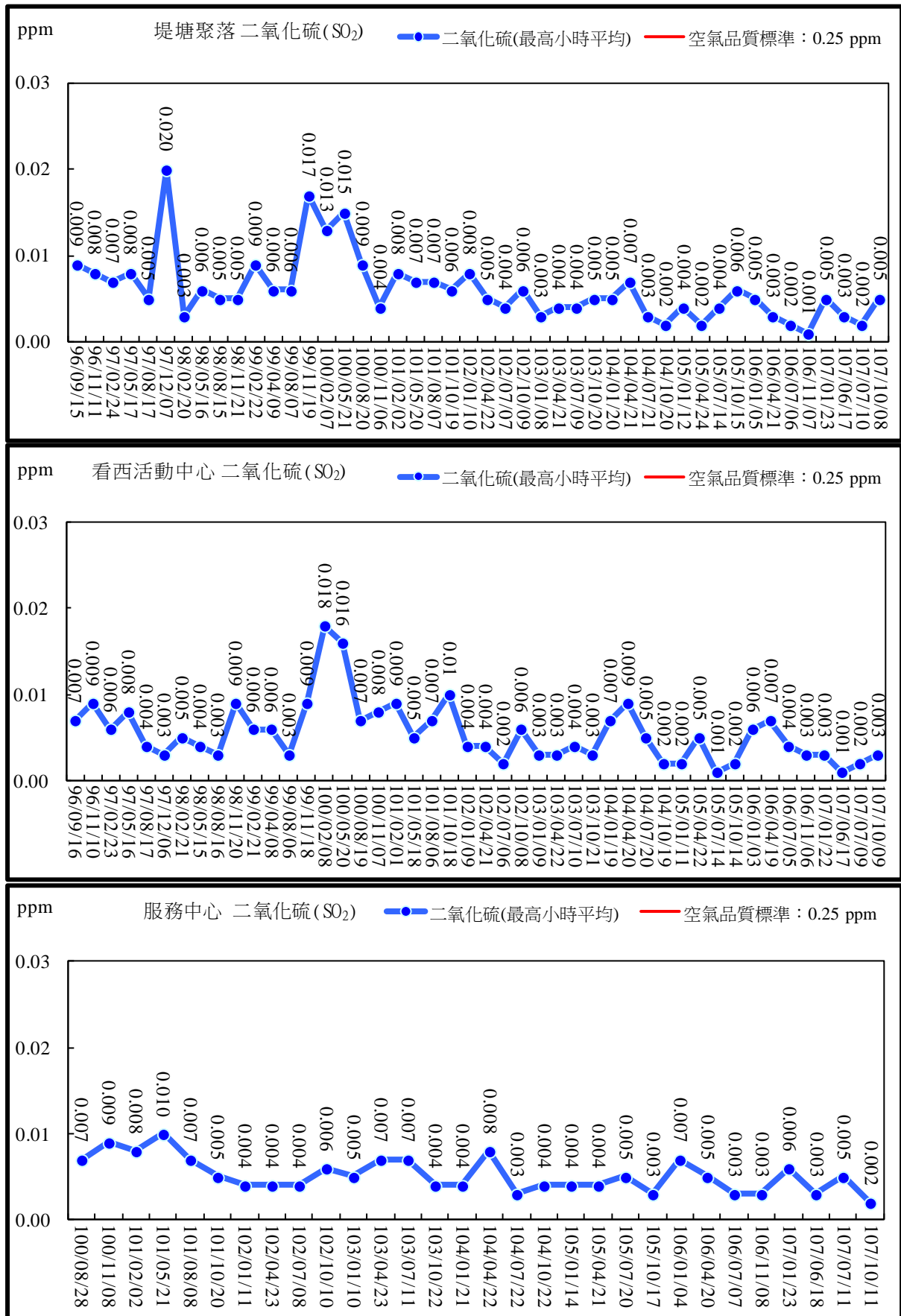


圖 2.8 空氣品質監測結果比較圖(二氧化硫最高小時平均值)

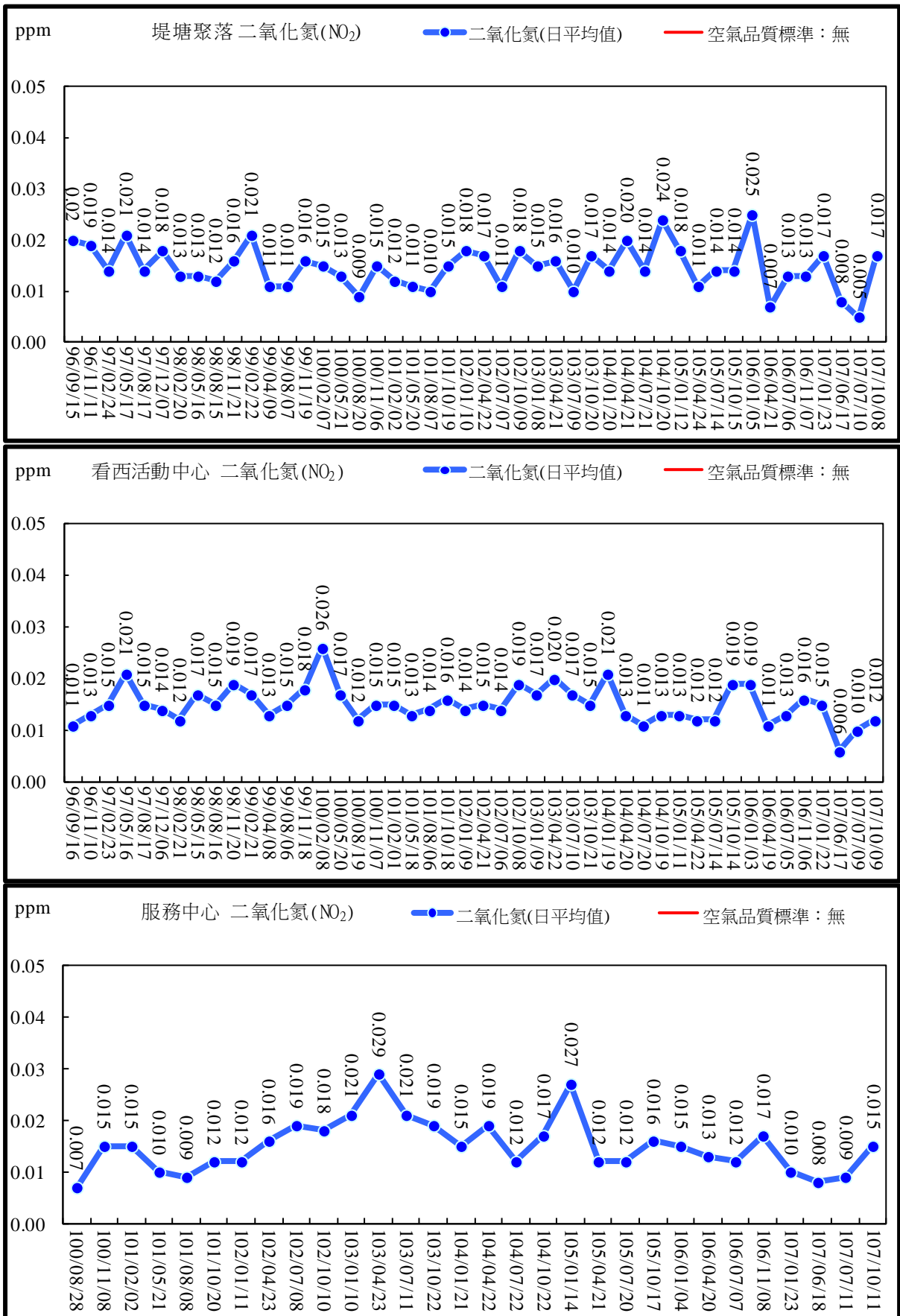


圖 2.9 空氣品質監測結果比較圖(二氧化氮日平均值)

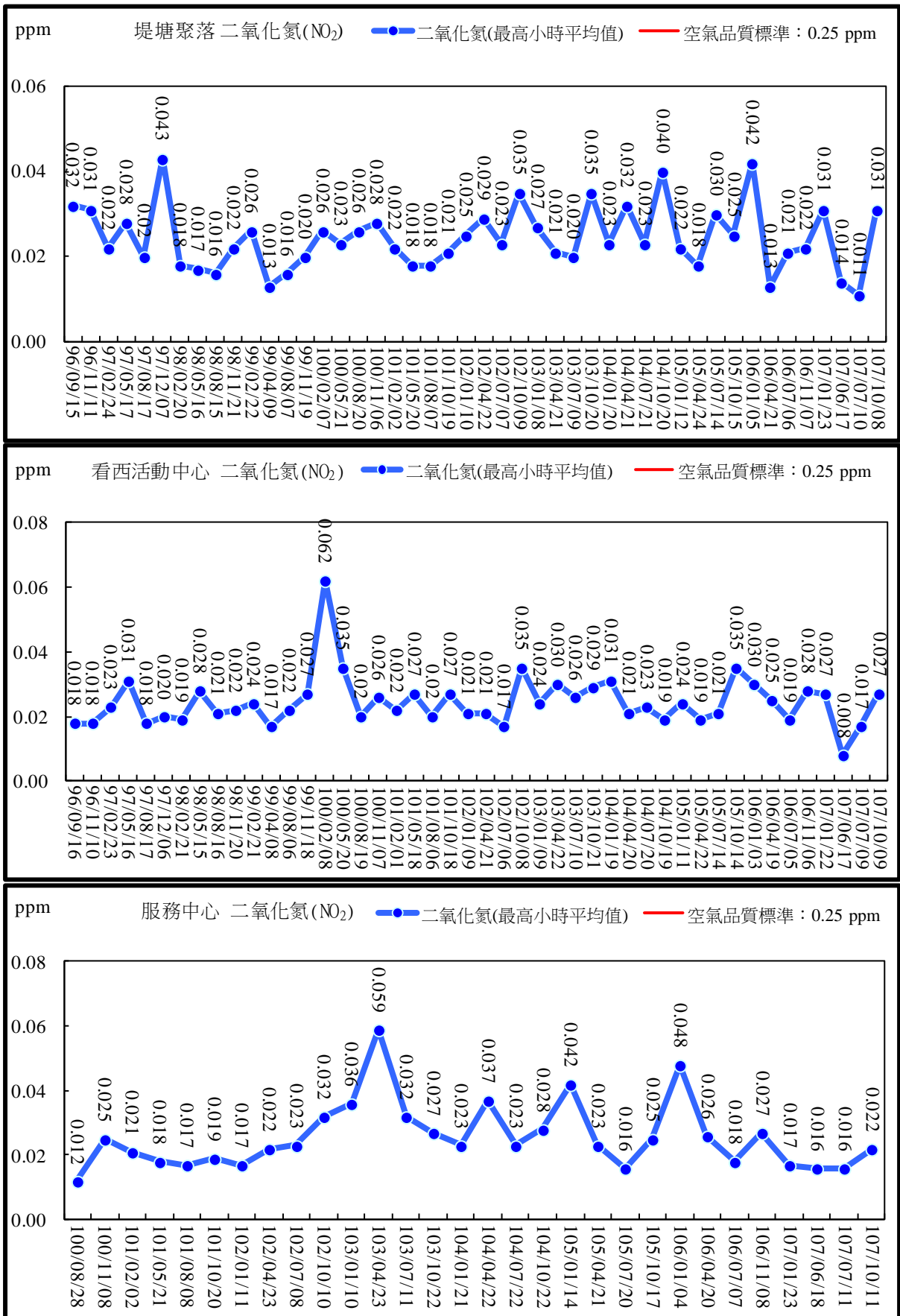


圖 2.10 空氣品質監測結果比較圖(二氧化氮最高小時平均值)

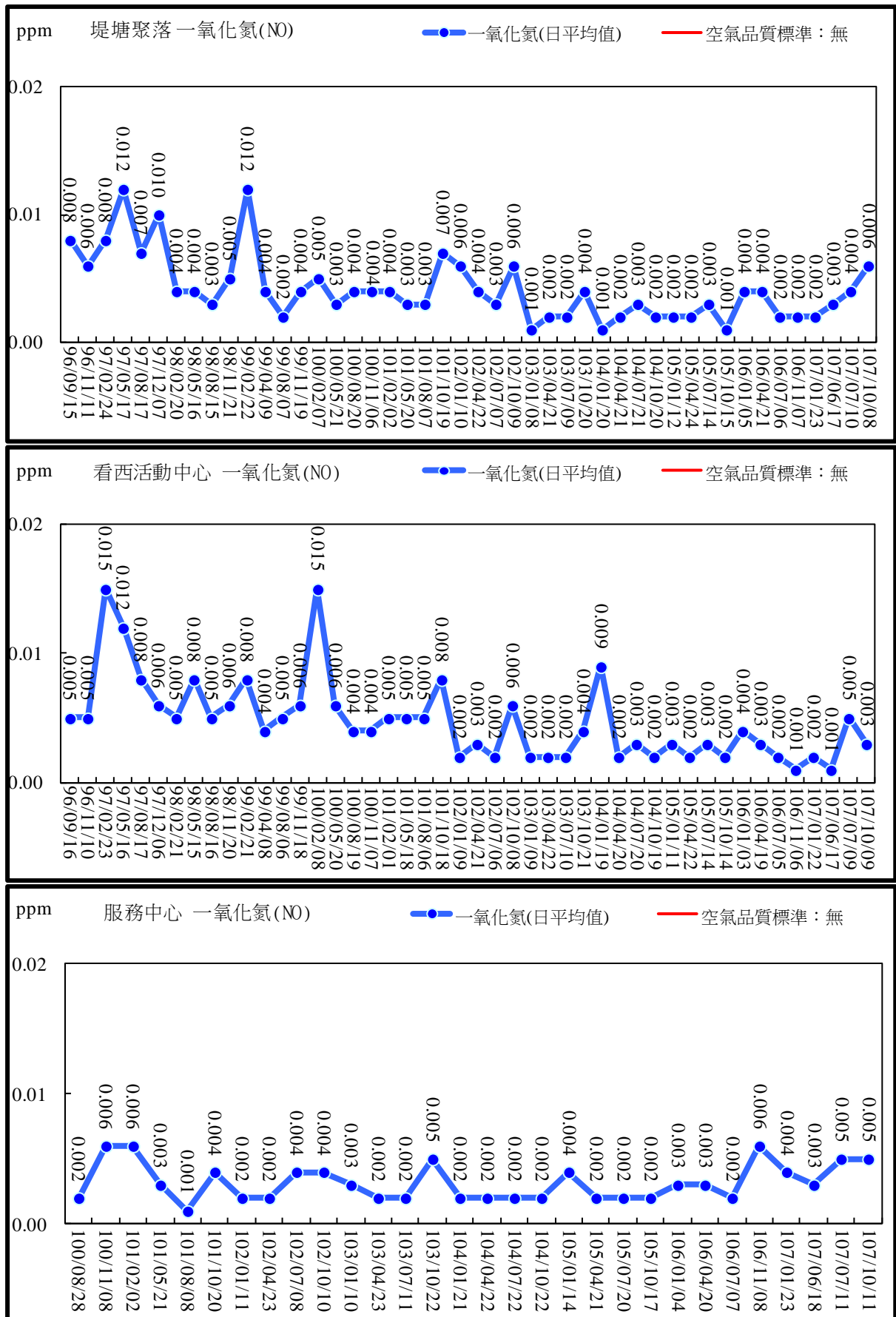


圖 2.11 空氣品質監測結果比較圖(一氧化氮日平均值)

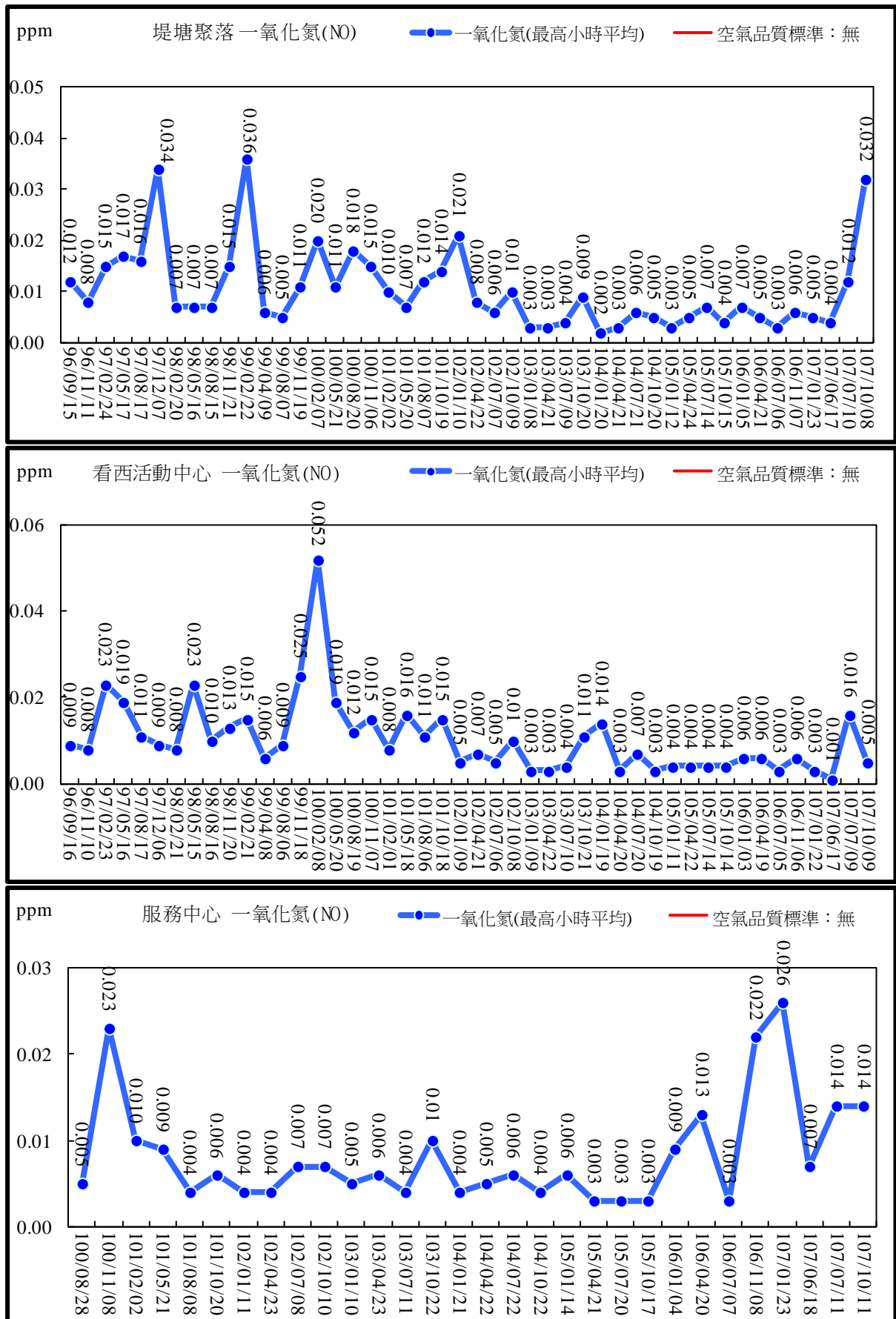


圖 2.12 空氣品質監測結果比較圖(一氧化氮最高小時平均值)

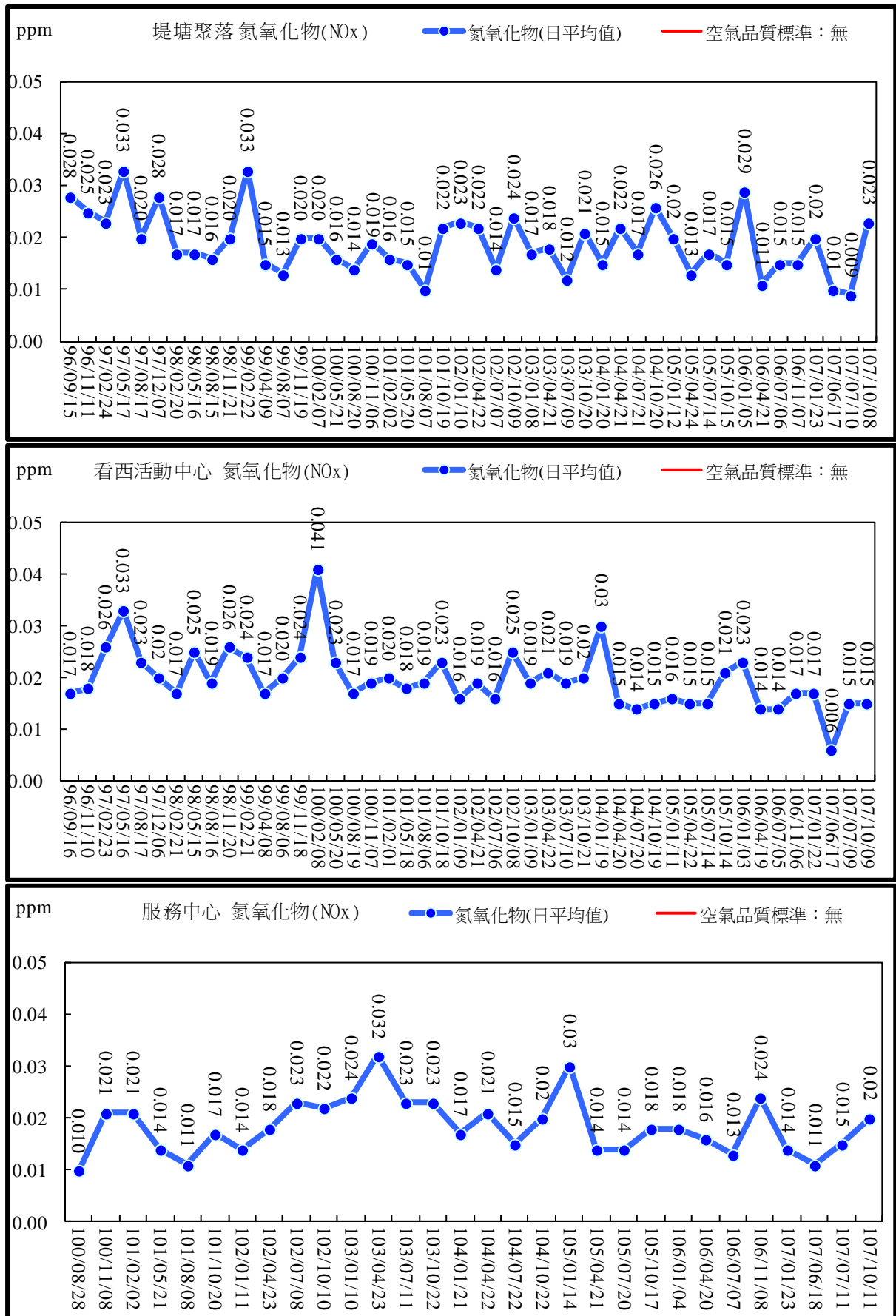


圖 2.13 空氣品質監測結果比較圖(氮氧化物日平均值)

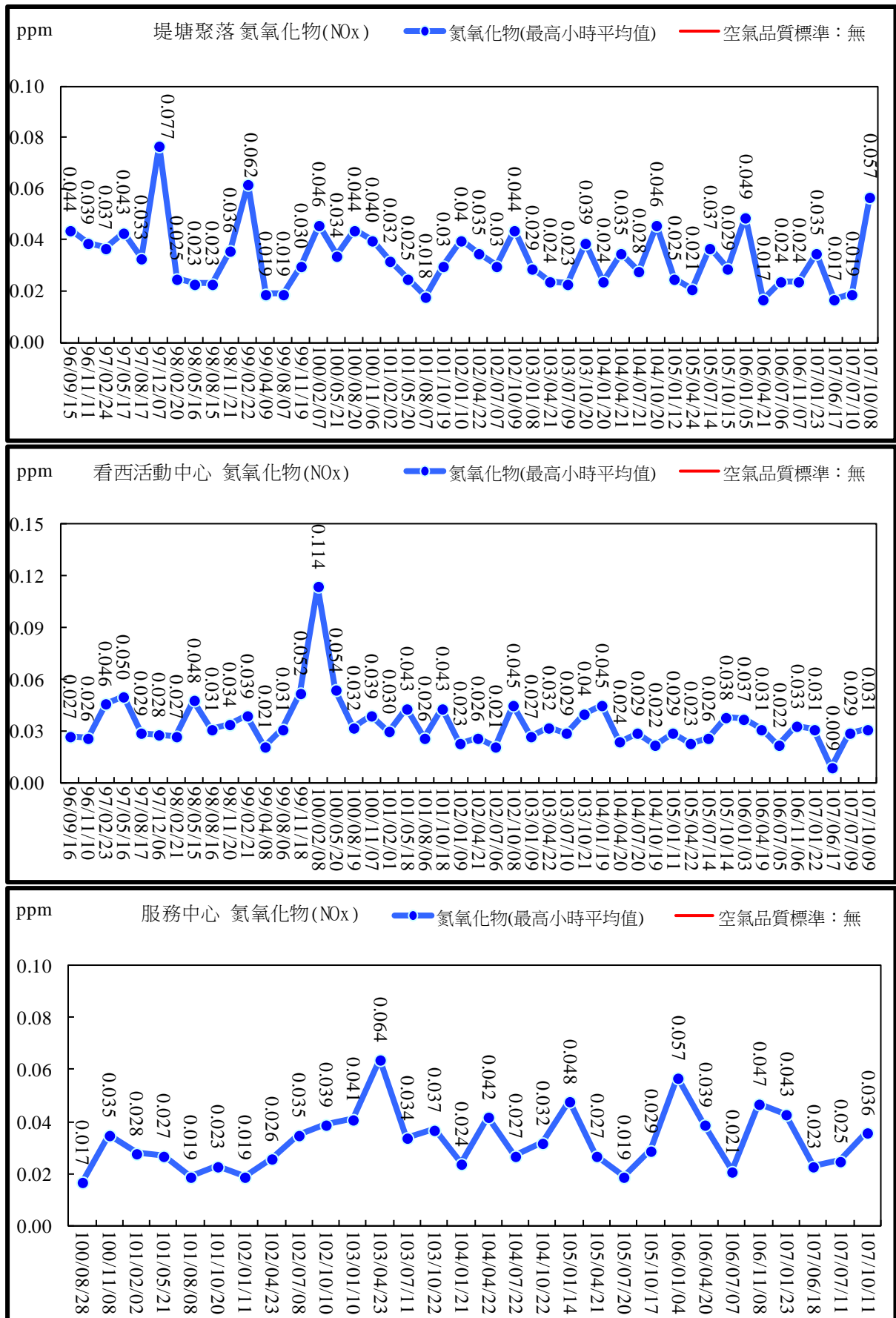


圖 2.14 空氣品質監測結果比較圖(氮氧化物最高小時平均值)

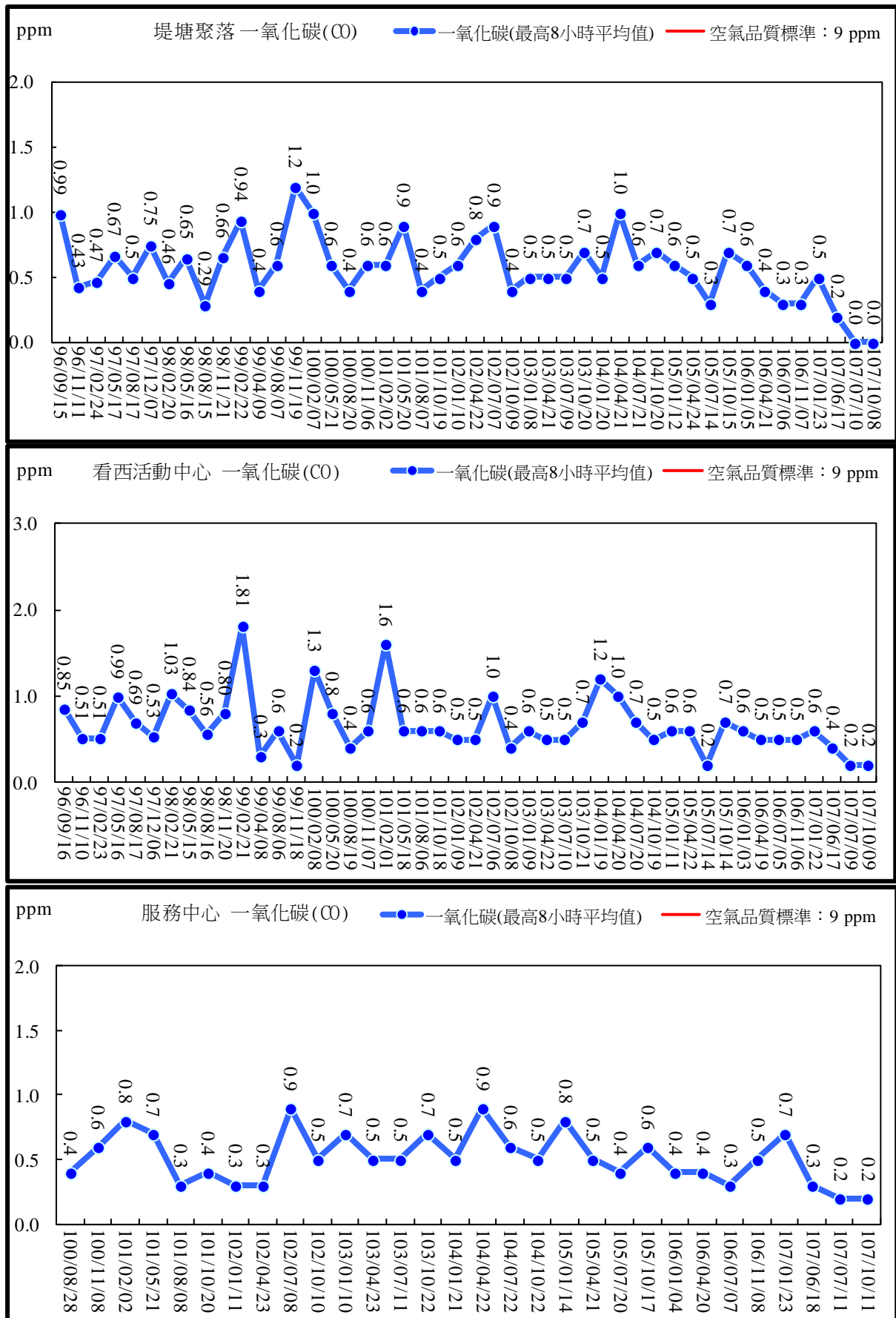


圖 2.15 空氣品質監測結果比較圖(一氧化碳最高八小時平均值)

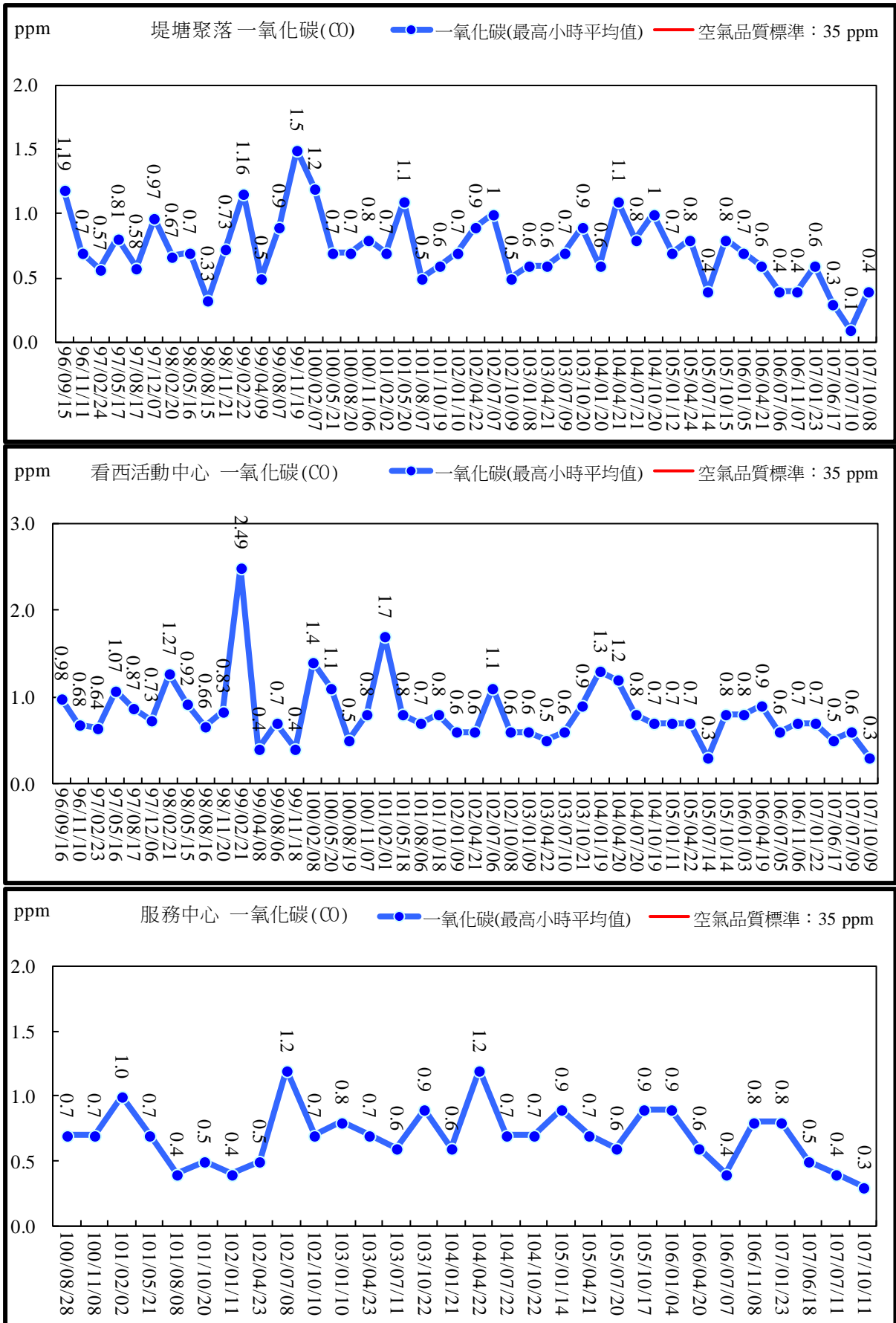


圖 2.16 空氣品質監測結果比較圖(一氧化碳最高小時平均值)

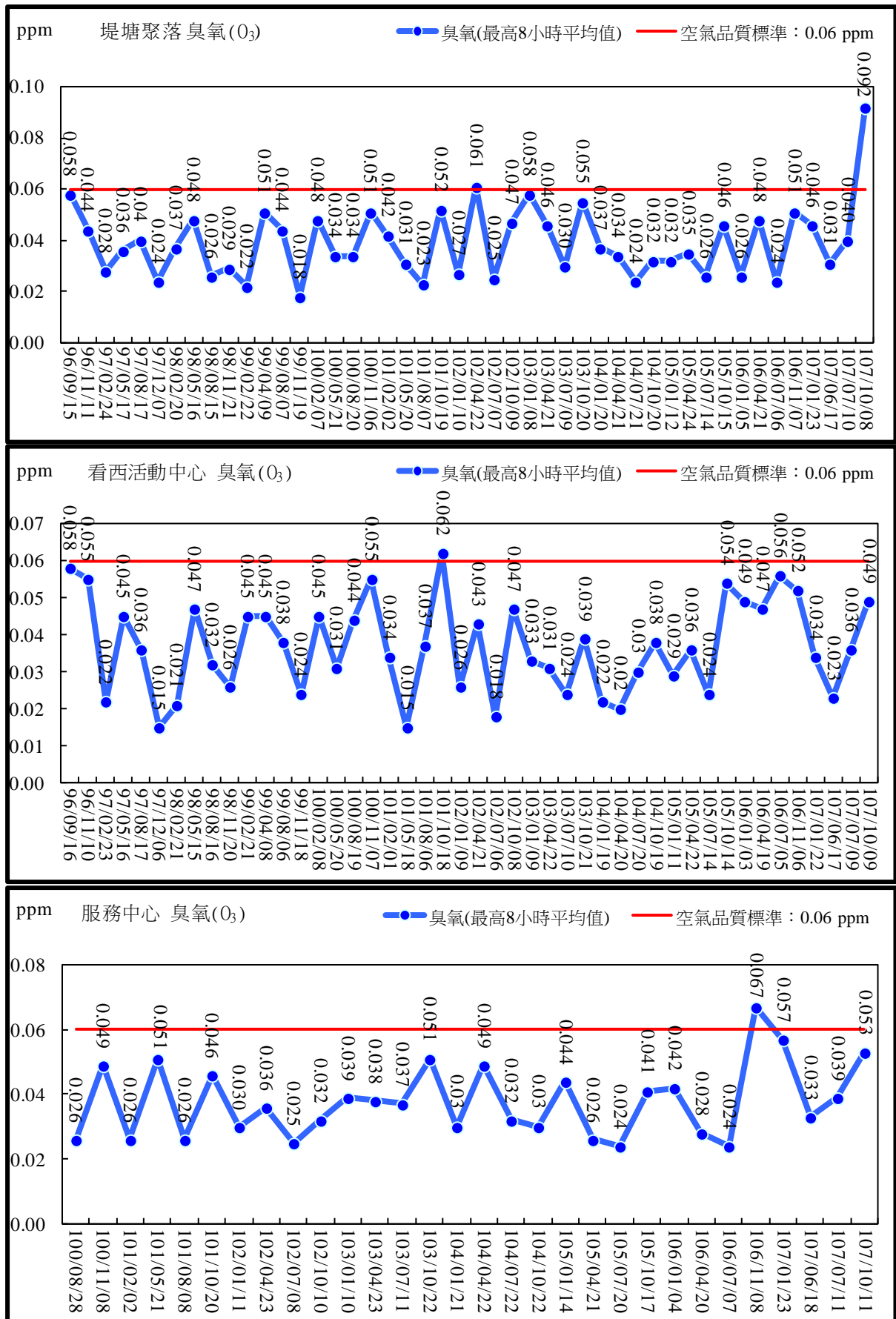


圖 2.17 空氣品質監測結果比較圖(臭氧最高八小時平均值)

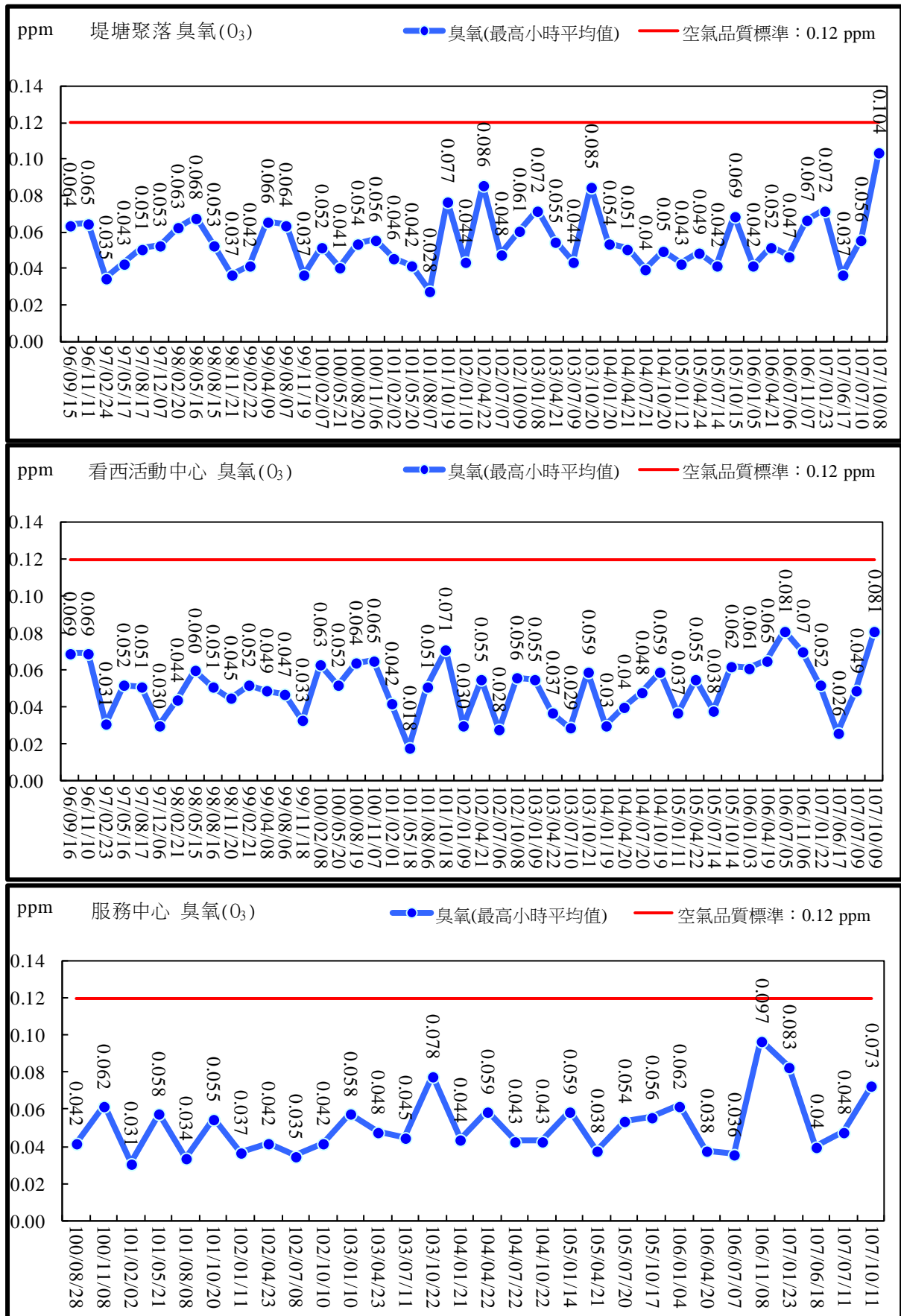


圖 2.18 空氣品質監測結果比較圖(臭氧最高小時平均值)

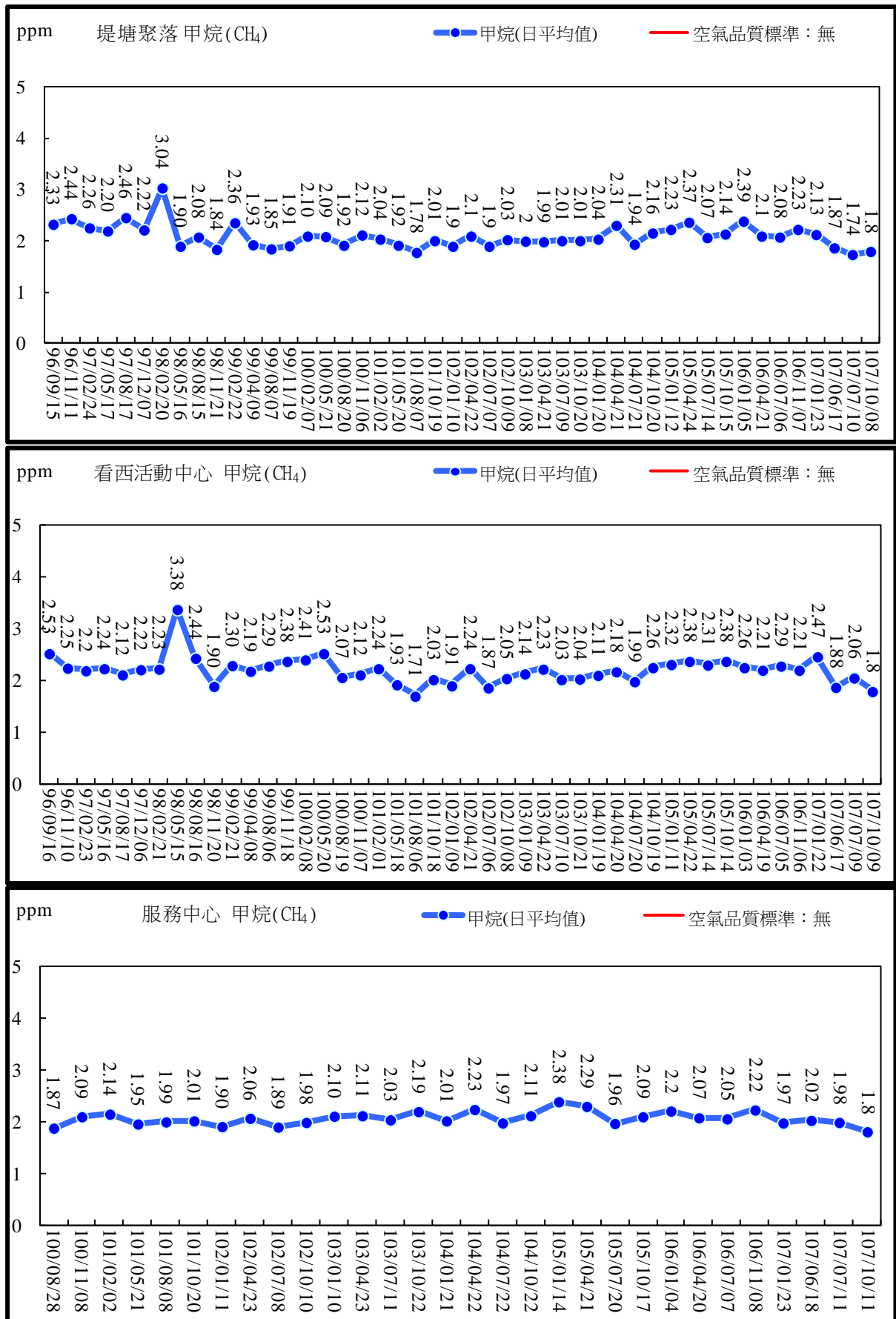


圖 2.19 空氣品質監測結果比較圖(甲烷日平均值)

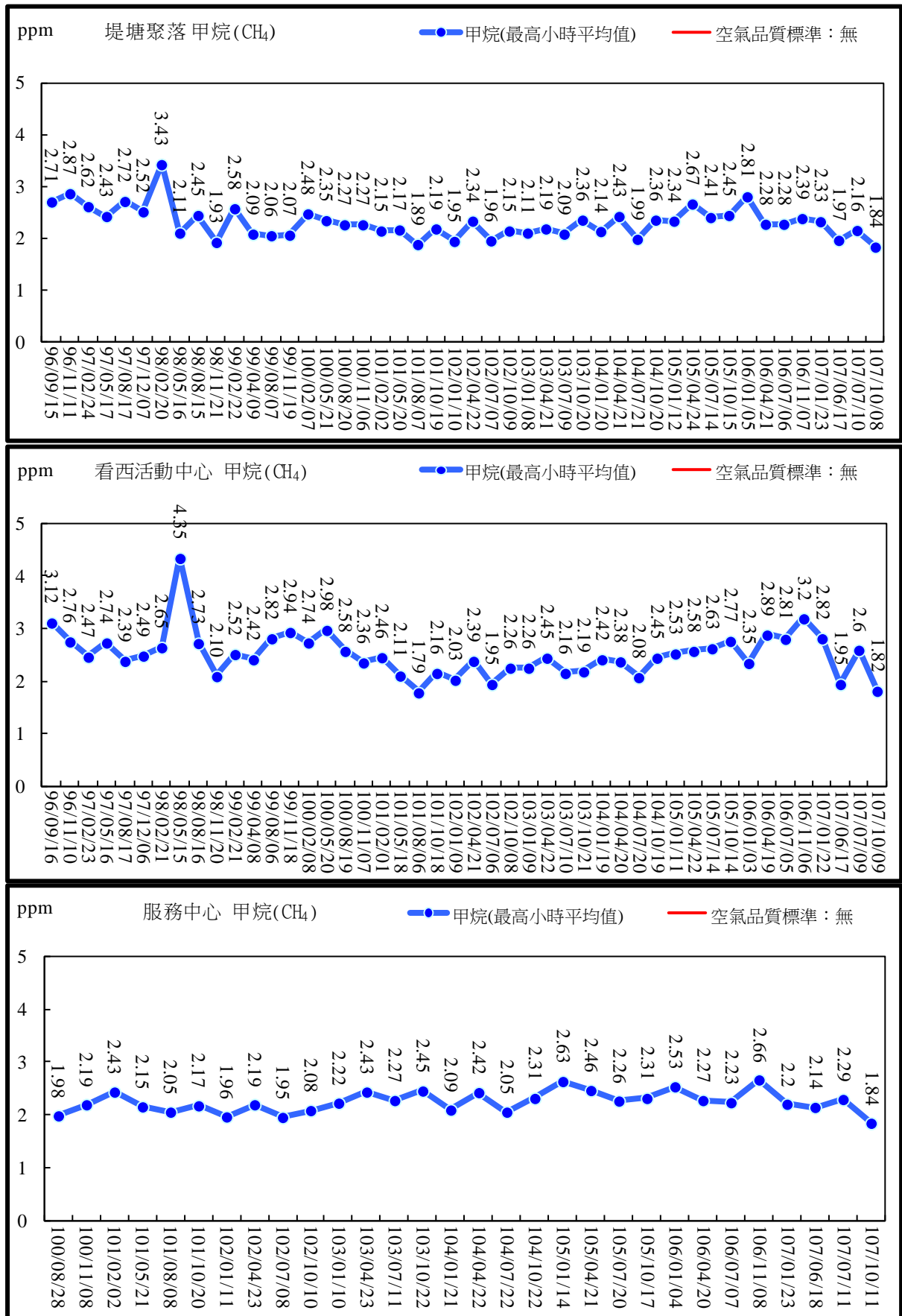


圖 2.20 空氣品質監測結果比較圖(甲烷最高小時平均值)

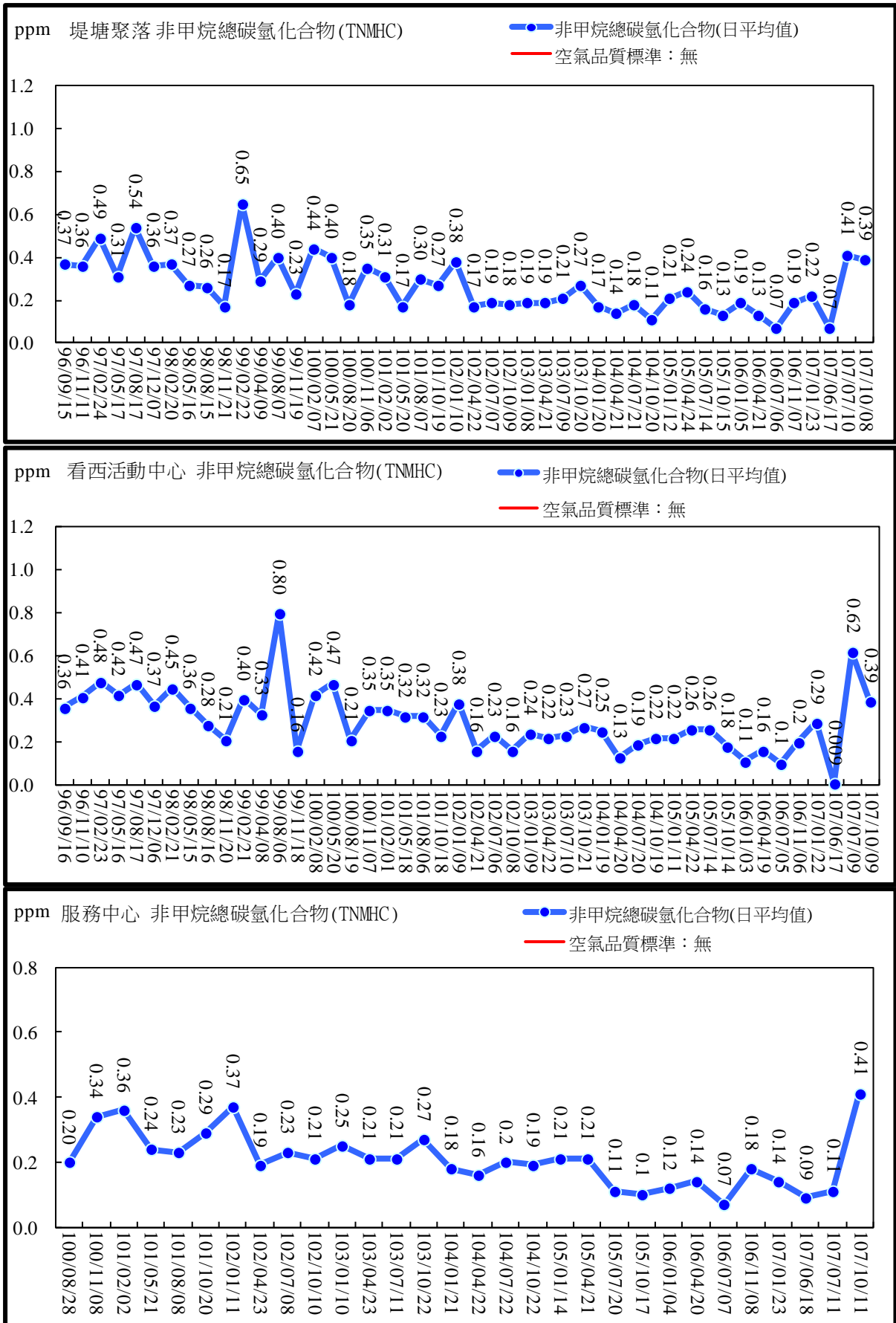


圖 2.21 空氣品質監測結果比較圖(非甲烷總碳氫化合物日平均值)

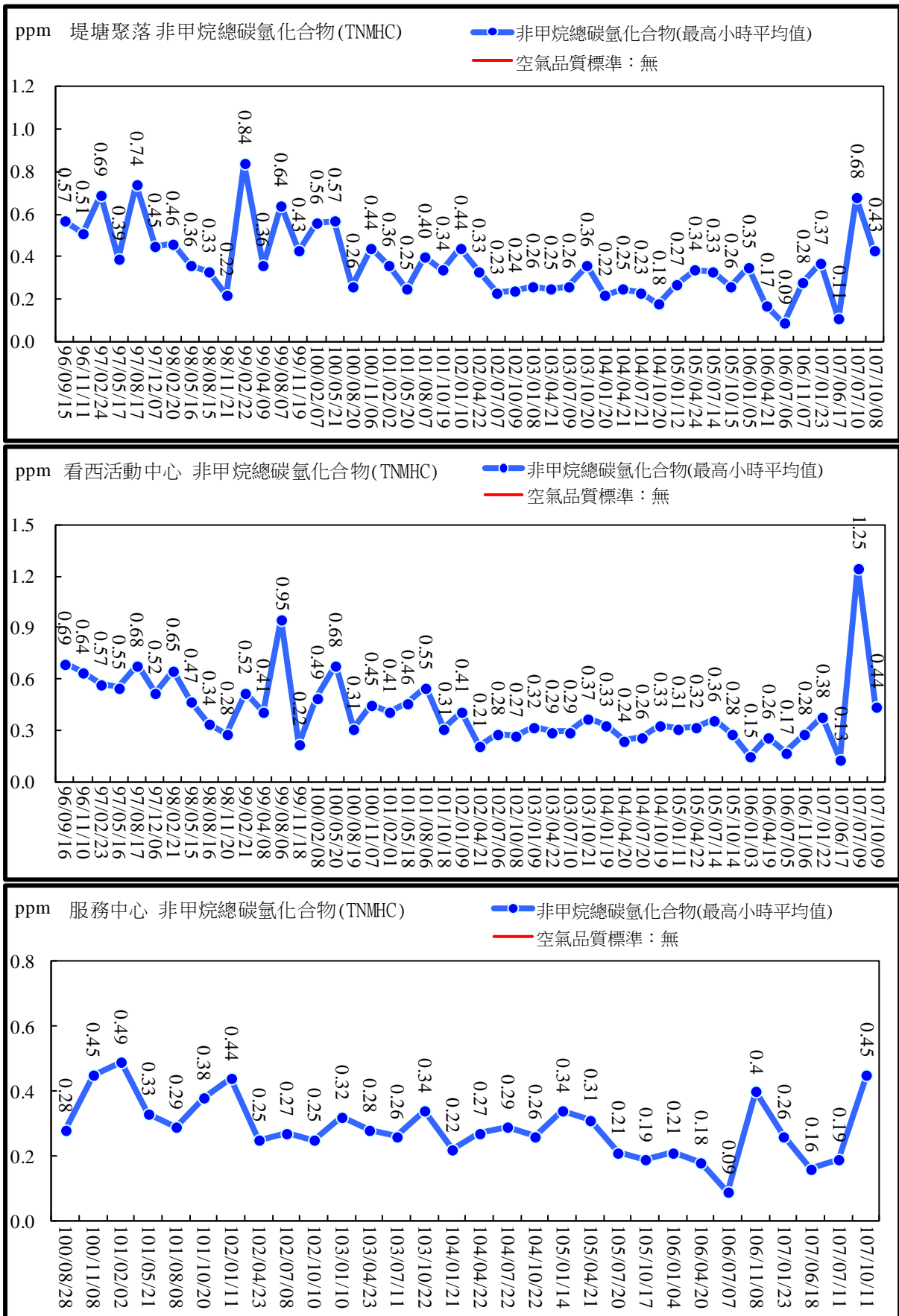


圖 2.22 空氣品質監測結果比較圖(非甲烷總碳氫化合物最高小時平均值)

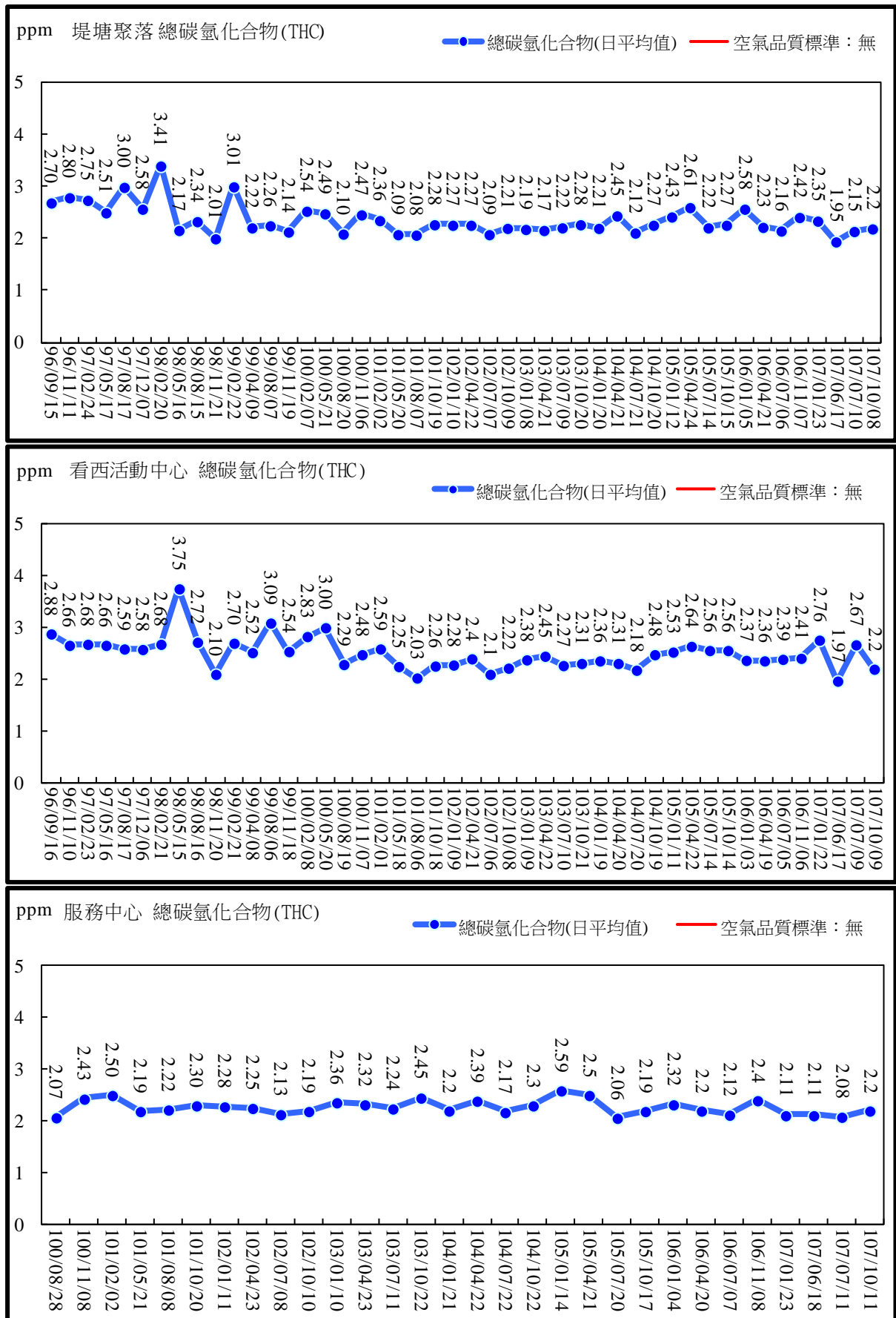


圖 2.23 空氣品質監測結果比較圖(總碳氫化合物日平均值)

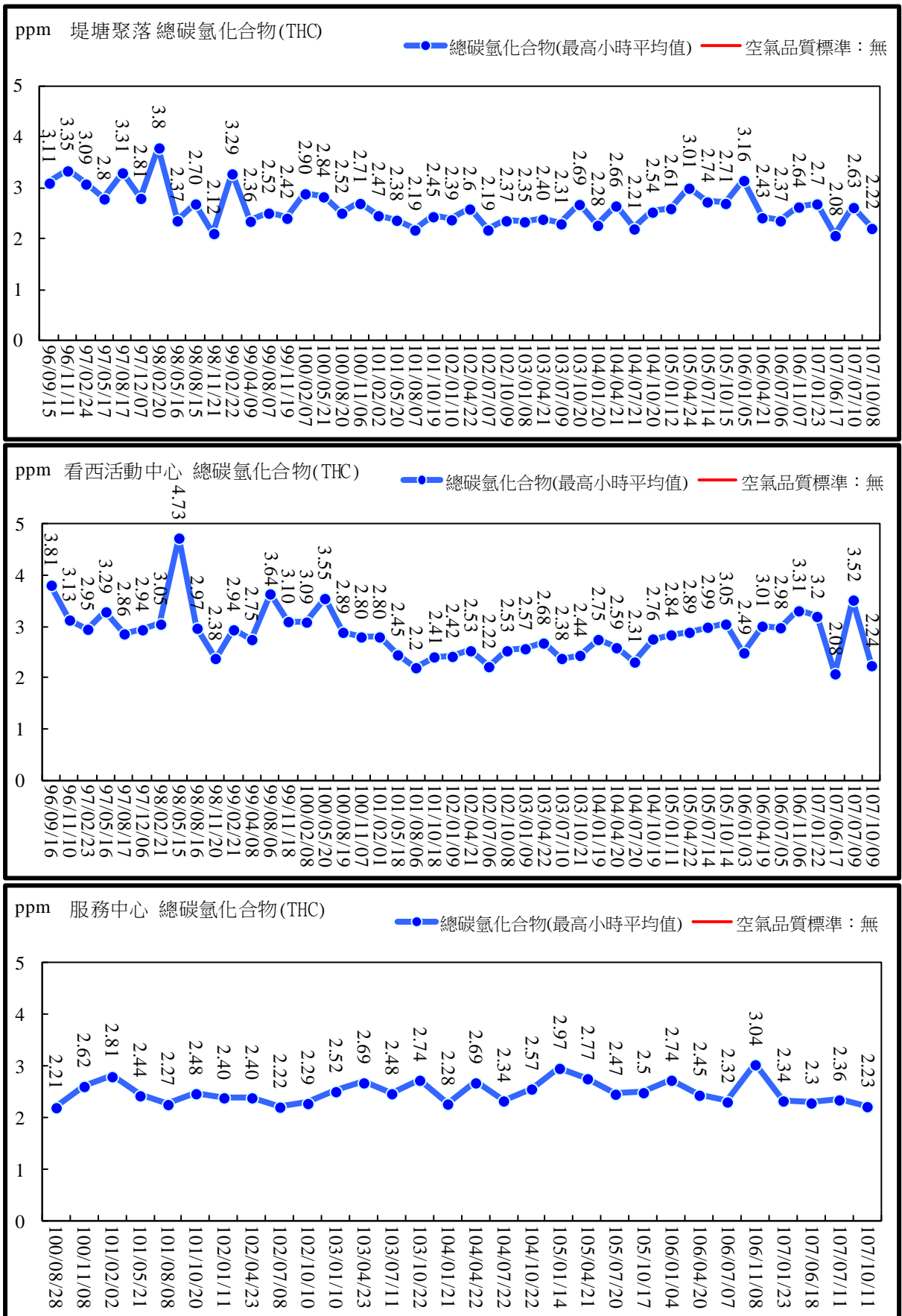


圖 2.24 空氣品質監測結果比較圖(總碳氫化合物最高小時平均值)

表 3-1 本季監測結果(續 3)

監測項目		法規標準	環評承諾	107年第4季	監測結果檢討	
水質	污水廠排放口(每週)	生化需氧量	30 mg/L	10 mg/L	ND<2.0~4.7	污水處理廠放流水所有測項均符合放流水標準及光電材料及元件製造業放流管制標準。所有測項與歷次數據比較皆在歷次範圍內，將持續觀察其測值變化，並持續維持污水廠之操作穩定度。請參閱污水處理廠放流口放流水質監測結果比較圖。
		硝酸鹽氮	50 mg/L	—	1.72~5.92	
		亞硝酸鹽氮	—	—	0.02~0.24	
		凱氏氮	—	—	0.11~2.64	
		總氮	—	20 mg/L	2.98~6.98	
		懸浮固體	30 mg/L	10 mg/L	ND<1.25~7.1	
		油脂	10 mg/L	—	ND<0.5	
		化學需氧量	100 mg/L	80 mg/L	12.8~43.8	
		真色色度	550	—	<25	
		總有機碳	—	—	5.2~14.0	
		氟化物	15 mg/L	—	2.02~4.90	
		氫離子濃度指數	—	—	6.6~7.4	
		導電度	—	—	2600~3740 µmho/cm at 25°C	
		溶氧量	—	—	5.2~6.9	
		六價鉻	0.5 mg/L	—	ND<0.0062~ND<0.0067	
		鋅	5.0 mg/L	—	0.02~0.22	
		鎘	0.03 mg/L	—	ND<0.0016	
		鉛	1.0 mg/L	—	ND<0.024~ND<0.025	
		錳	10.0 mg/L	—	ND<0.0038~0.05	
		銅	3.0 mg/L	—	ND<0.017~<0.05	
		汞	0.005 mg/L	—	ND<0.00022~<0.0005	
		砷	0.5 mg/L	—	0.0013~0.0341	
		硒	0.5 mg/L	—	ND<0.0048~<0.020	
		銀	0.5 mg/L	—	ND<0.0030	
		靈丹	0004 mg/L	—	ND<0.00003~ND<0.00005	
		安殺番 I	0.03 mg/L	—	ND<0.00004~ND<0.00005	
		安殺番 II	0.03 mg/L	—	ND<0.00004~ND<0.00005	
		飛佈達	0.001 mg/L	—	ND<0.00004~ND<0.00005	
		環氧飛佈達	0.001 mg/L	—	ND<0.00004~ND<0.00005	
		2,4'-滴滴涕	0.001 mg/L	—	ND<0.00004~ND<0.00005	
		4,4'-滴滴涕	0.001 mg/L	—	ND<0.00004~ND<0.00005	
		安特靈	0.0002 mg/L	—	ND<0.00004~ND<0.00005	
		除草劑	1.0 mg/L	—	ND<0.00024	
毒殺芬	0.005 mg/L	—	ND<0.00026~ND<0.00036			
五氯酚	0.005 mg/L	—	ND<0.00093~ND<0.00095			
阿特靈	0.003 mg/L	—	ND<0.00004~ND<0.00005			
有機磷劑	0.5 mg/L	—	ND<0.00180			

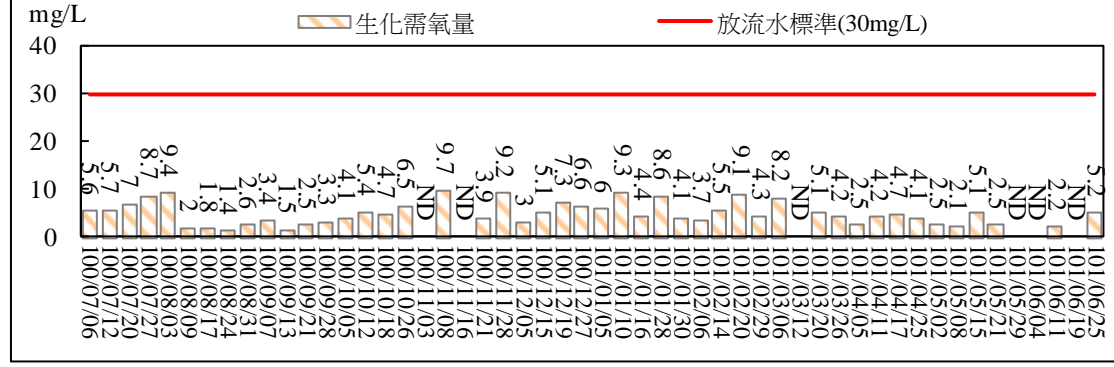
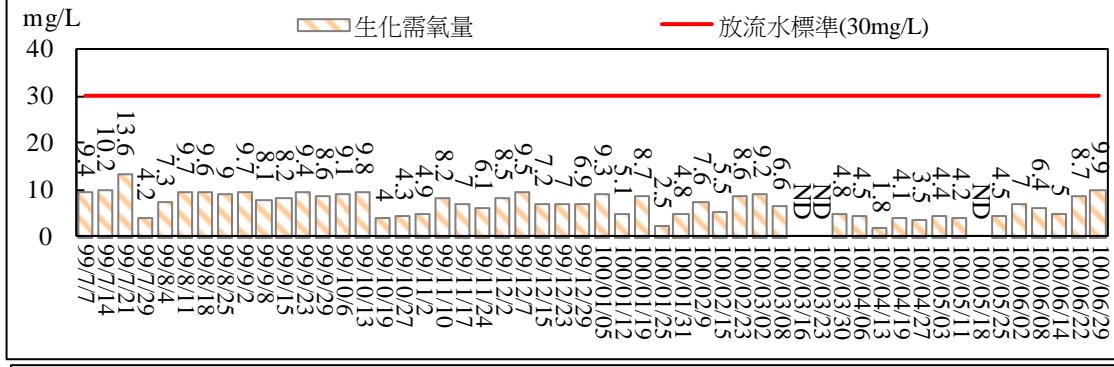
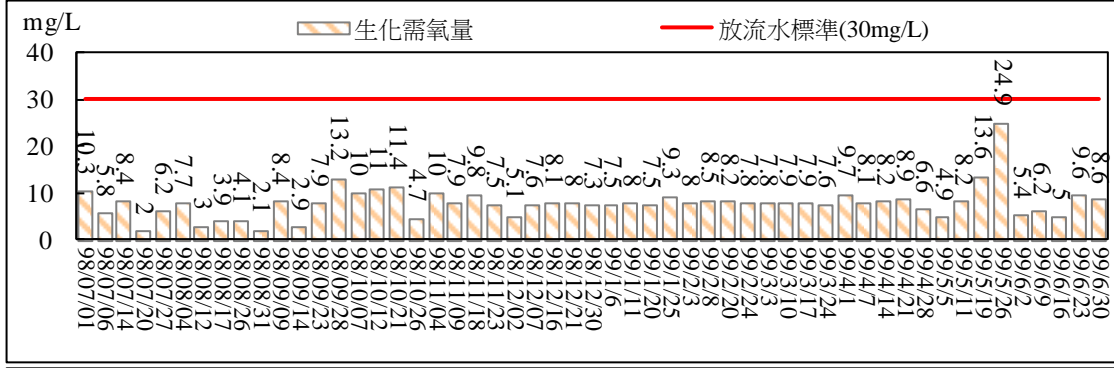
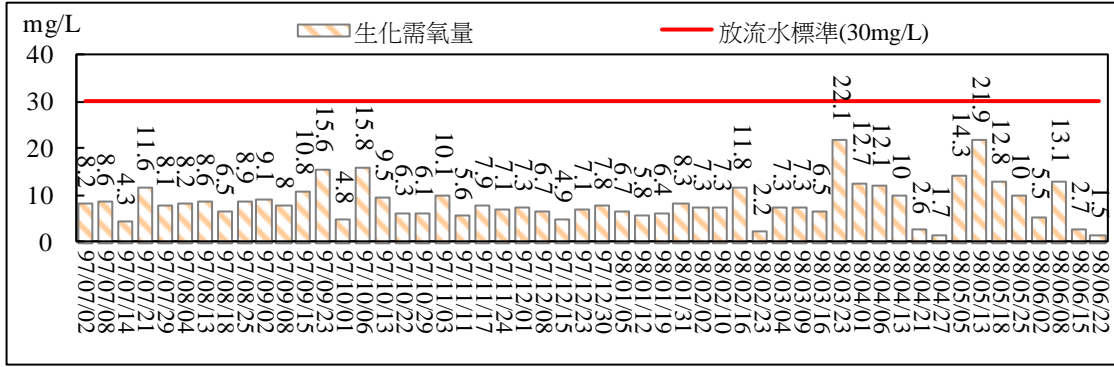
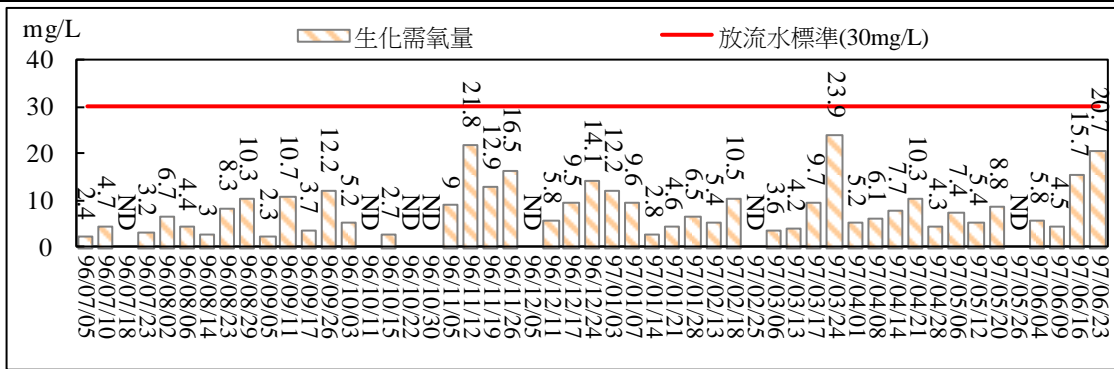
表 3-1 本季監測結果(續 4)

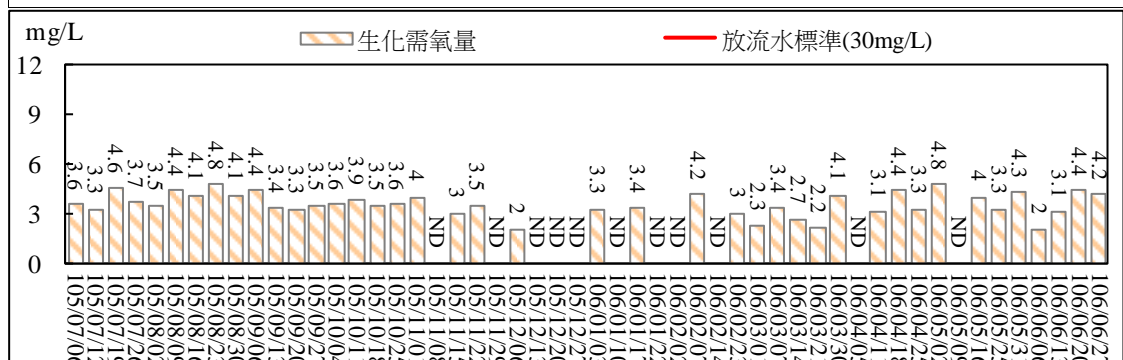
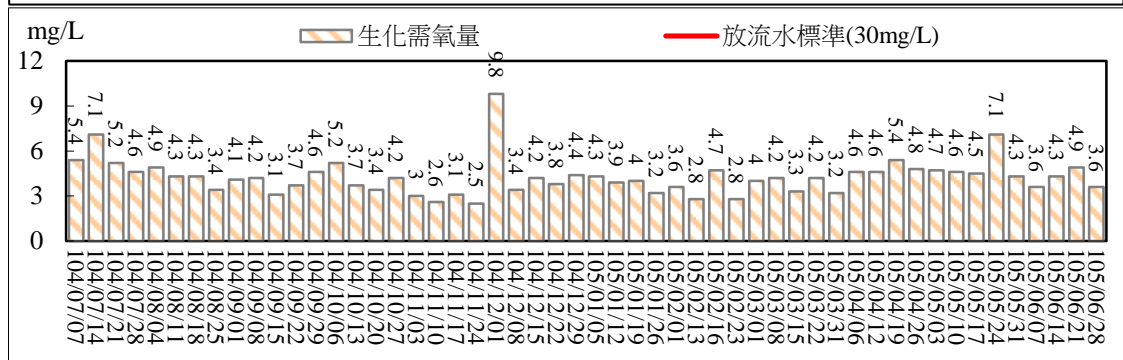
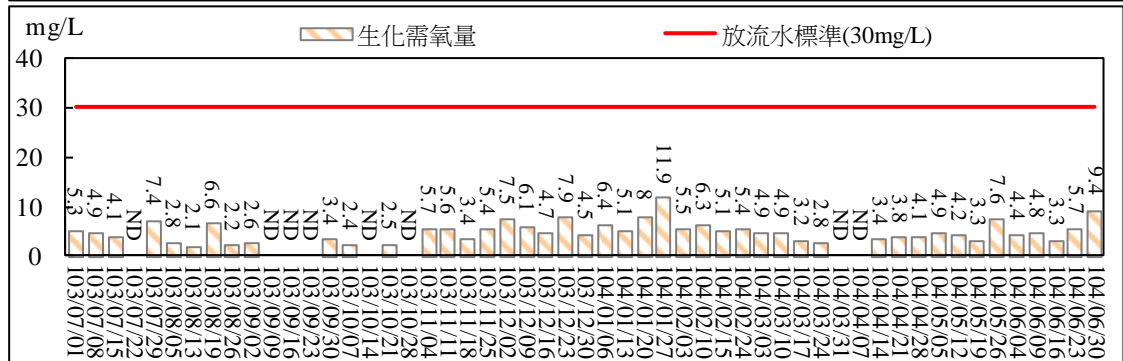
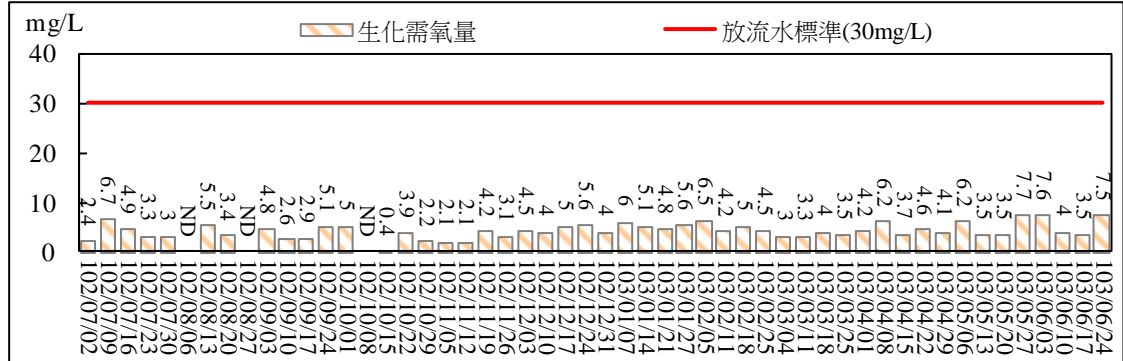
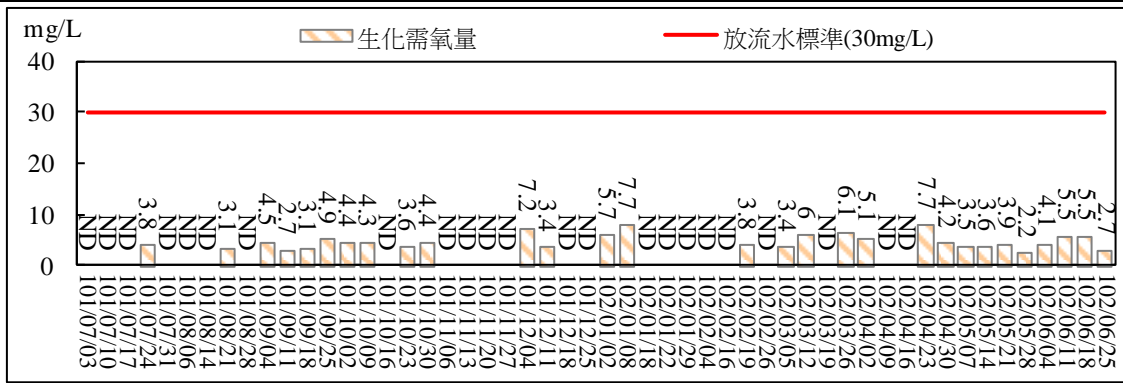
監測項目		法規標準	環評承諾	107年第4季	監測結果檢討	
水質	污水廠排放口(每季)	氨氮	10 mg/L	—	0.05	污水處理廠放流水所有測項均符合放流水標準及光電材料及元件製造業放流管制標準。所有測項與歷次數據比較皆在歷次範圍內,將持續觀察其測值變化,並持續維持污水廠之操作穩定度。請參閱污水處理廠放流口放流水質監測結果比較圖。
		凱氏氮	—	—	0.11	
		總氮	—	—	3.70	
		總磷	—	—	1.16	
		硒	0.5 mg/L	—	ND<0.0048	
		鉬	0.6 mg/L	—	0.022	
		錫	0.5 mg/L	—	<0.020	
		鎳	0.1 mg/L	—	ND<0.0043	
		銻	0.1 mg/L	—	ND<0.0054	
		酚	1.0 mg/L	—	<0.0020	
		鉻	2.0 mg/L	—	ND<0.019	
		氰化物	1.0 mg/L	—	ND<0.0024	
		鎳	1.0 mg/L	—	ND<0.018	
		1,1-二氯乙烯	—	—	ND<0.00029	
		二氯甲烷	—	—	ND<0.00021	
		三氯甲烷(氯仿)	—	—	<0.00100	
		1,1,1-三氯乙烷	—	—	ND<0.00030	
		四氯化碳	—	—	ND<0.00034	
		1,2-二氯乙烷	—	—	ND<0.00031	
		三氯乙烯	—	—	ND<0.00029	
		一溴二氯甲烷(溴二氯甲烷)	—	—	ND<0.00029	
		甲苯	—	—	ND<0.00024	
		1,1,2-三氯乙烷	—	—	ND<0.00031	
		四氯乙烯	—	—	ND<0.00027	
		1,3-二氯苯	—	—	ND<0.00022	
		對-二氯苯(1,4-二氯苯)	—	—	ND<0.00022	
		1,2-二氯苯	—	—	ND<0.00022	
		1,2,4-三氯苯	—	—	ND<0.00016	
		萘	—	—	ND<0.00019	
		乙苯(乙基苯)	—	—	ND<0.00023	
		2,4,6-三氯酚	—	—	ND<0.00109	
		2-氯酚	—	—	ND<0.00112	
2,4-二氯酚	—	—	ND<0.00111			
2-硝基酚	—	—	ND<0.00112			
4-硝基酚	—	—	ND<0.00050			
蒽	—	—	ND<0.00106			

表 3-1 本季監測結果(續 5)

監測項目		法規標準	環評承諾	107年第4季	監測結果檢討
水質	污水廠排放口(每季)	1,2-二苯基聯銨	—	—	ND<0.00117
		異佛爾酮	—	—	ND<0.00116
		五氯酚	—	—	ND<0.00093
		鄰苯二甲酸二丁酯	—	—	ND<0.00123
		鄰苯二甲酸丁苯酯	—	—	ND<0.00122
		鄰苯二甲酸乙己酯	—	—	ND<0.00149
		總毒性有機物	1.37 mg/L	—	<0.00991
		磷酸鹽	—	—	1.10
		生物急毒性(水蚤)	—	—	<1.00
		生物急毒性(羅漢魚)	—	—	<1.00
		以下空白			

註：1.污水處理廠放流口，99年第三季起，每季監測項目為氨氮、總磷、總氮、硒、鎂、錫、銻、鉬、鉍、總毒性有機物。
 2.鎂、錫、銻、鉬、鉍、總毒性有機物及水樣急毒性，引用光電業放流水標準。
 3.總毒性有機物係依風險管理概念，將水中酚、1,1-二氯乙烯、二氯甲烷、三氯甲烷(氯仿)、1,1,1-三氯乙烷、四氯化碳、1,2-二乙烷、三氯乙烯、一溴二氯甲烷(溴二氯甲烷)、甲苯、1,1,2-三氯乙烷、四氯乙烯、1,3-二氯苯、對-二氯苯(1,4-二氯苯)、1,2-二氯苯、1,2,4-三氯苯、萘、乙苯(乙基苯)、2,4,6-三氯酚、2-氯酚、2,4-二氯酚、2-硝基酚、4-硝基酚、蒽、1,2-二苯基聯銨、異佛爾酮、五氯酚、鄰苯二甲酸二丁酯及鄰苯二甲酸丁苯酯，計30種化合物之濃度總和。





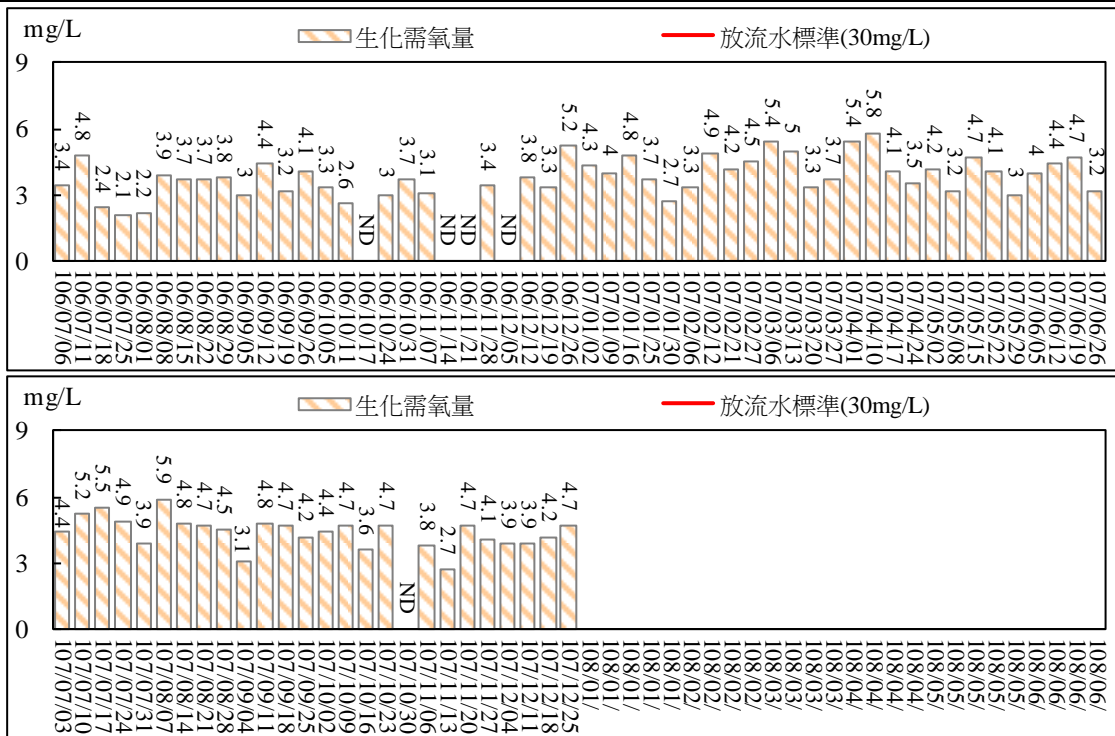
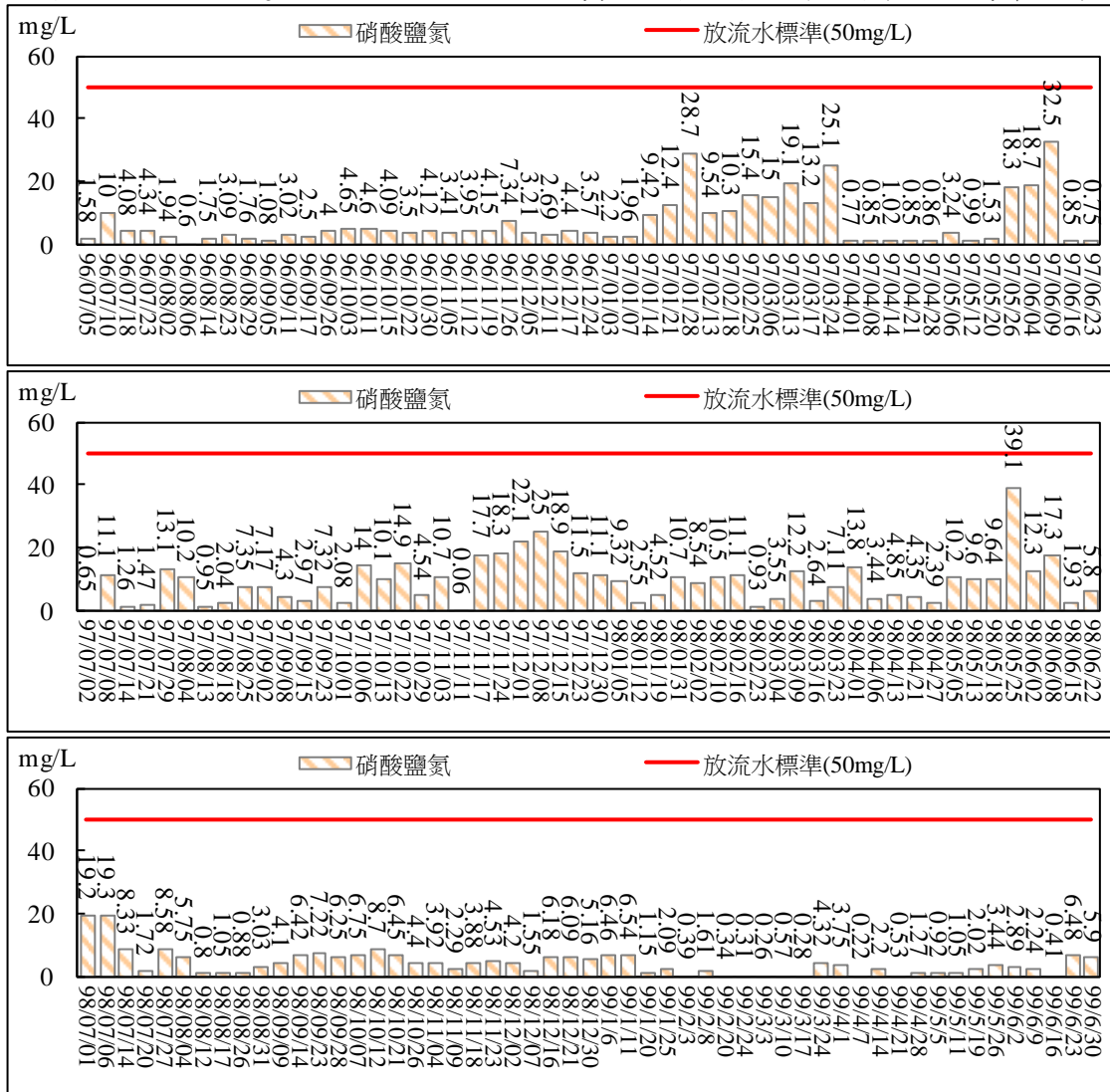
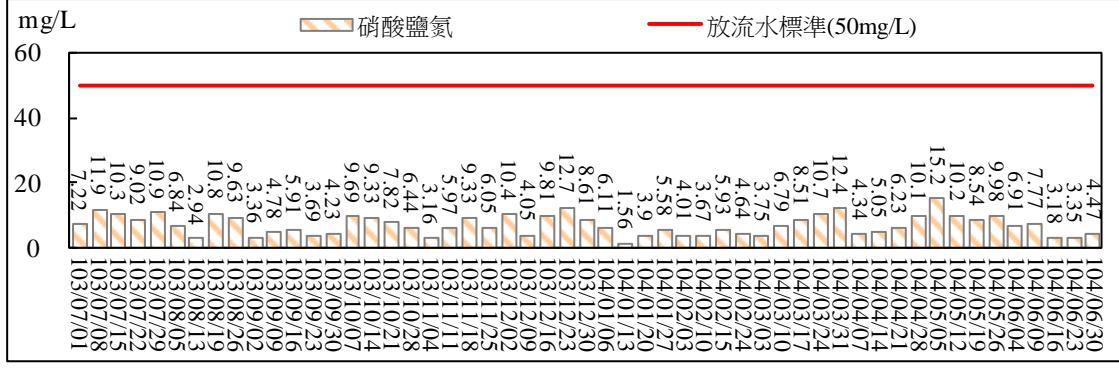
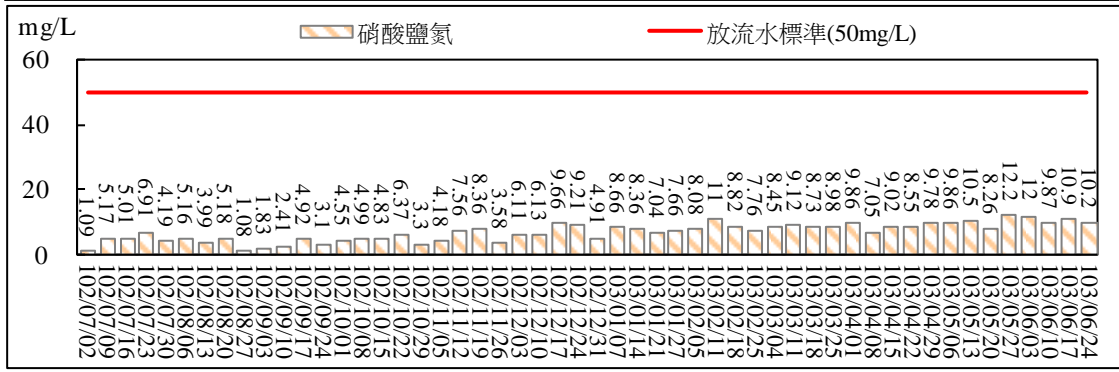
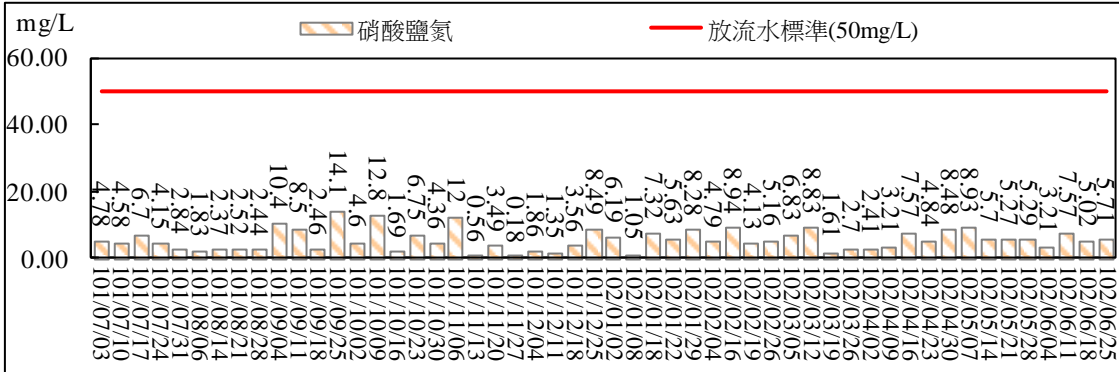
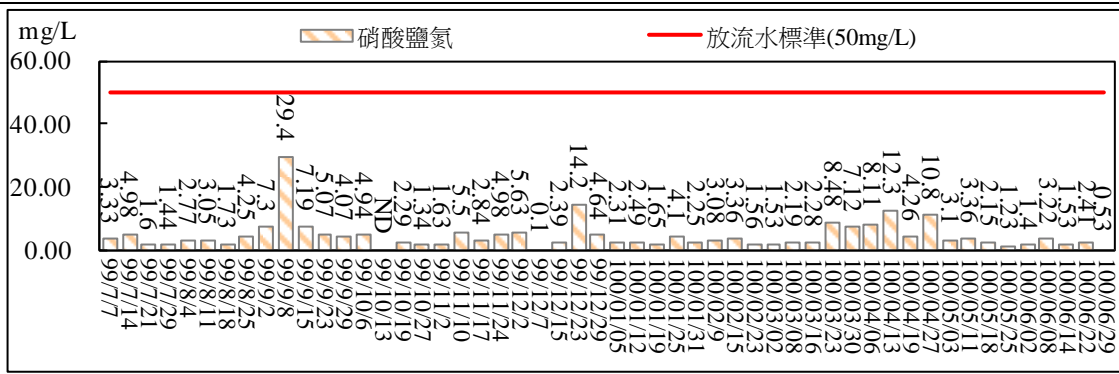


圖 2.25 污水處理廠放流口放流水質監測結果比較圖(生化需氧量)





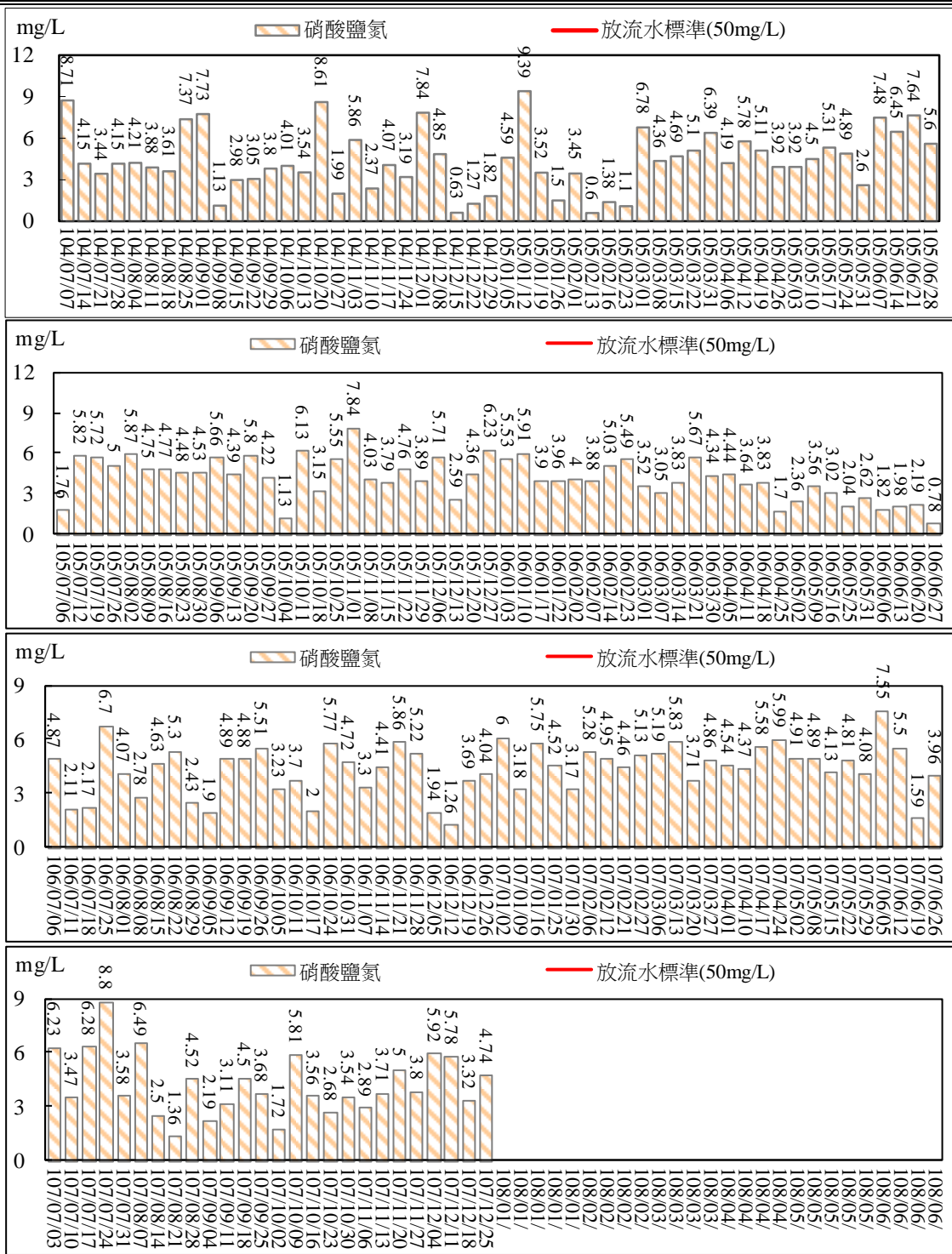
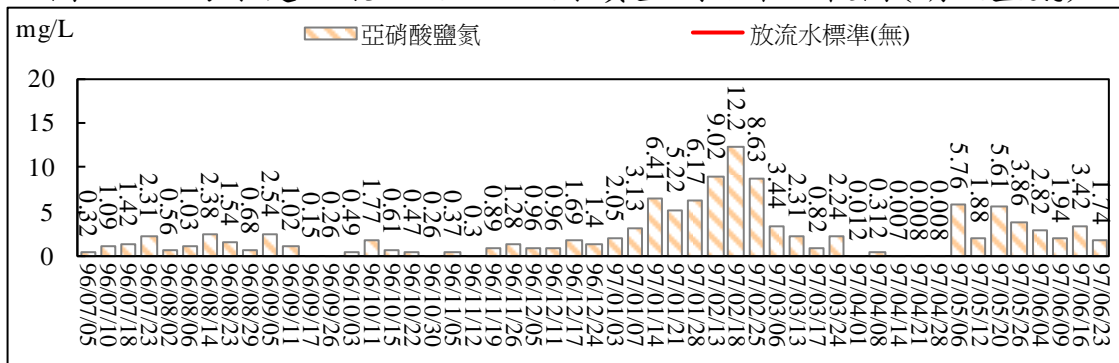
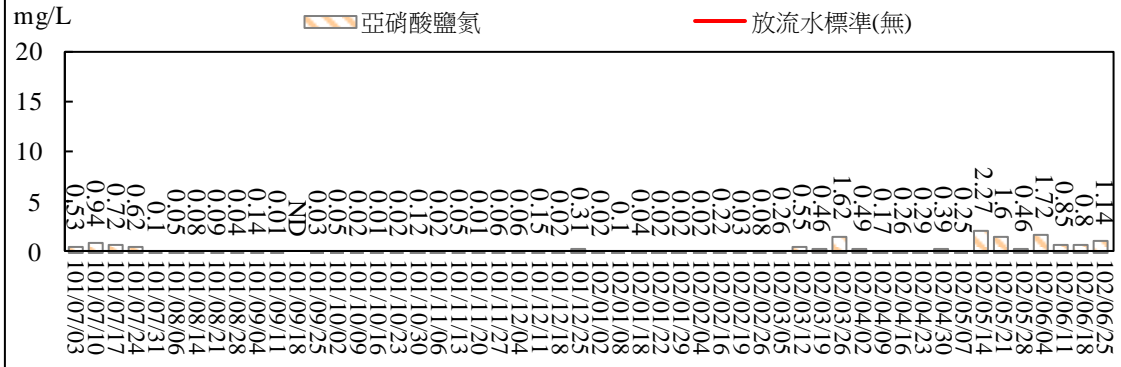
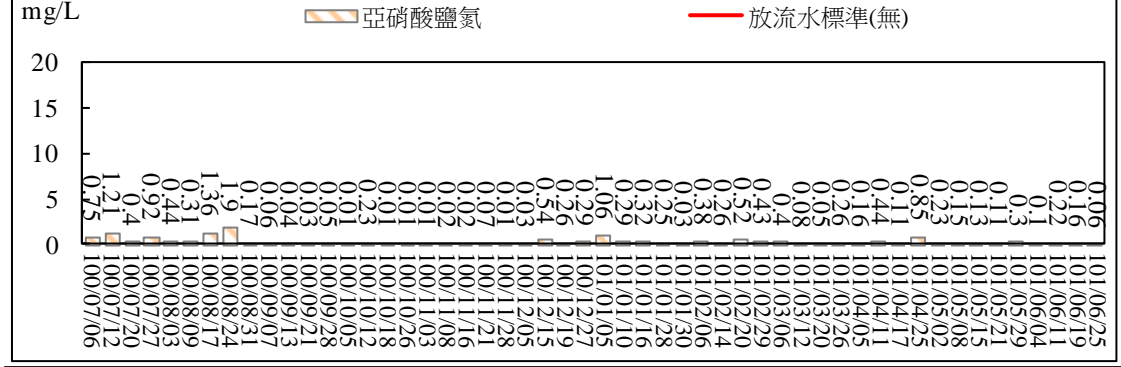
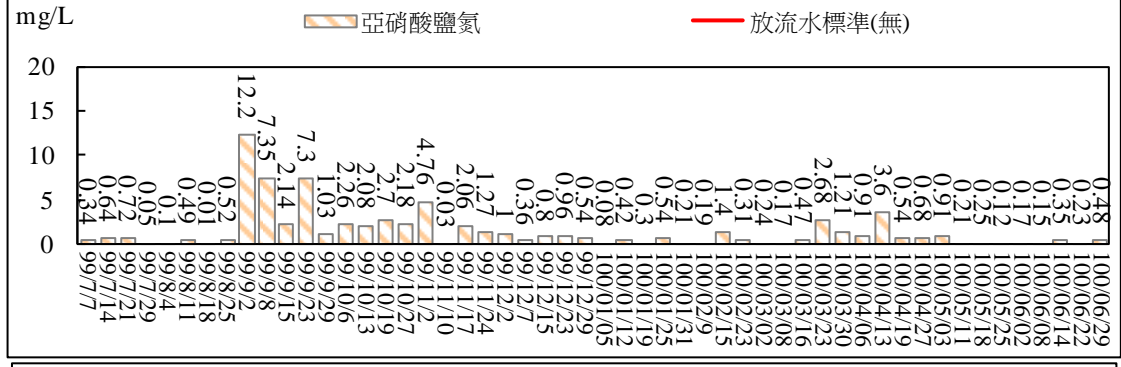
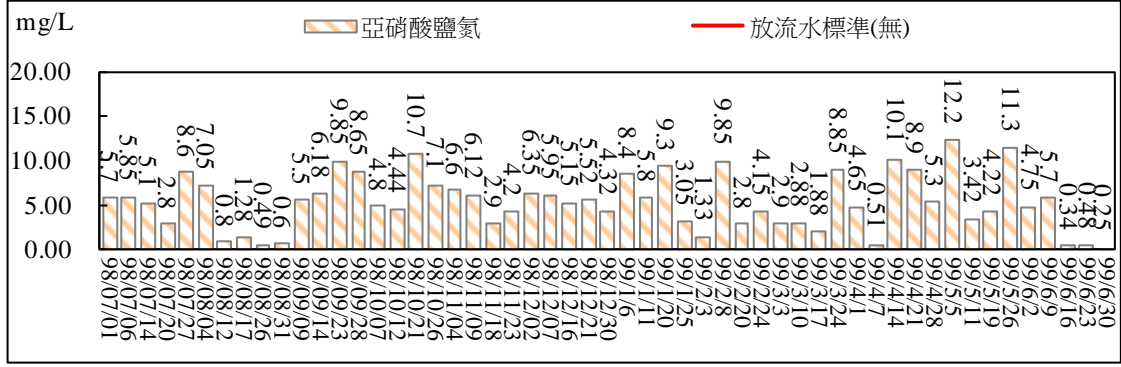
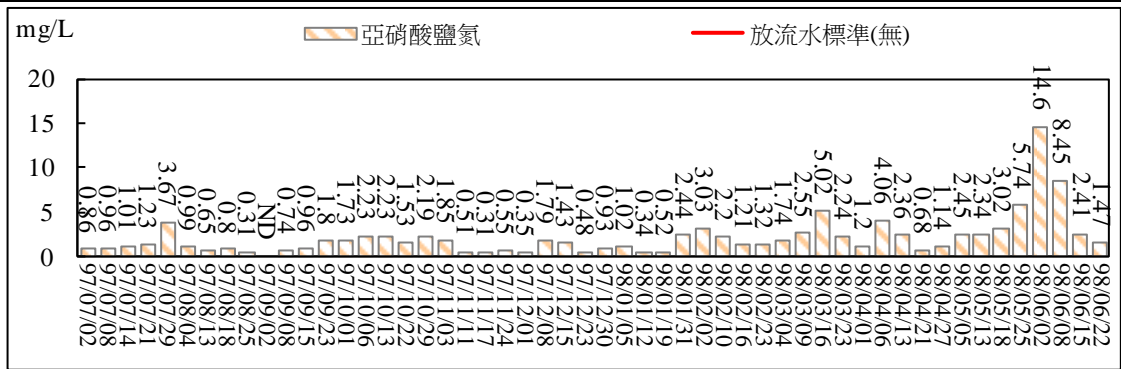
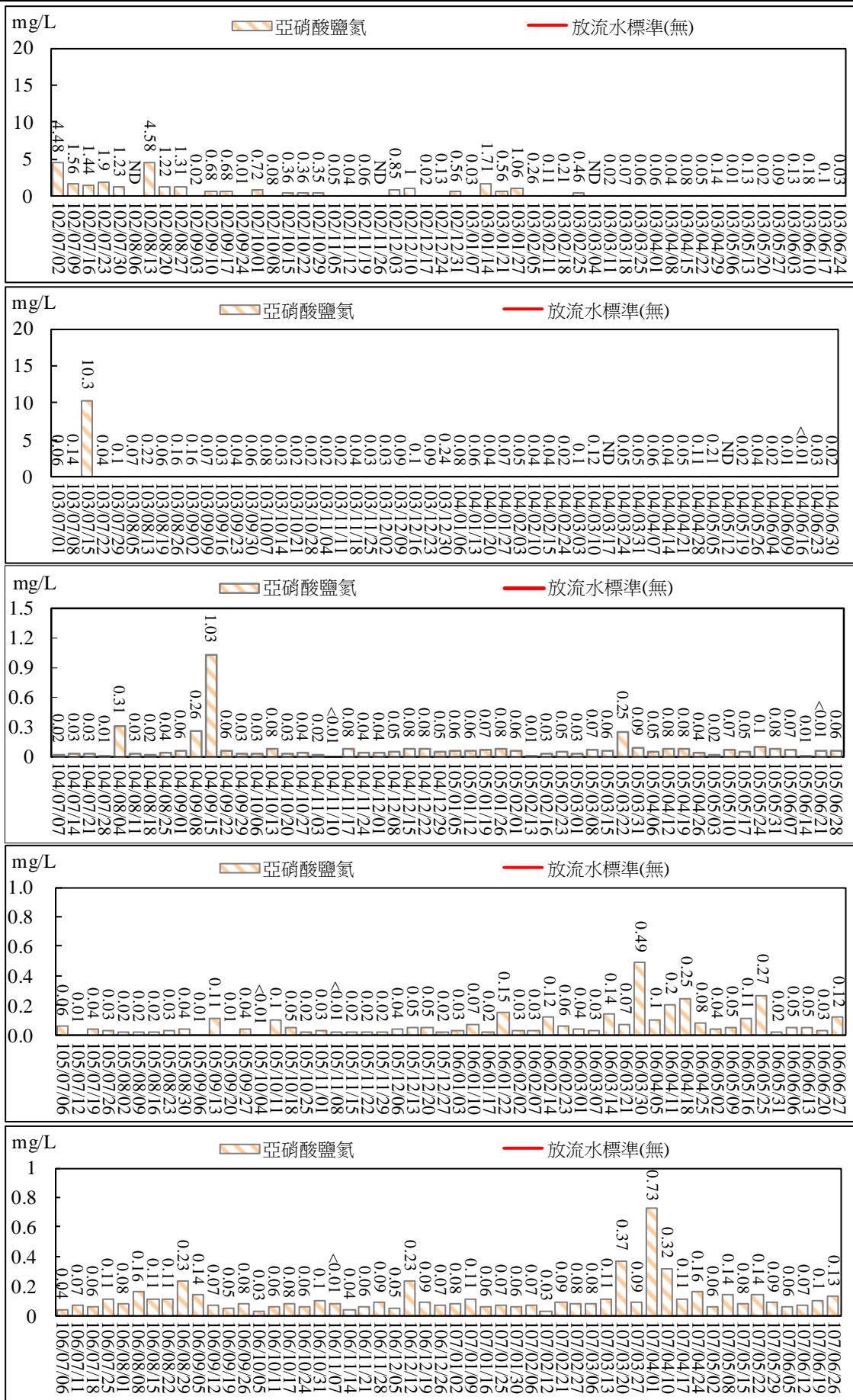


圖 2.26 污水處理廠放流口放流水質監測結果比較圖(硝酸鹽氮)







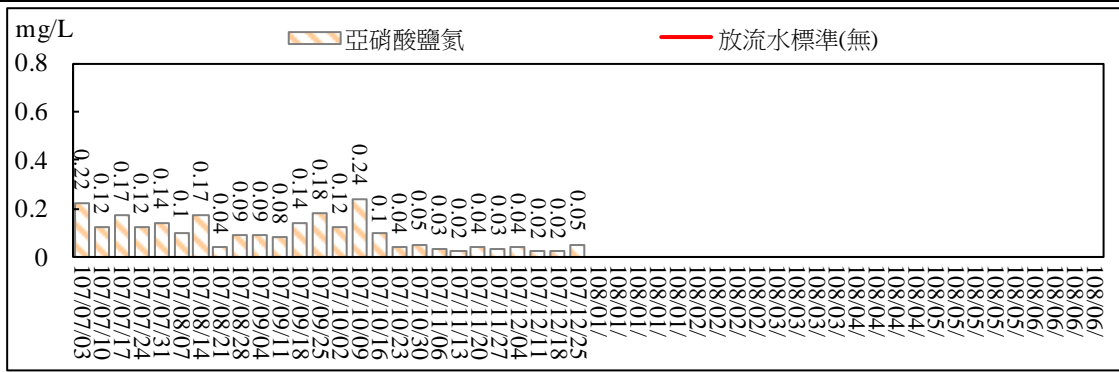
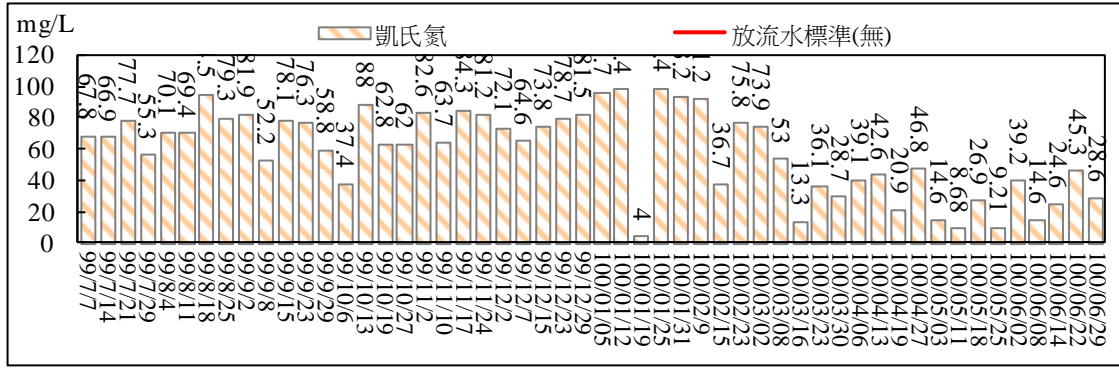
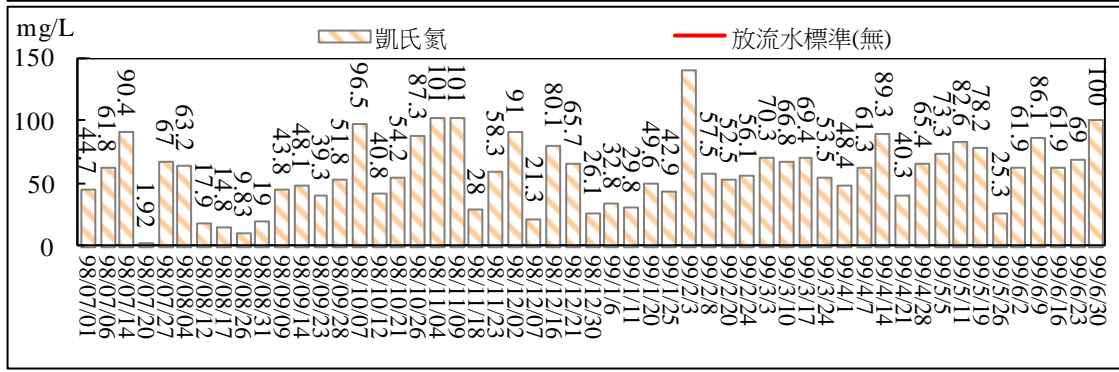
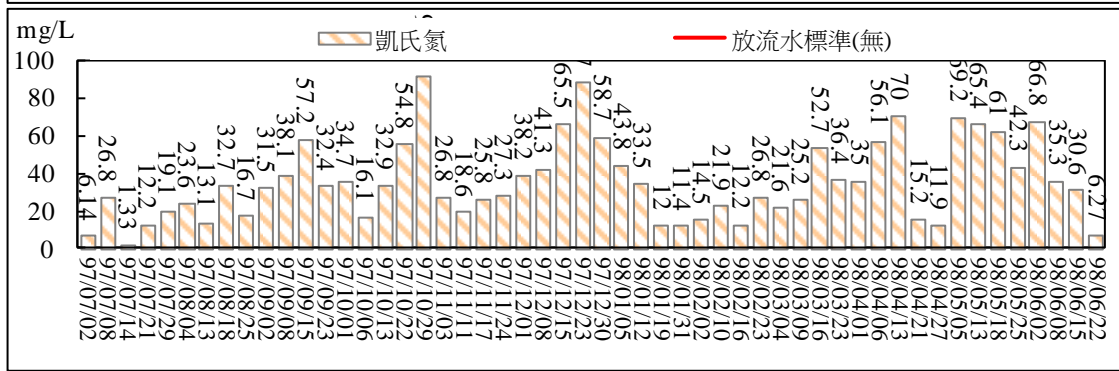
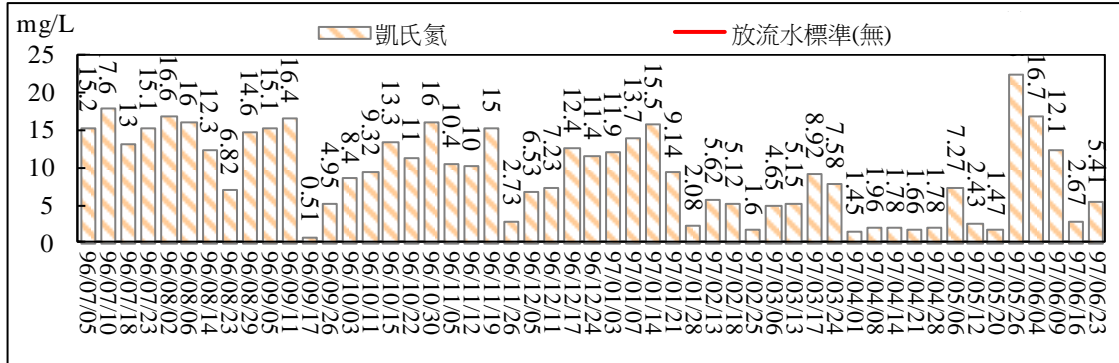
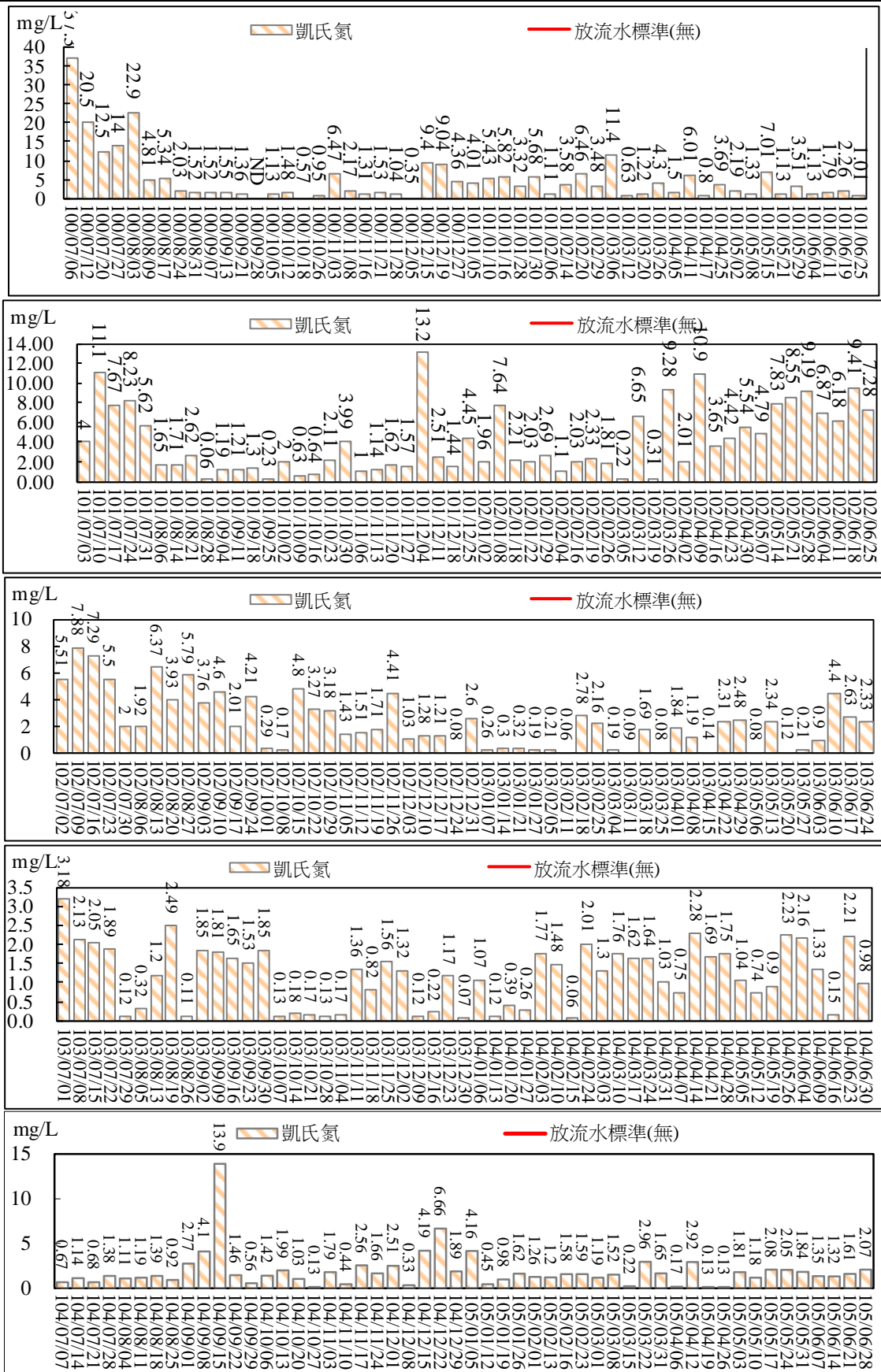


圖 2.27 污水處理廠放流口放流水質監測結果比較圖(亞硝酸鹽氮)





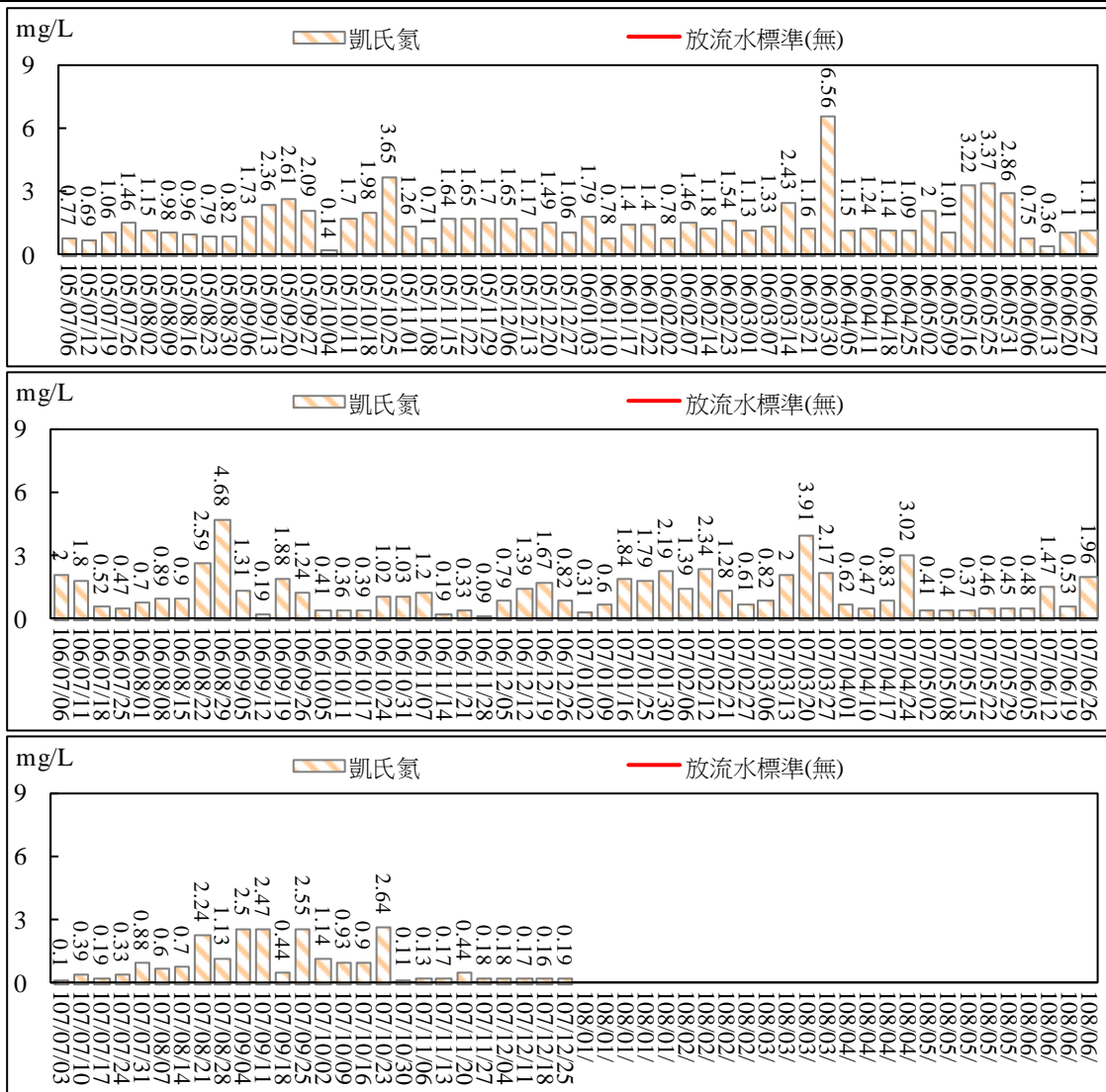
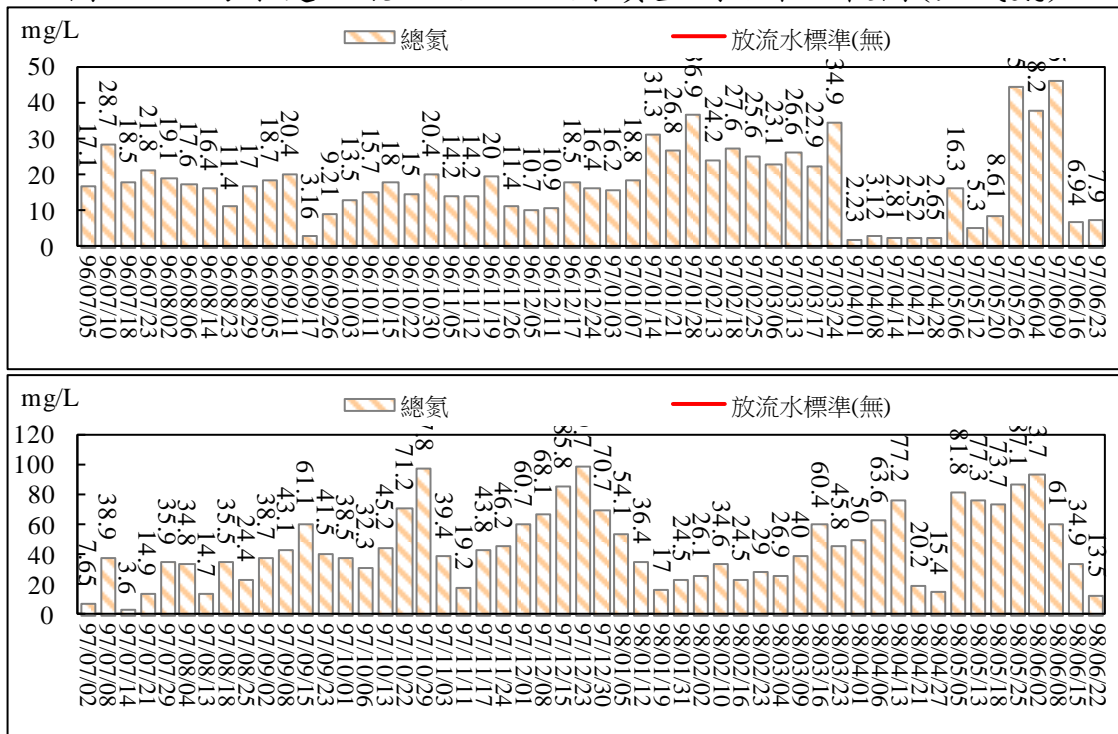
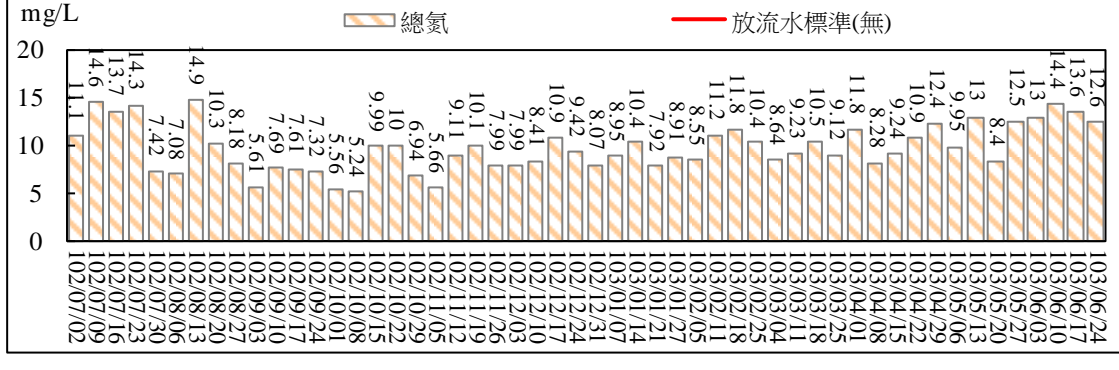
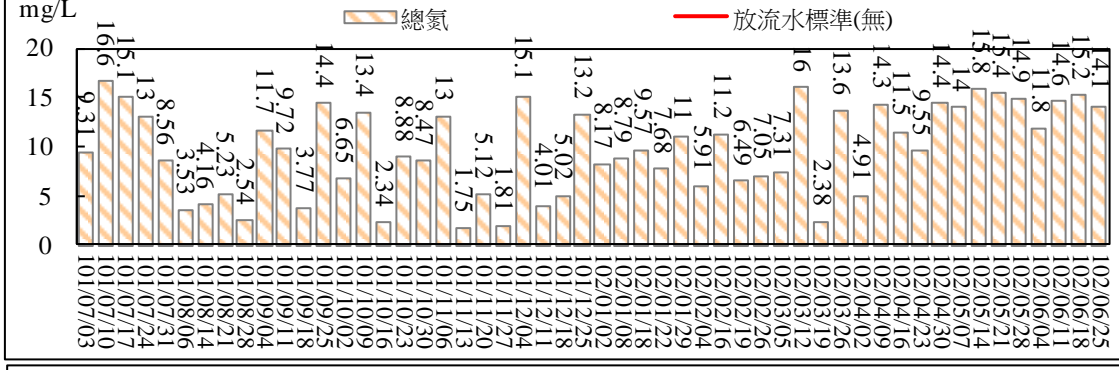
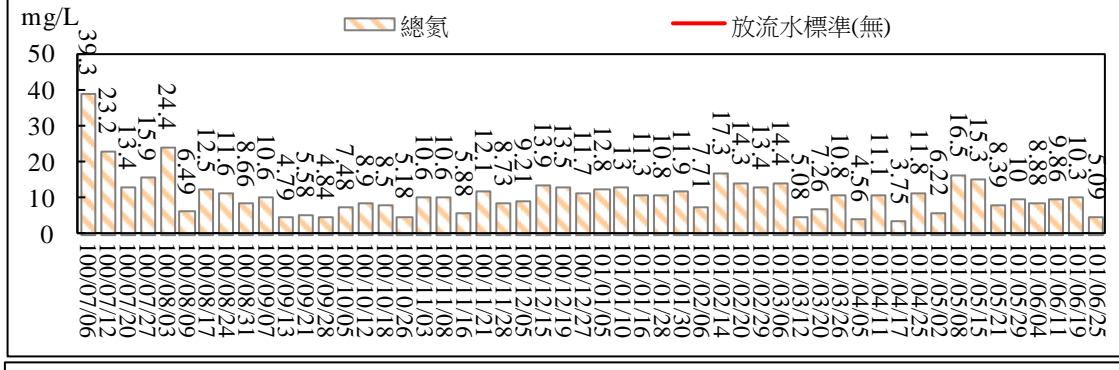
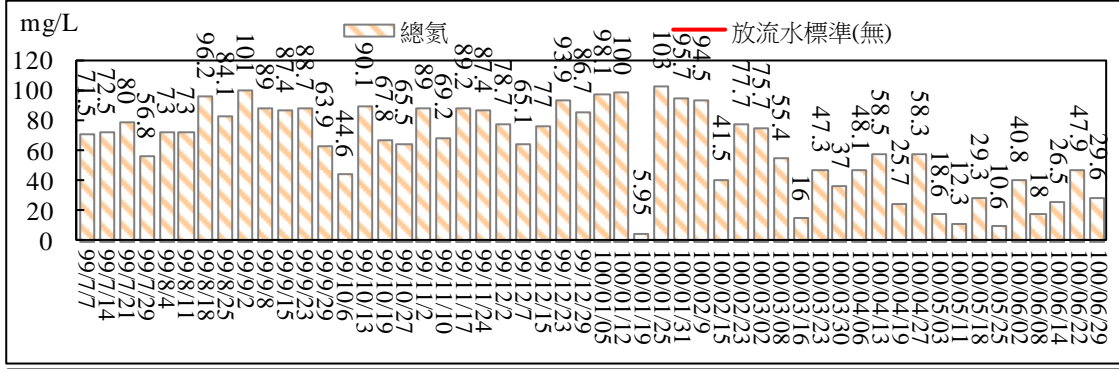
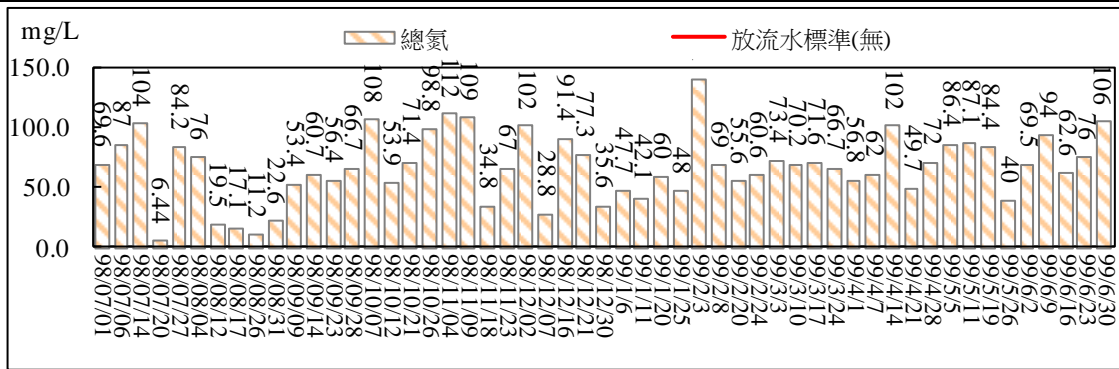


圖 2.28 污水處理廠放流口放流水質監測結果比較圖(凱氏氮)





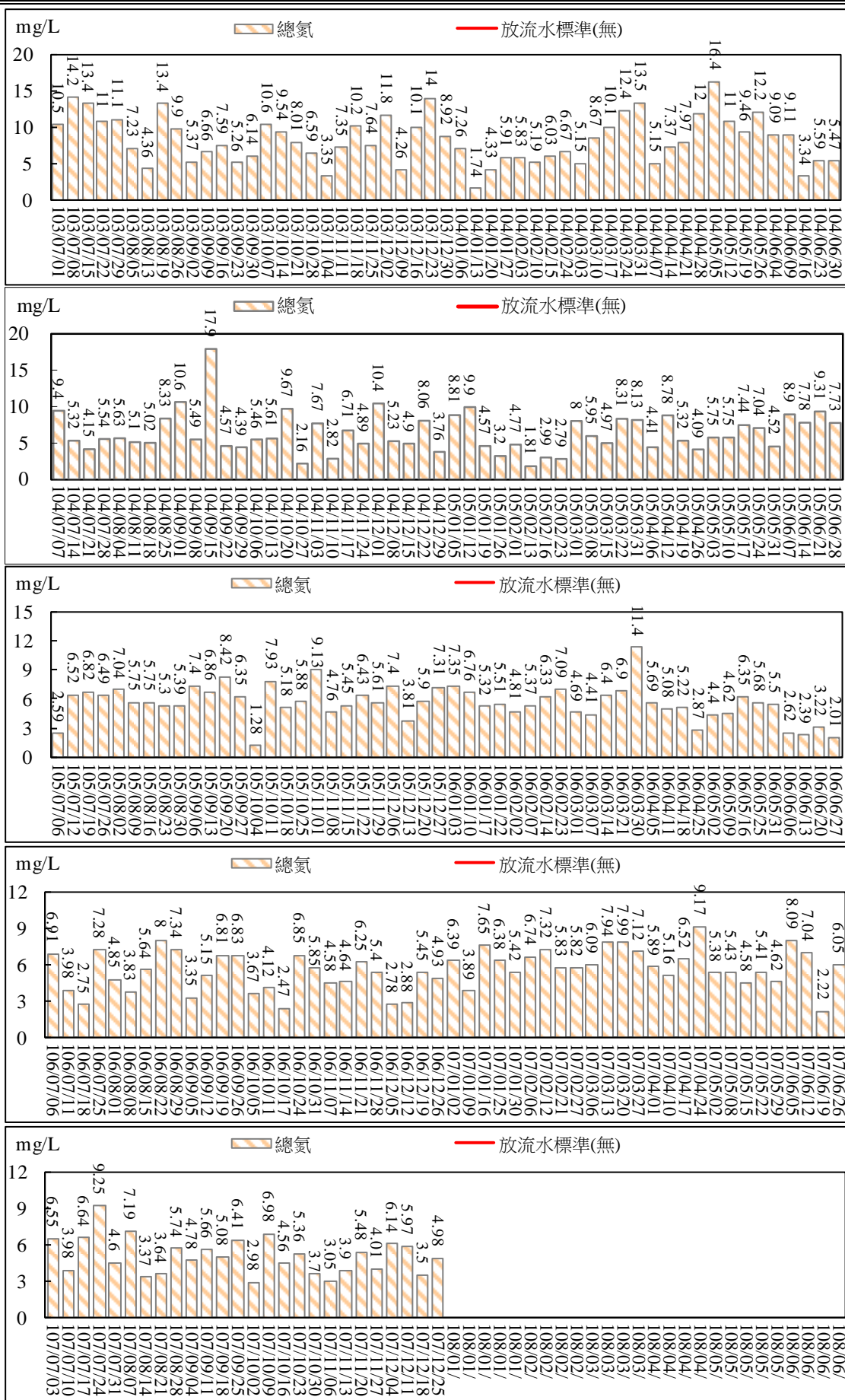
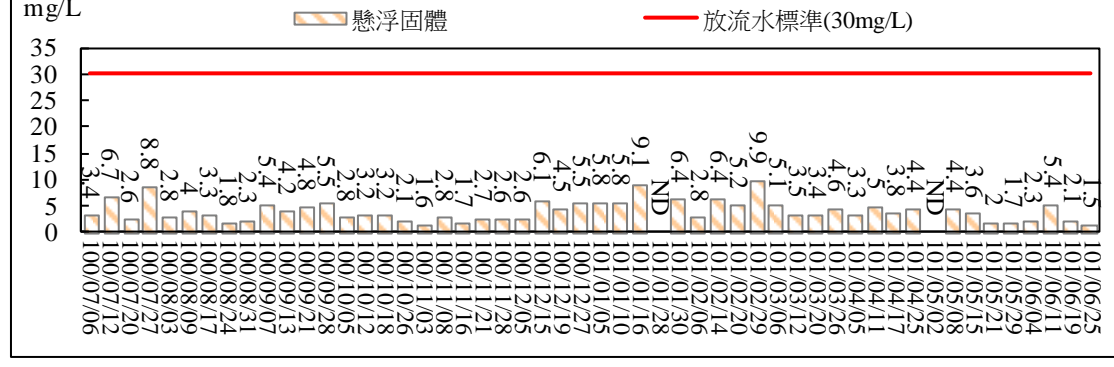
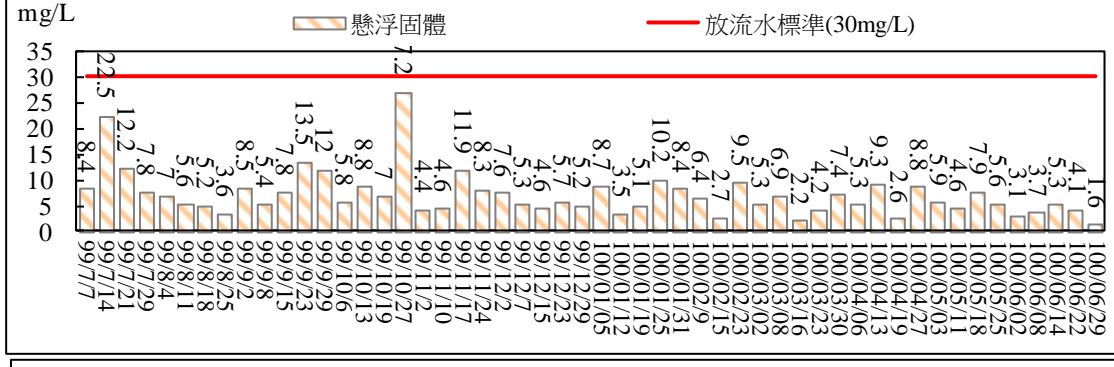
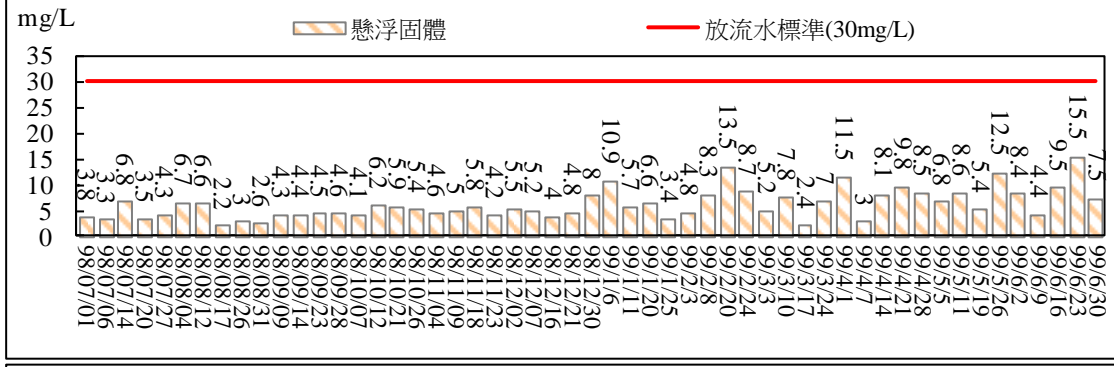
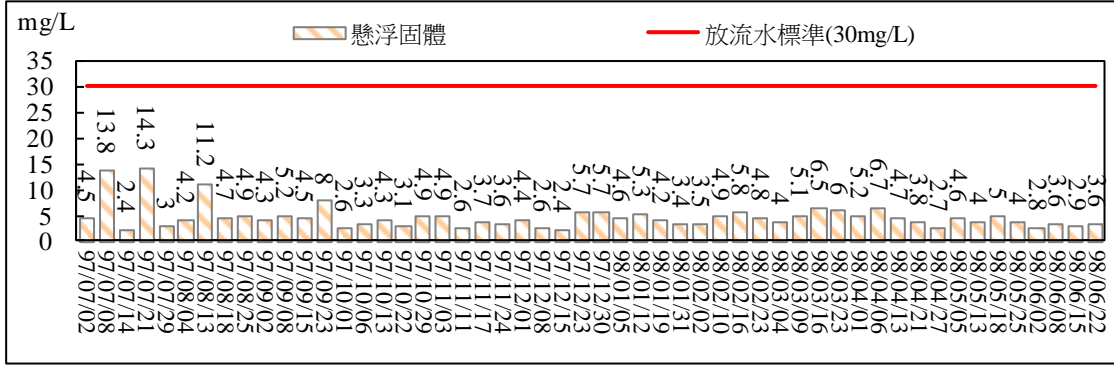
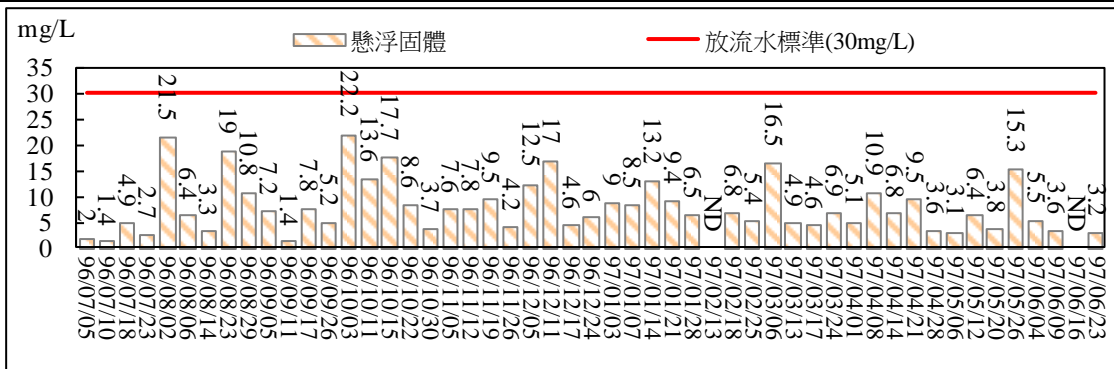
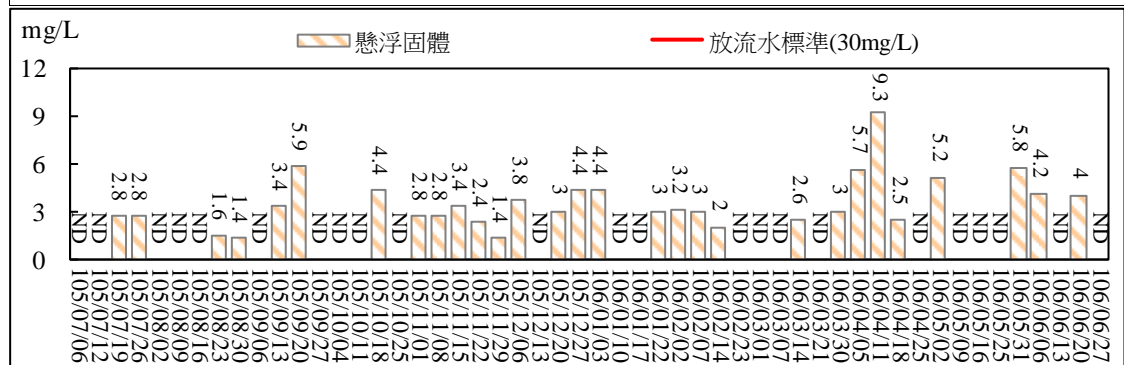
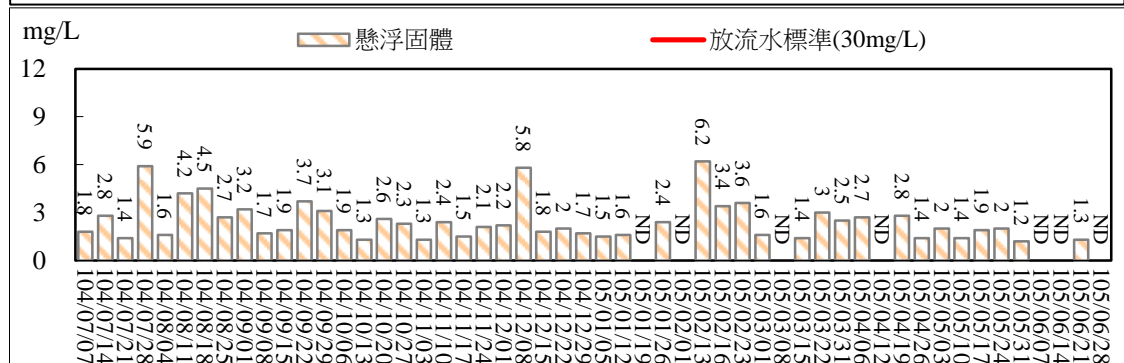
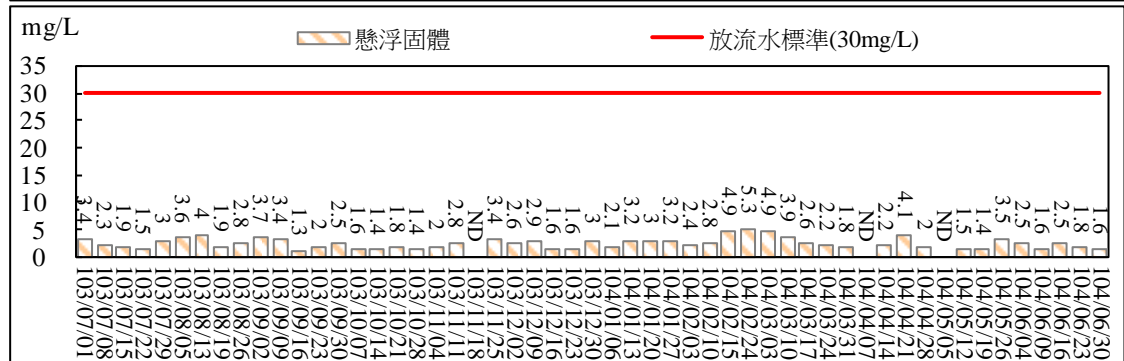
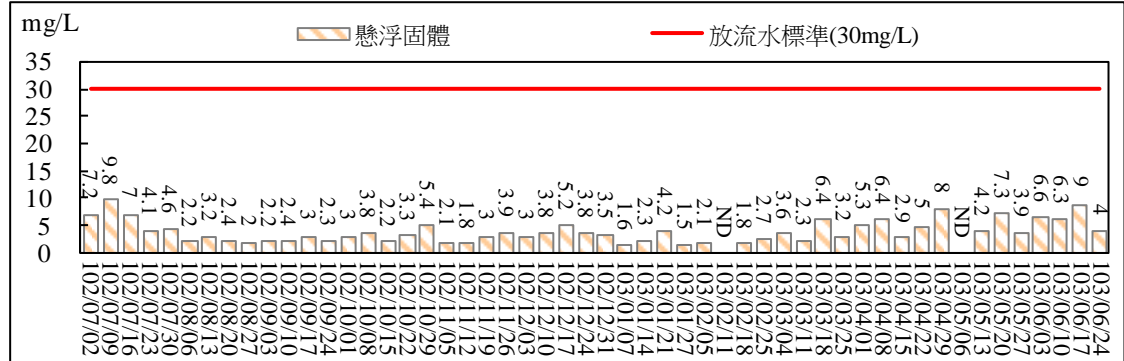
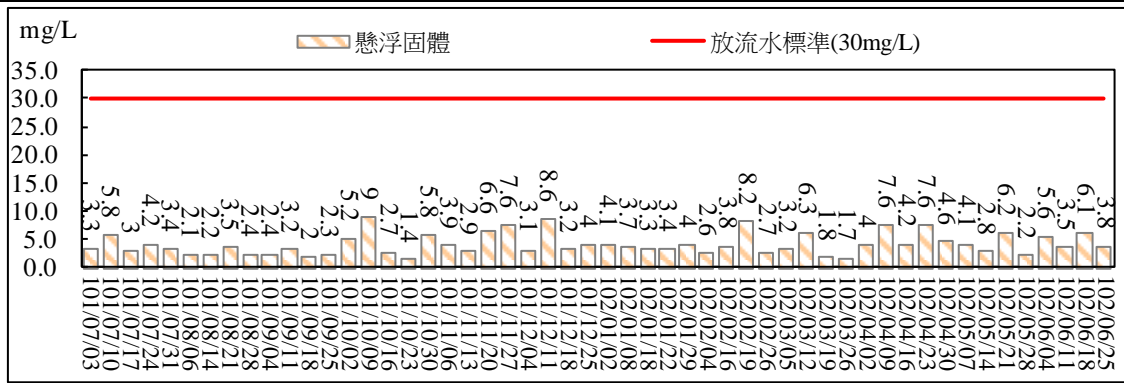


圖 2.29 污水處理廠放流口放流水質監測結果比較圖(總氮)





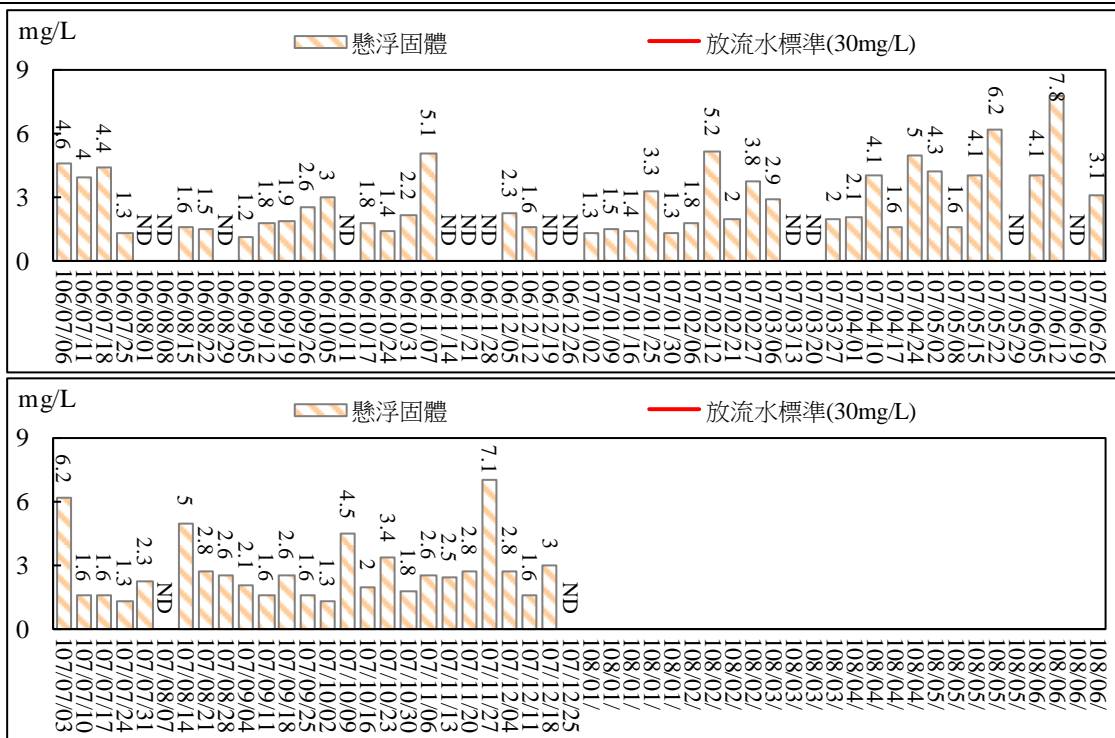
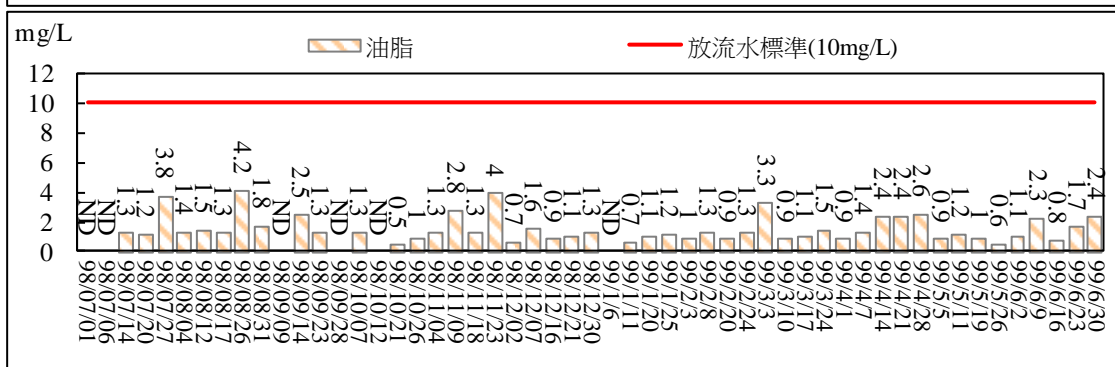
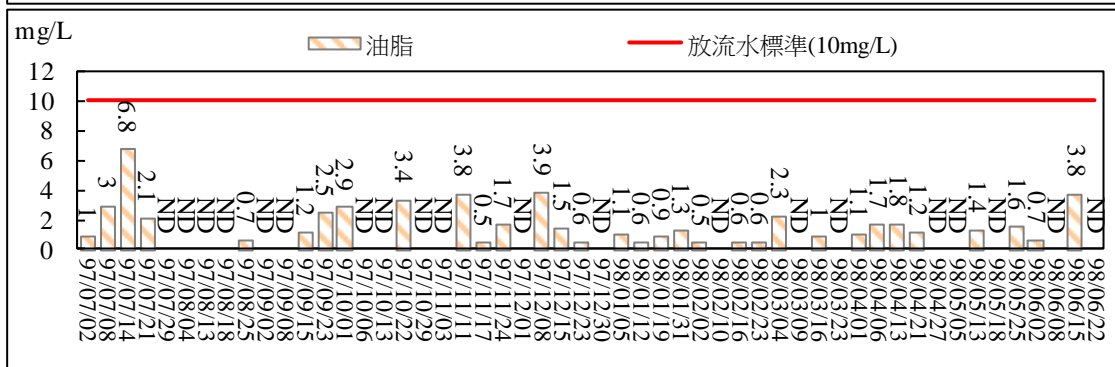
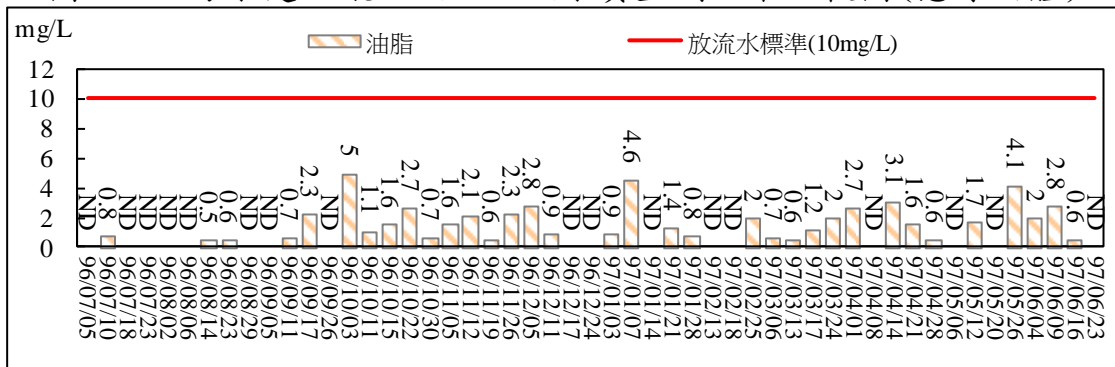
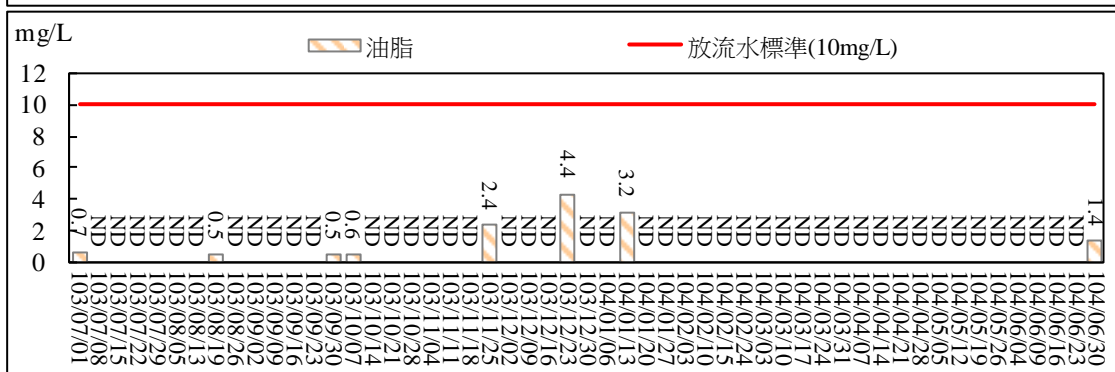
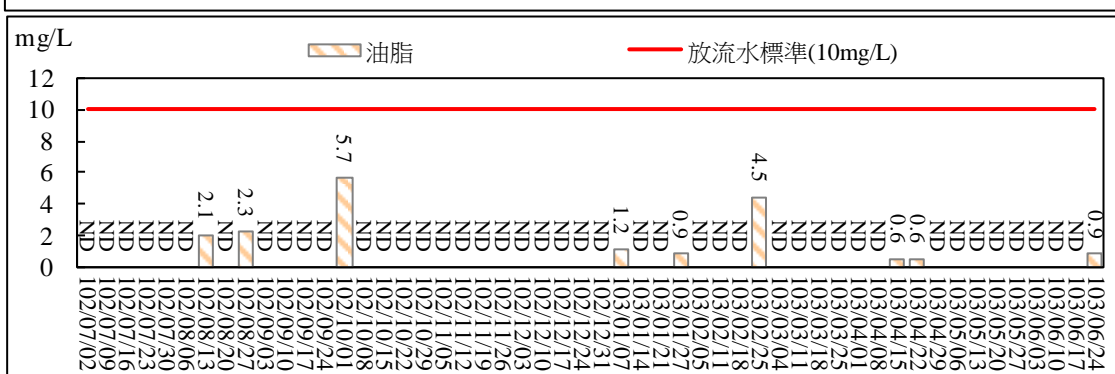
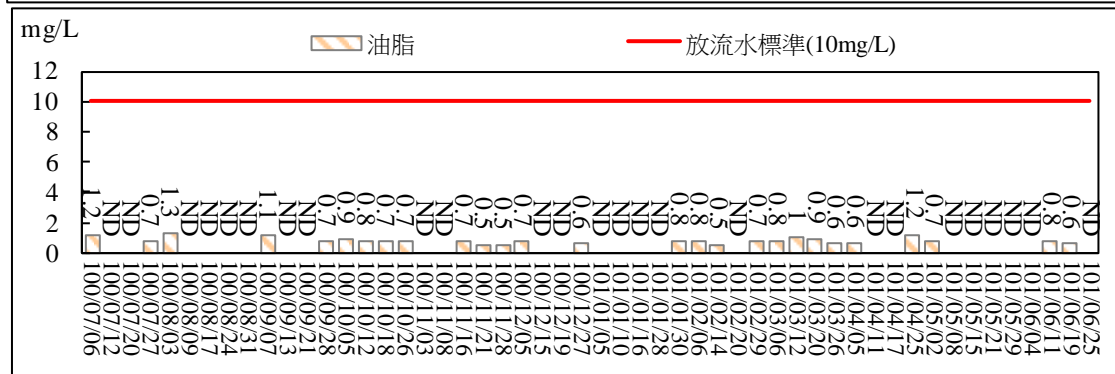
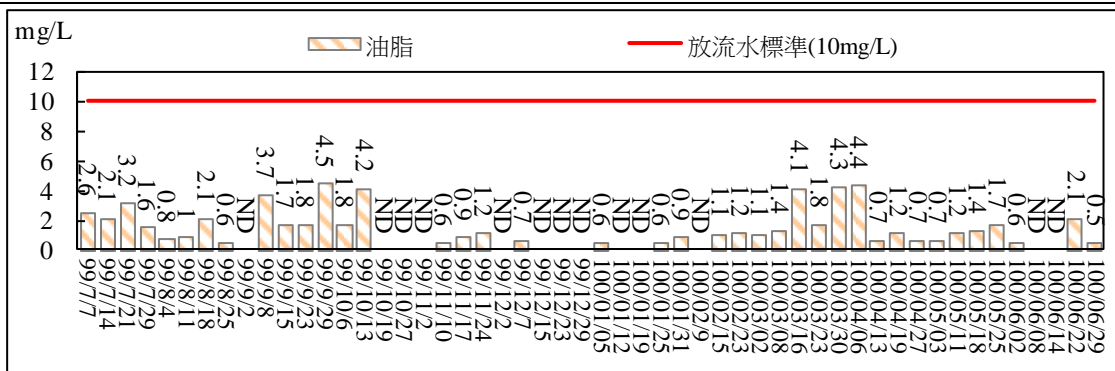


圖 2.30 污水處理廠放流口放流水質監測結果比較圖(懸浮固體)





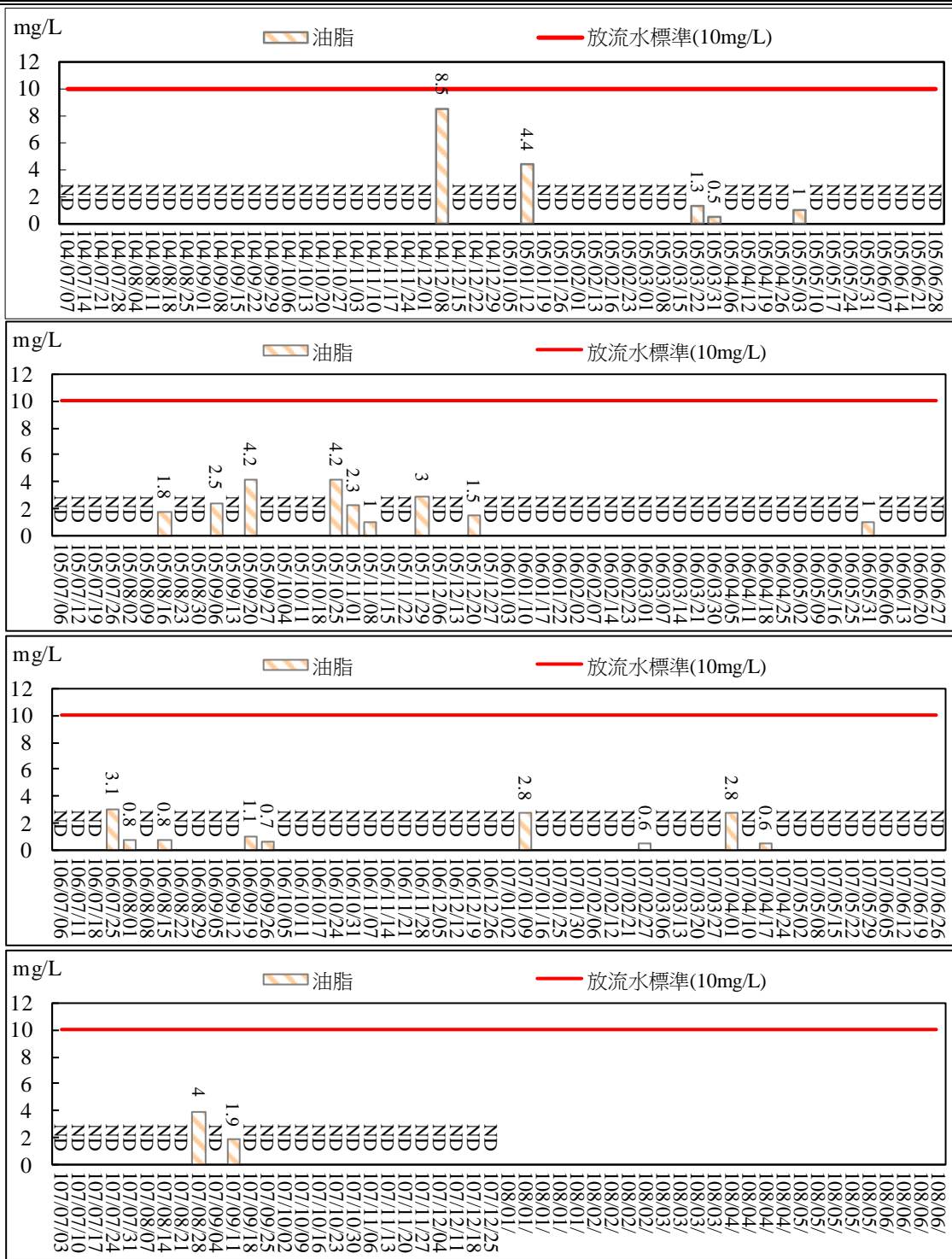
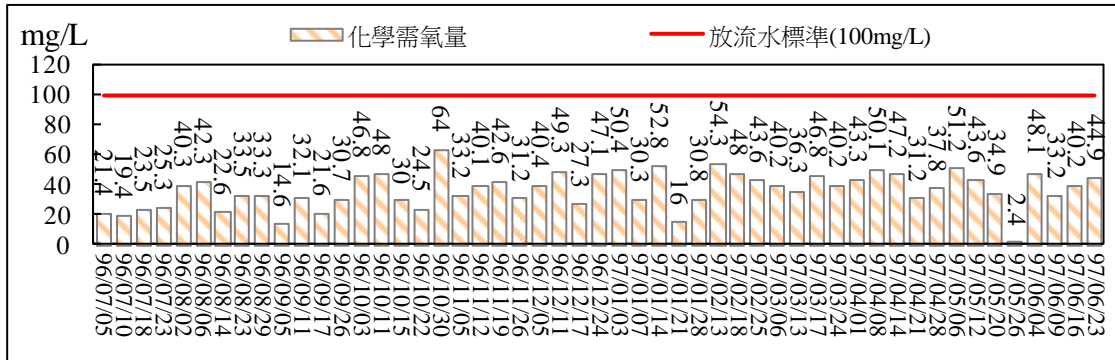
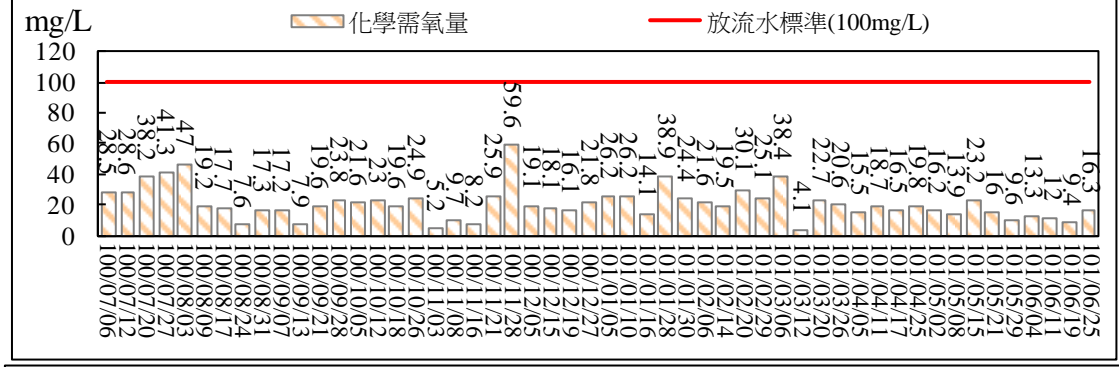
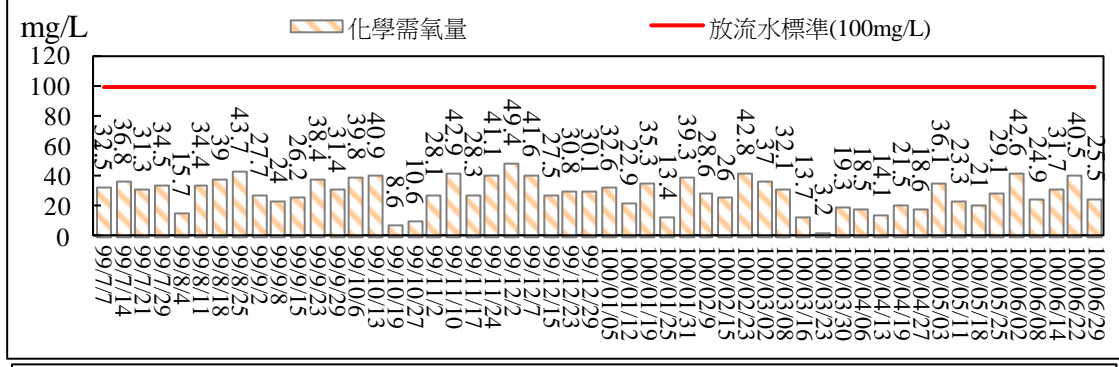
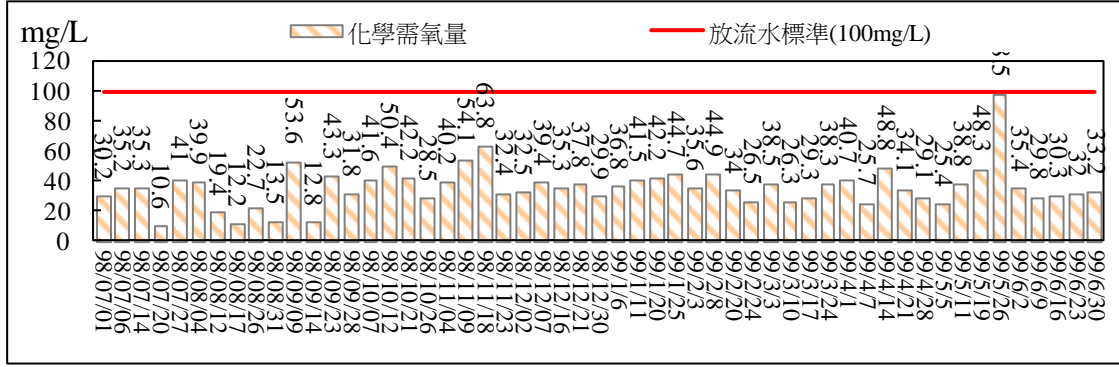
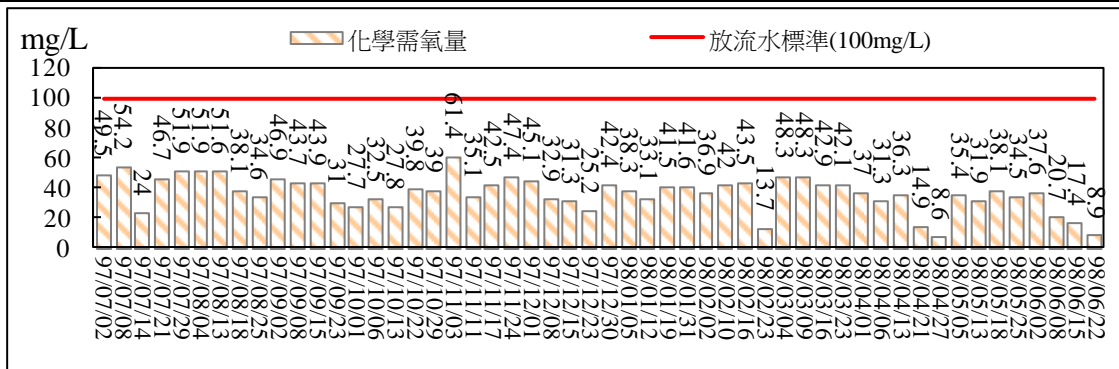
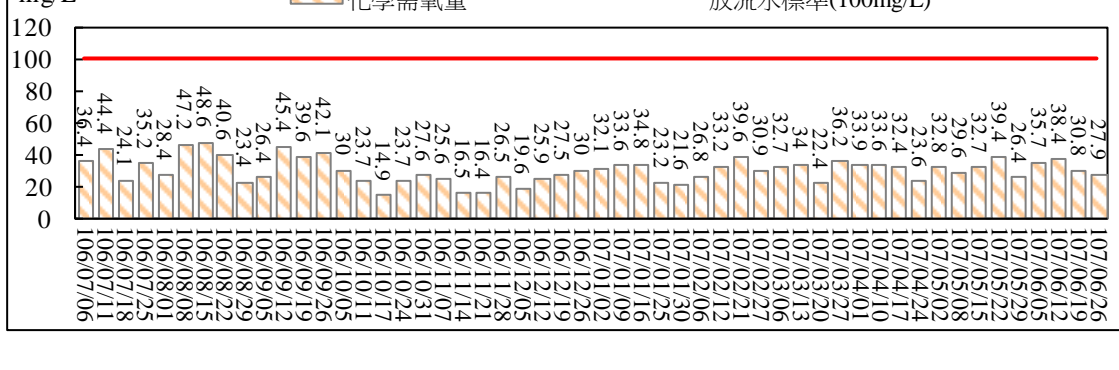
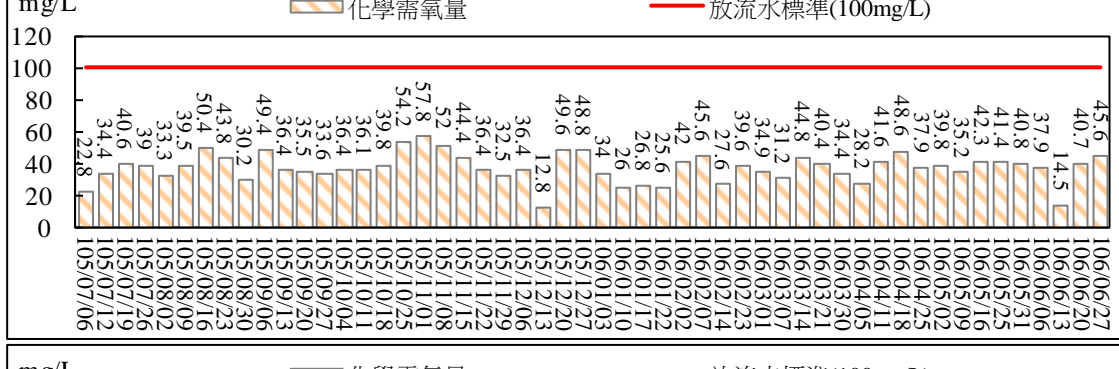
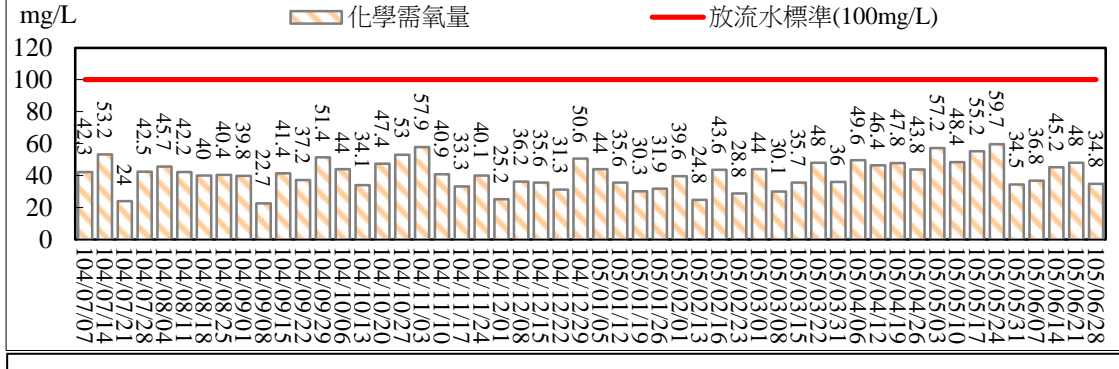
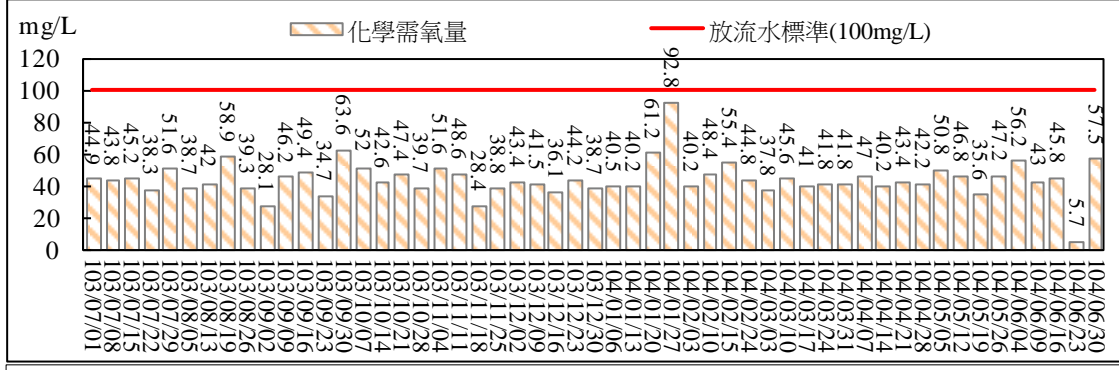
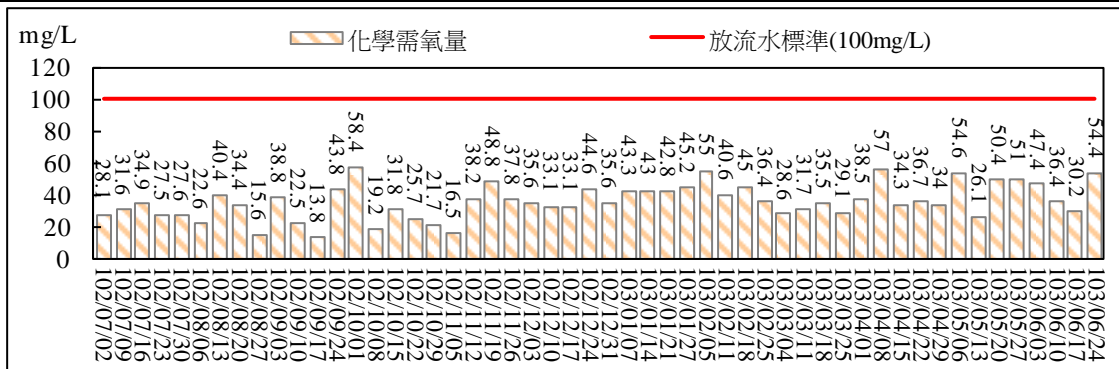


圖 2.31 污水處理廠放流口放流水質監測結果比較圖(油脂)







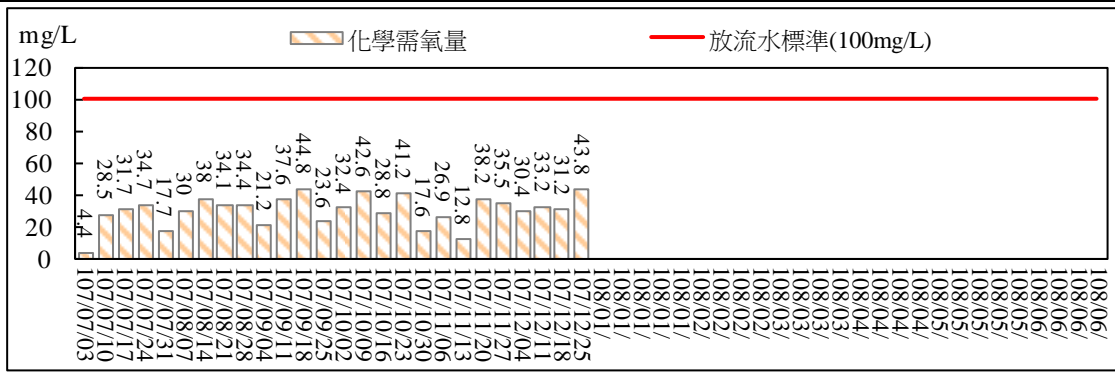
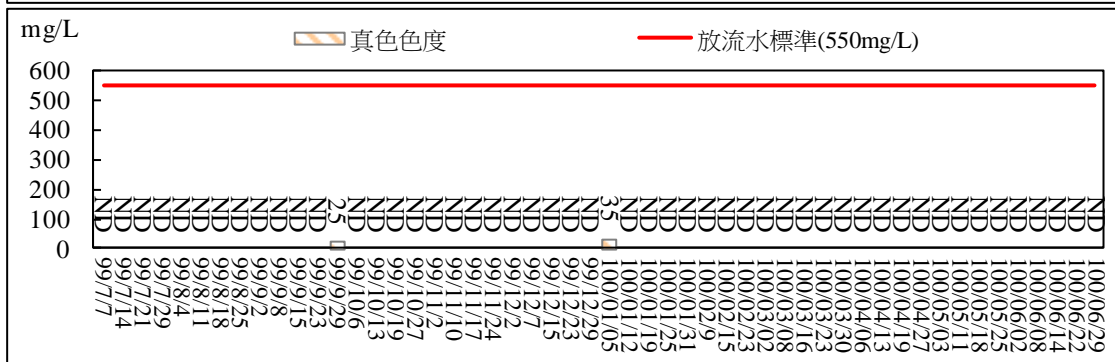
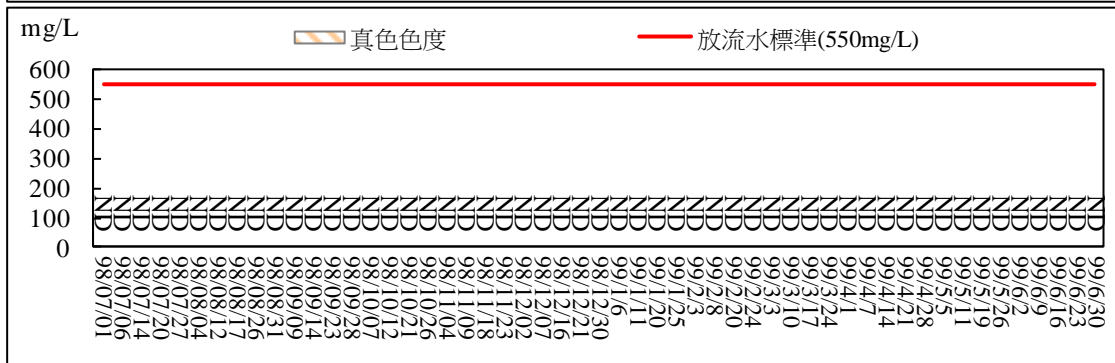
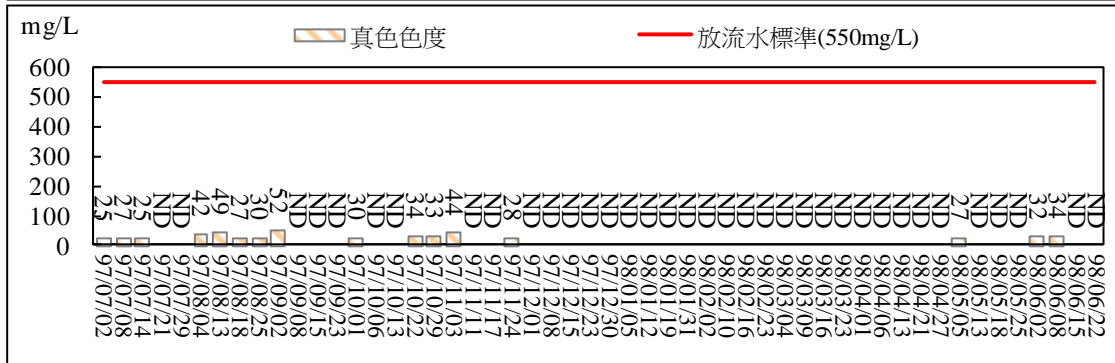
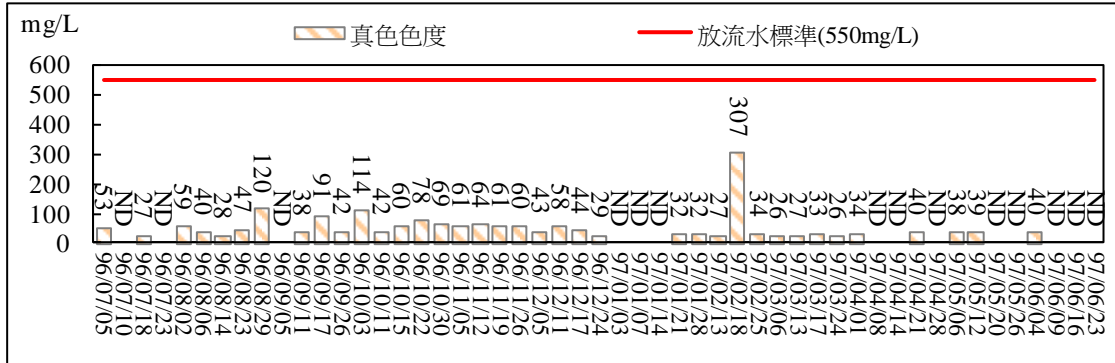
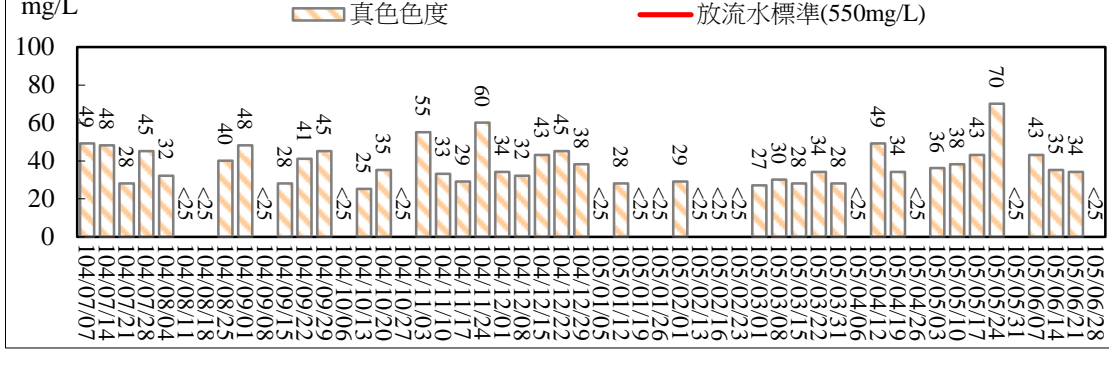
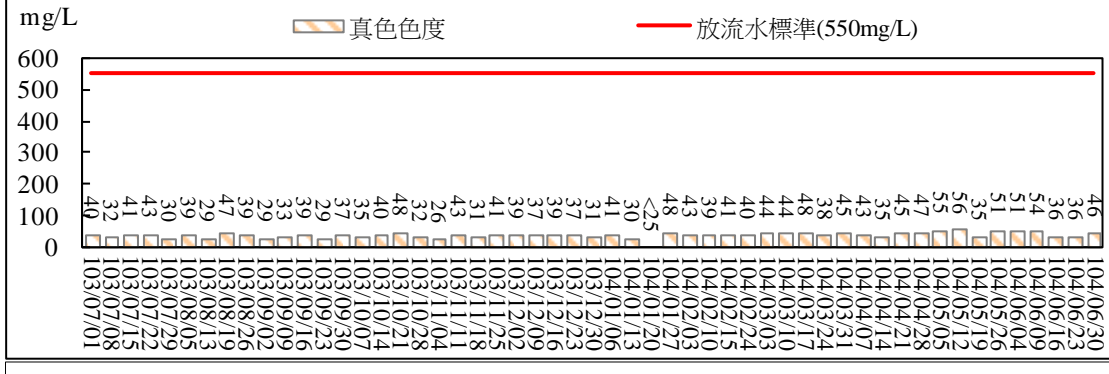
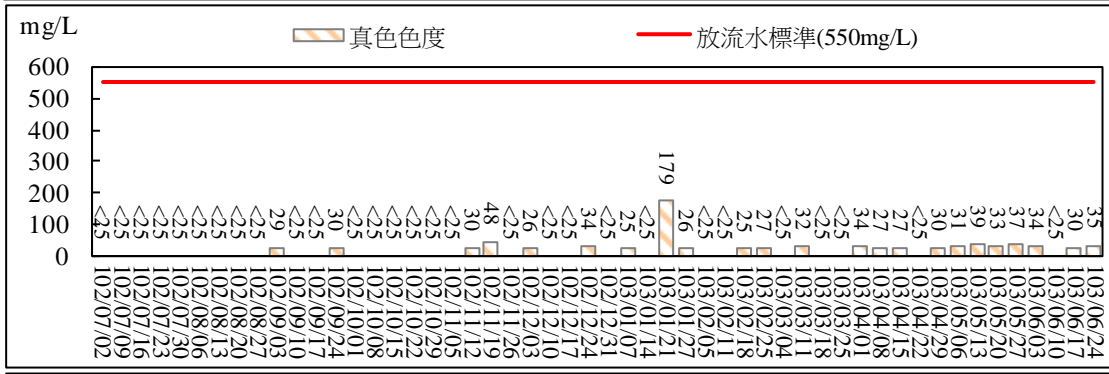
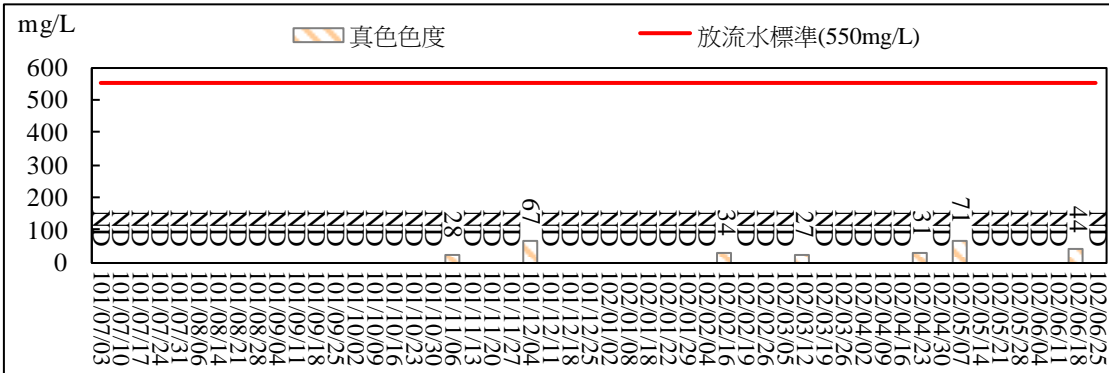
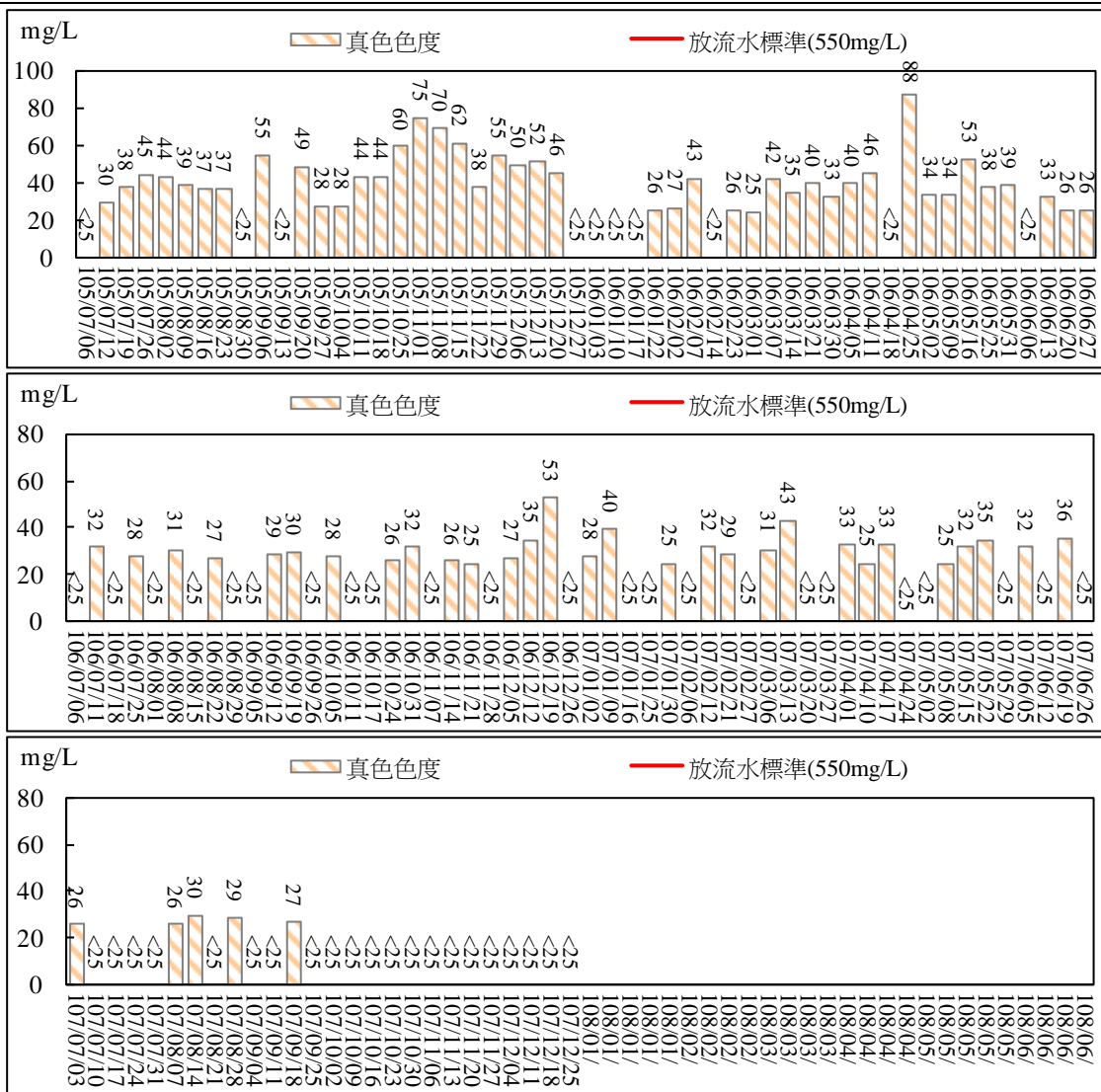
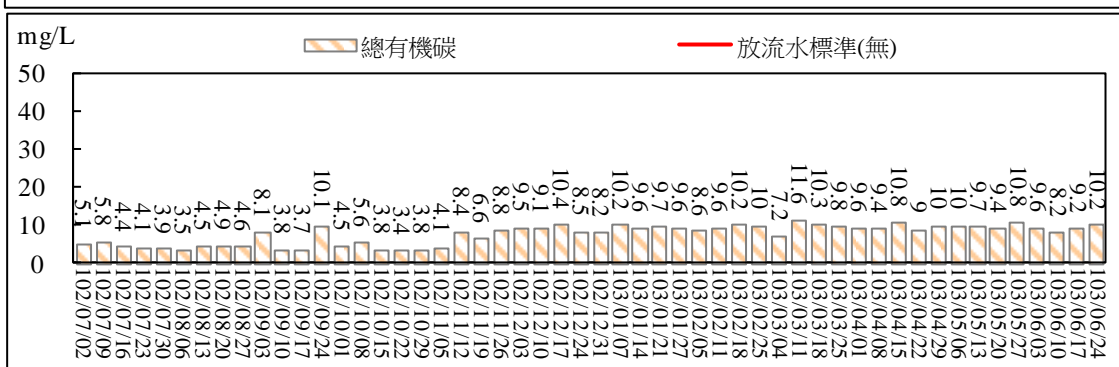
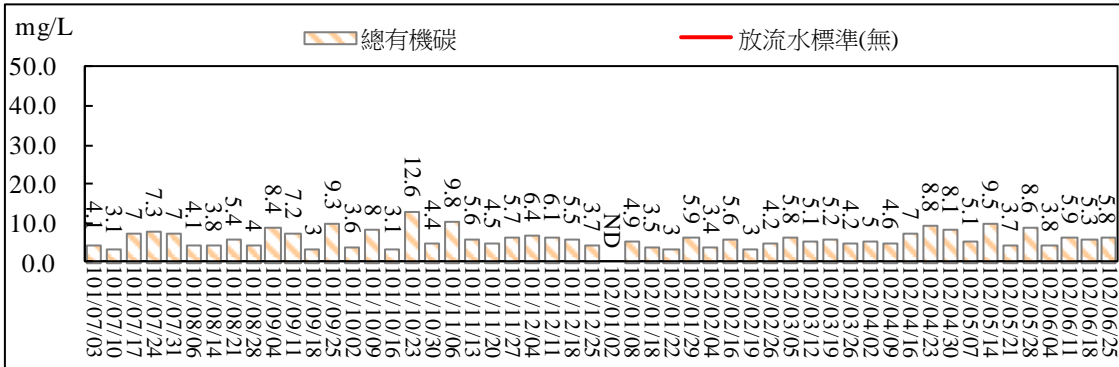
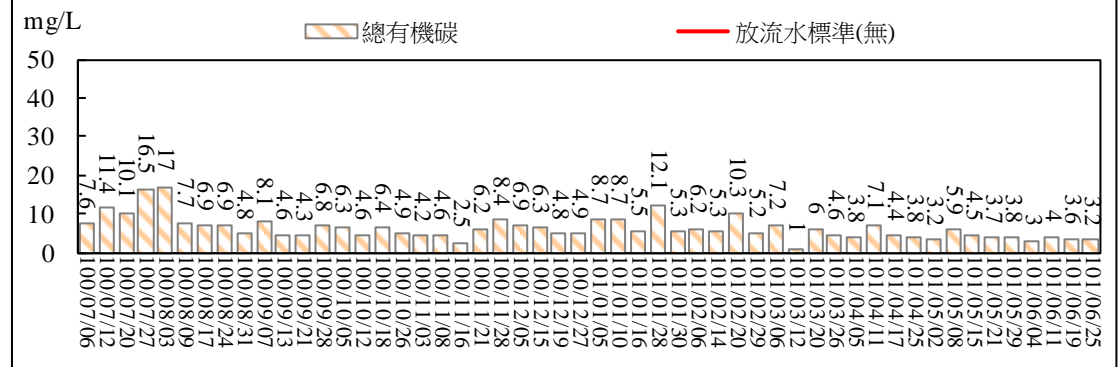
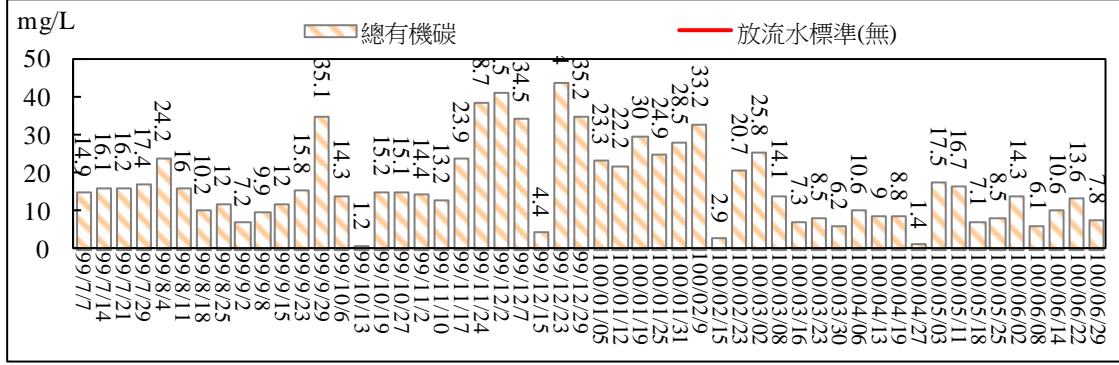
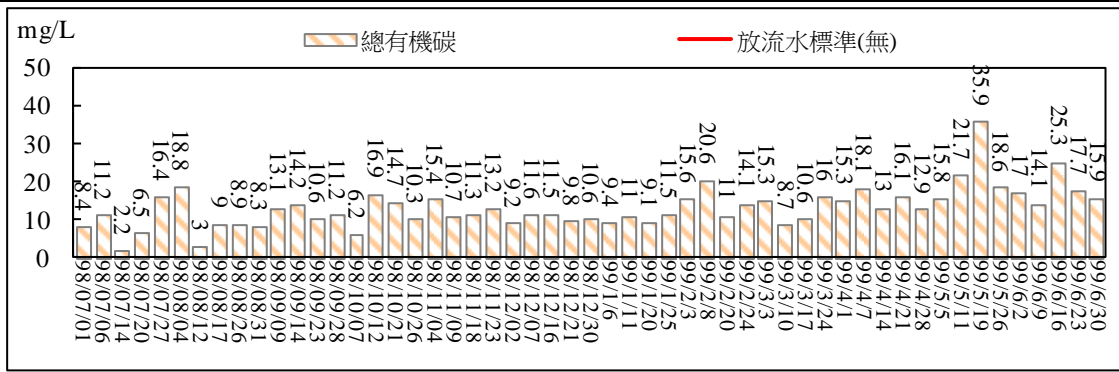


圖 2.32 污水處理廠放流口放流水質監測結果比較圖(化學需氧量)









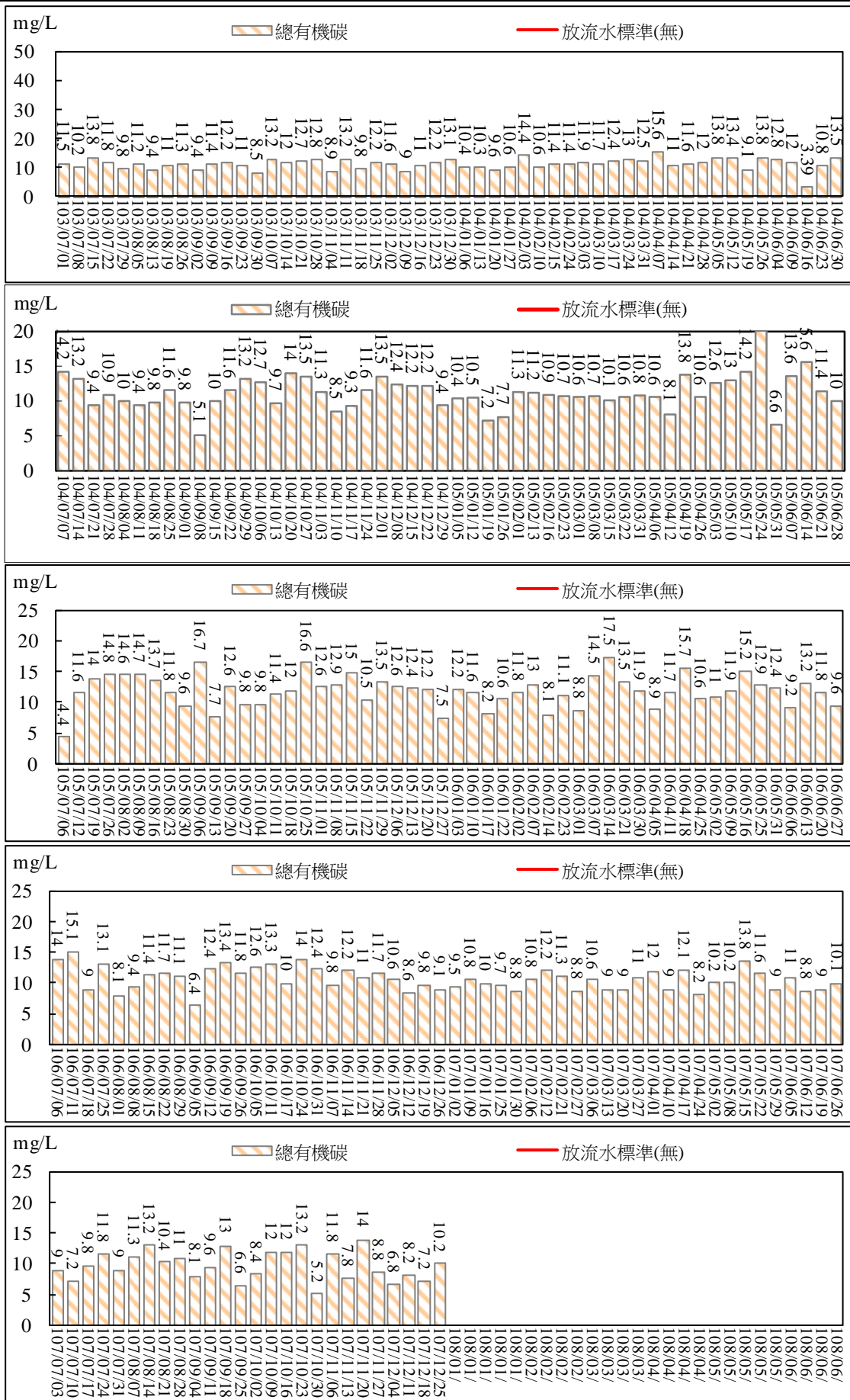
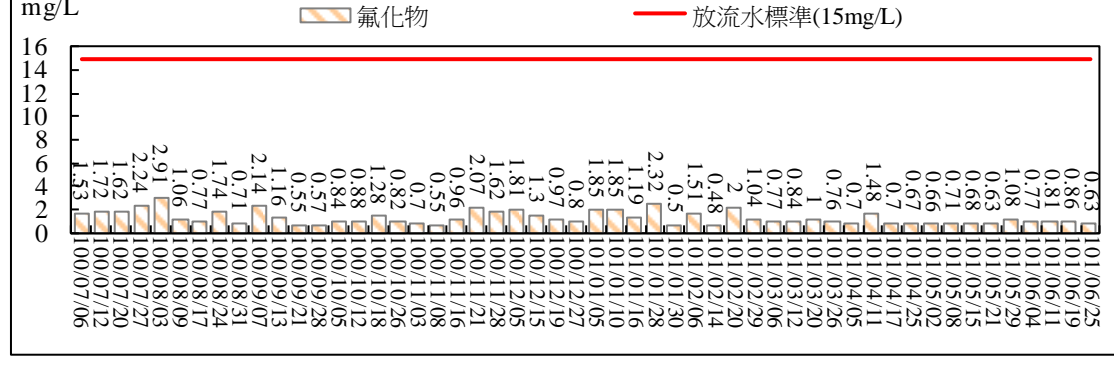
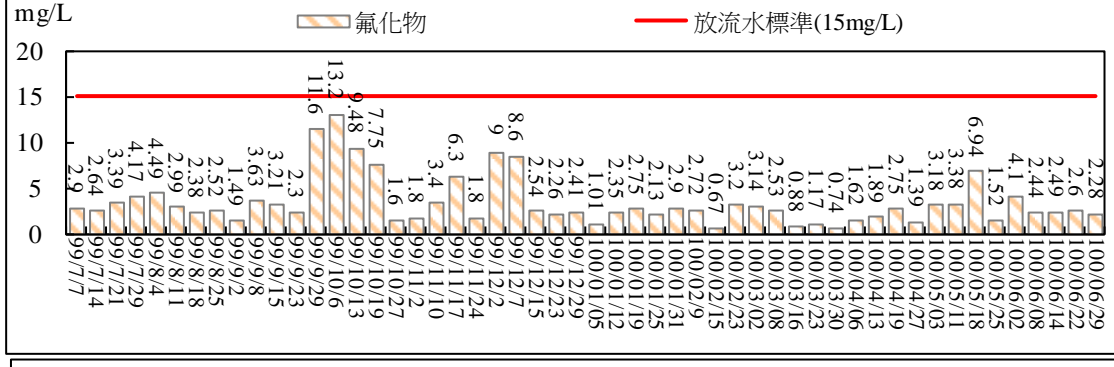
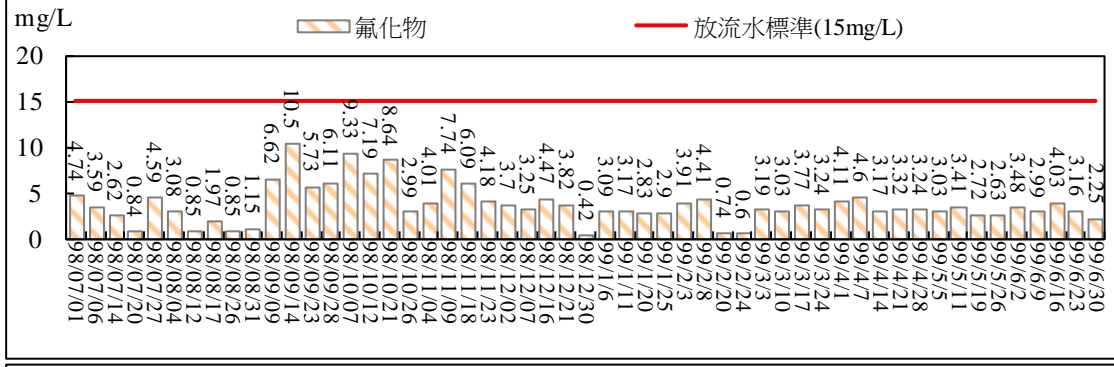
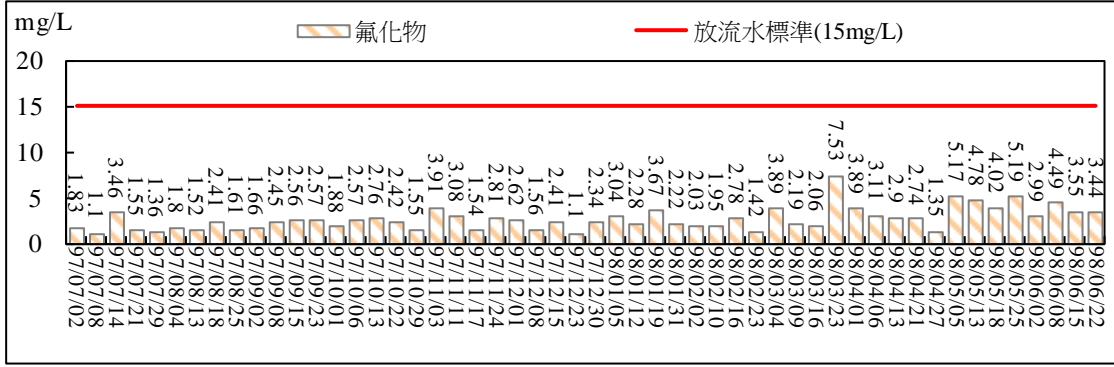
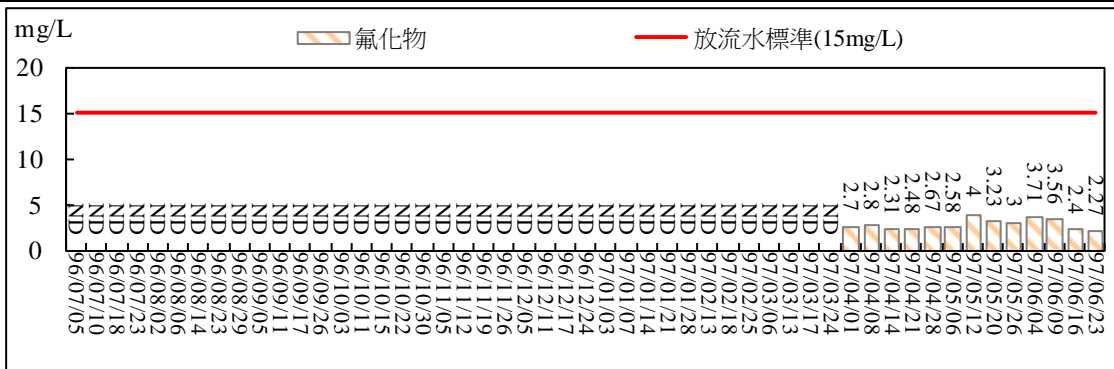
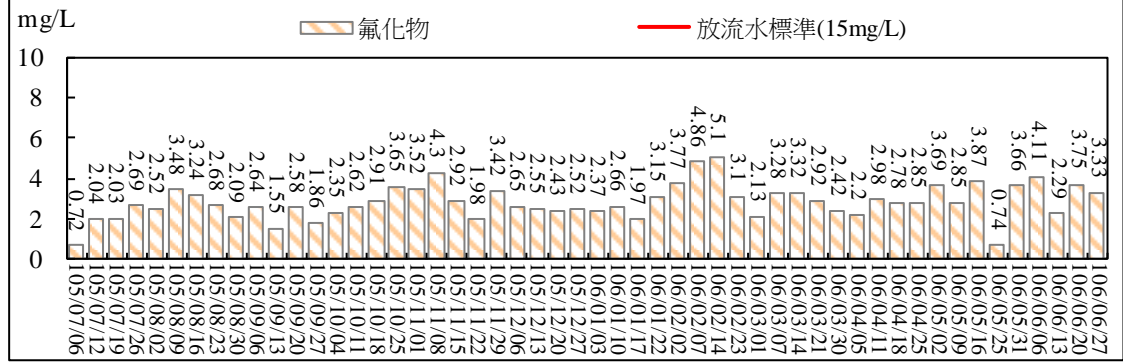
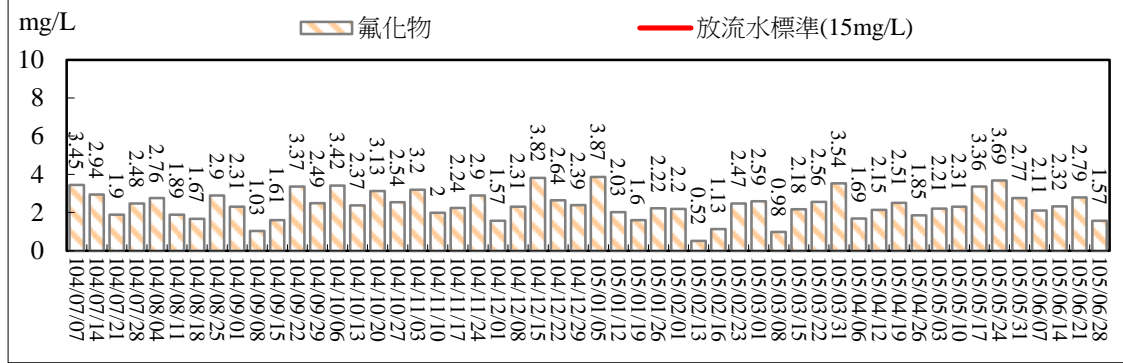
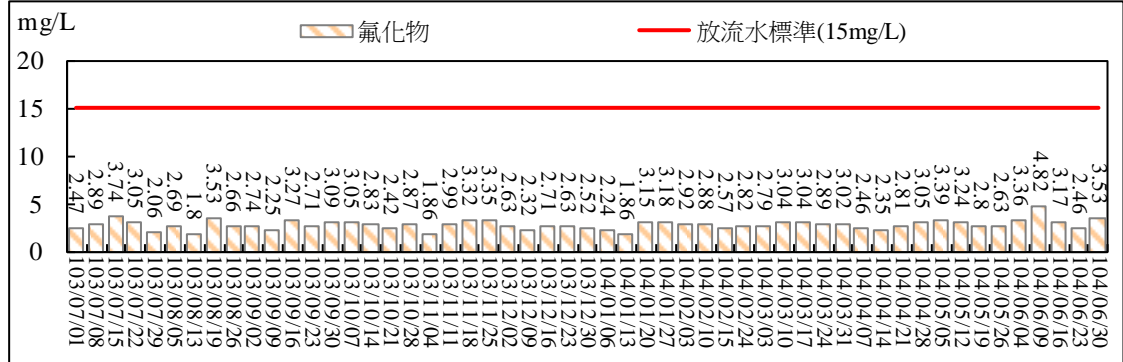
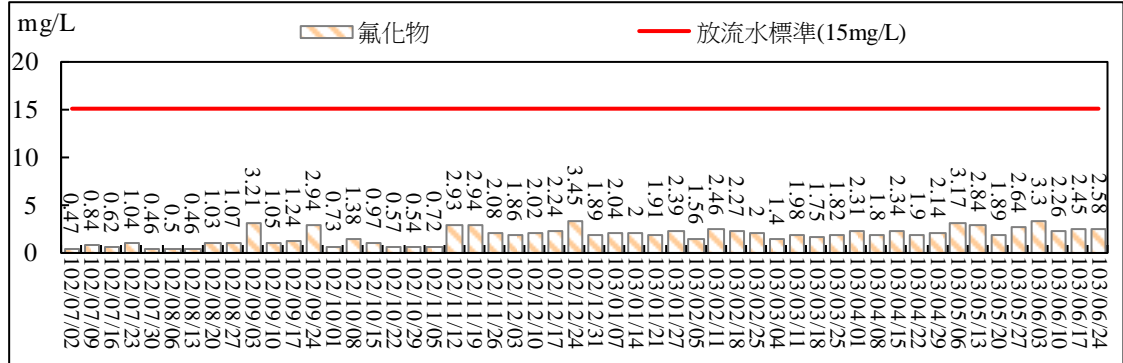
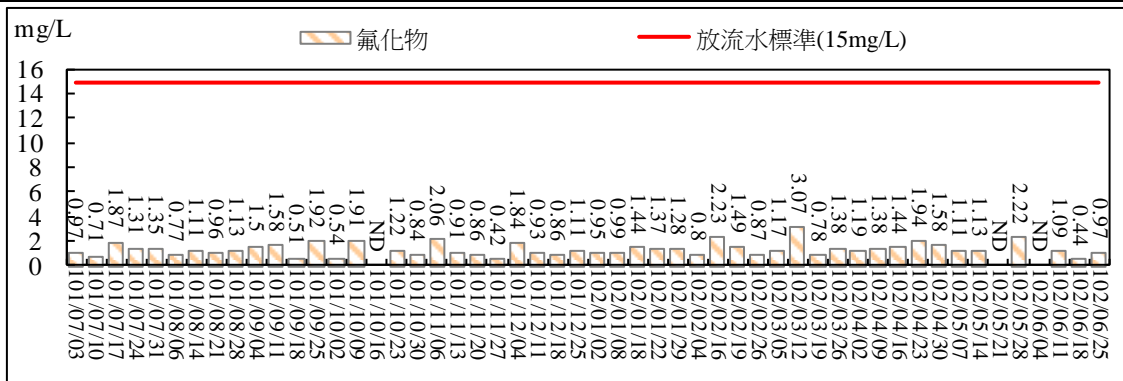


圖 2.34 污水處理廠放流口放流水質監測結果比較圖(總有機碳)





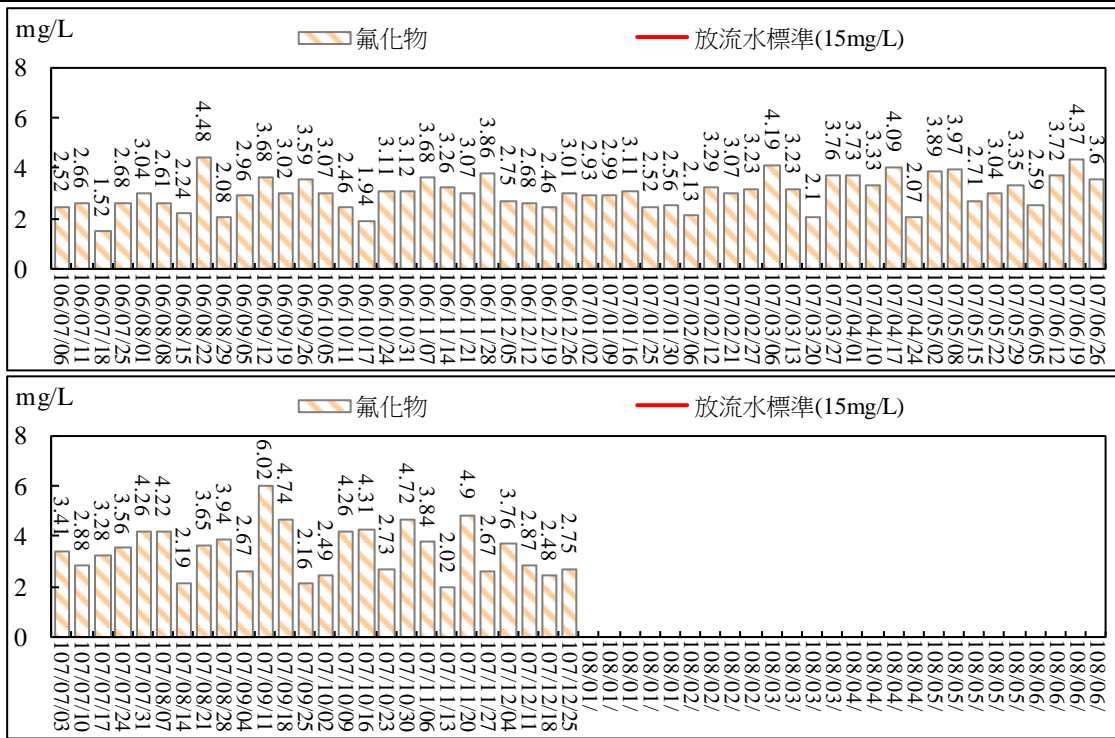
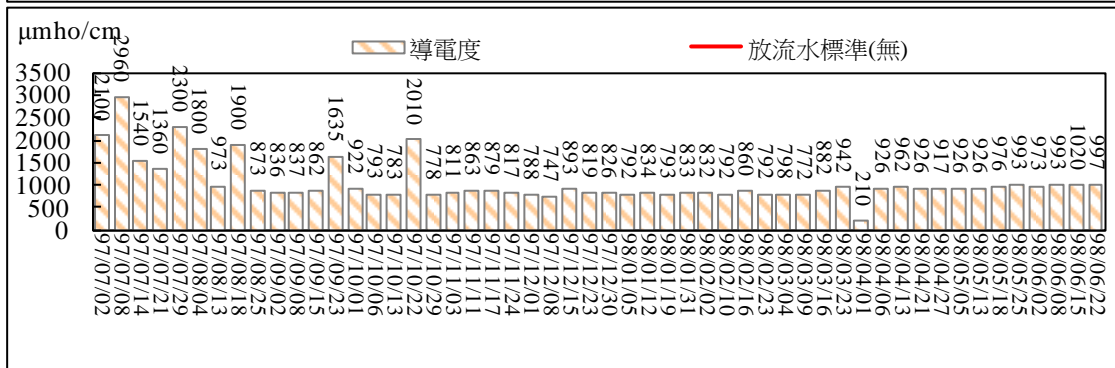
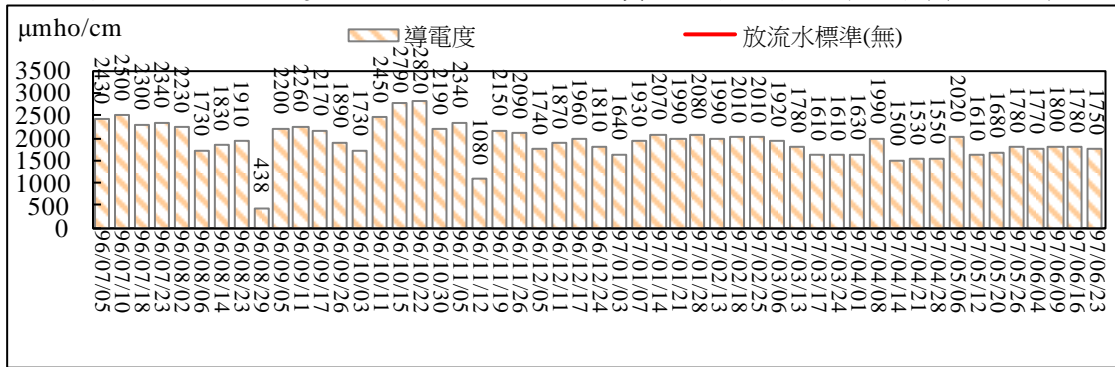
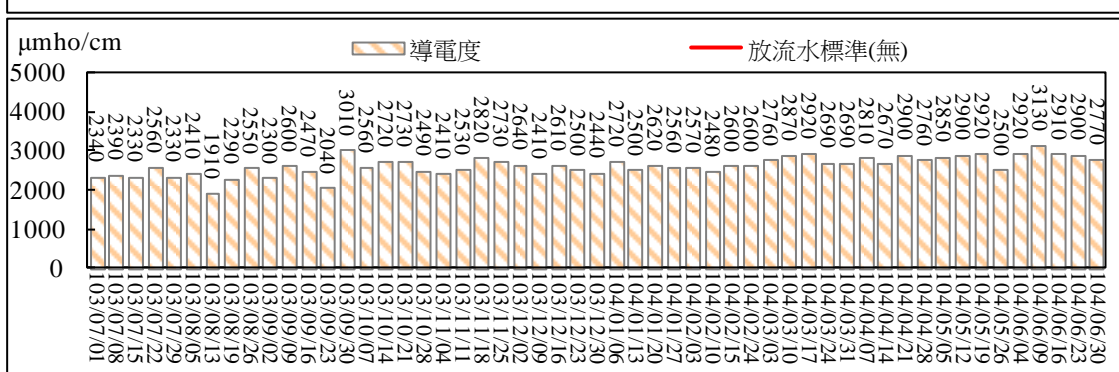
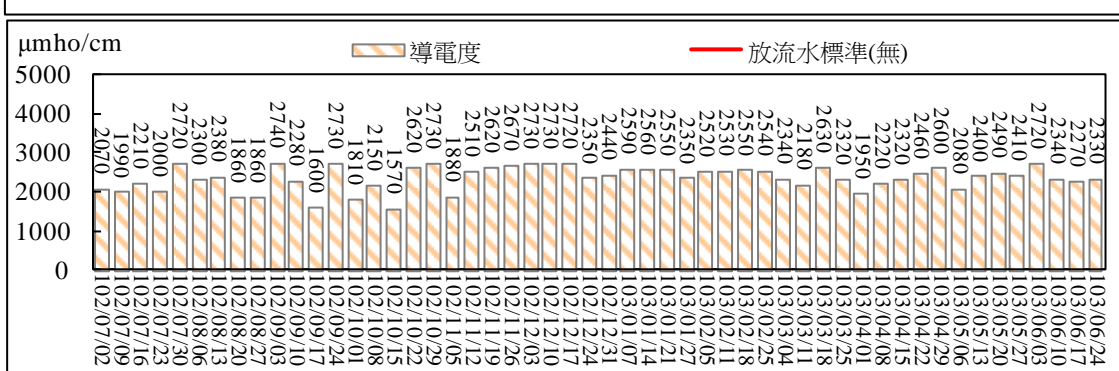
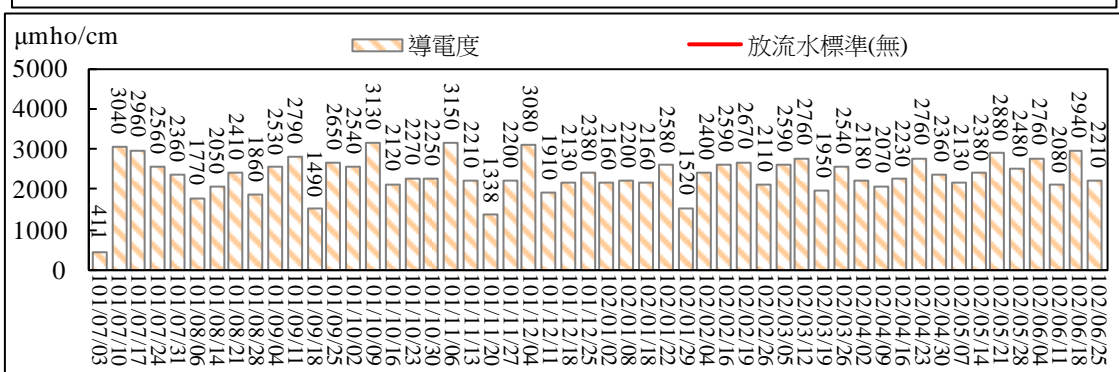
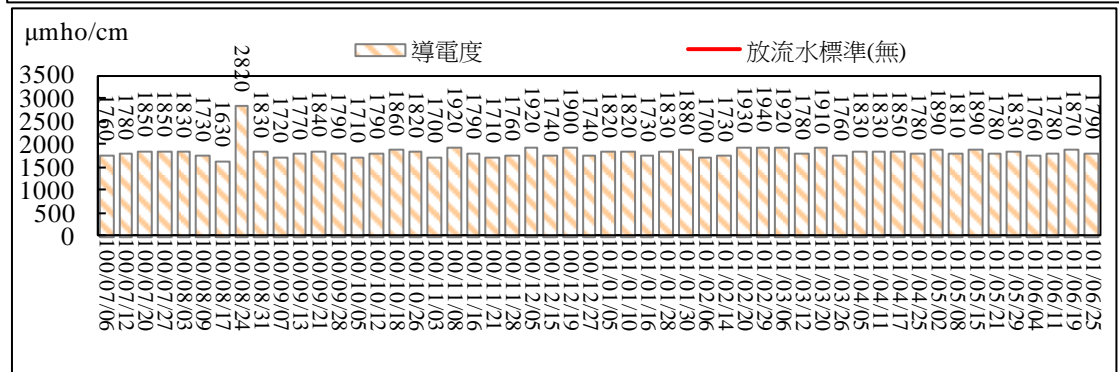
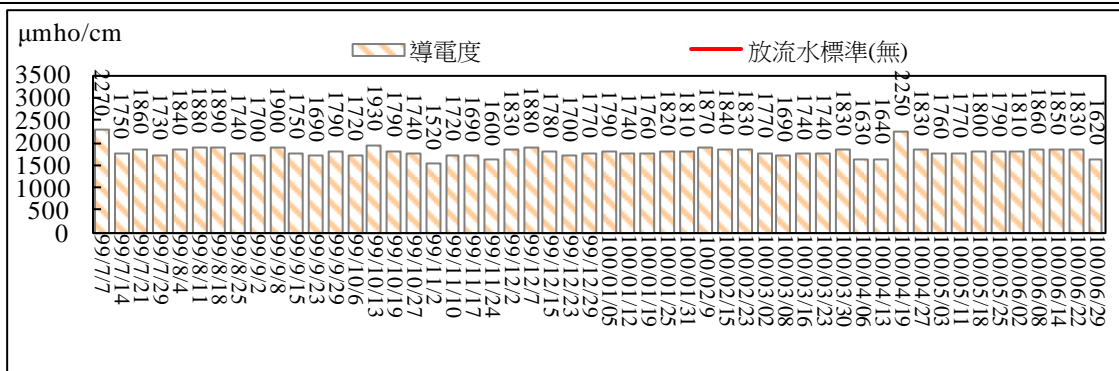


圖 2.35 污水處理廠放流口放流水質監測結果比較圖(氟化物)





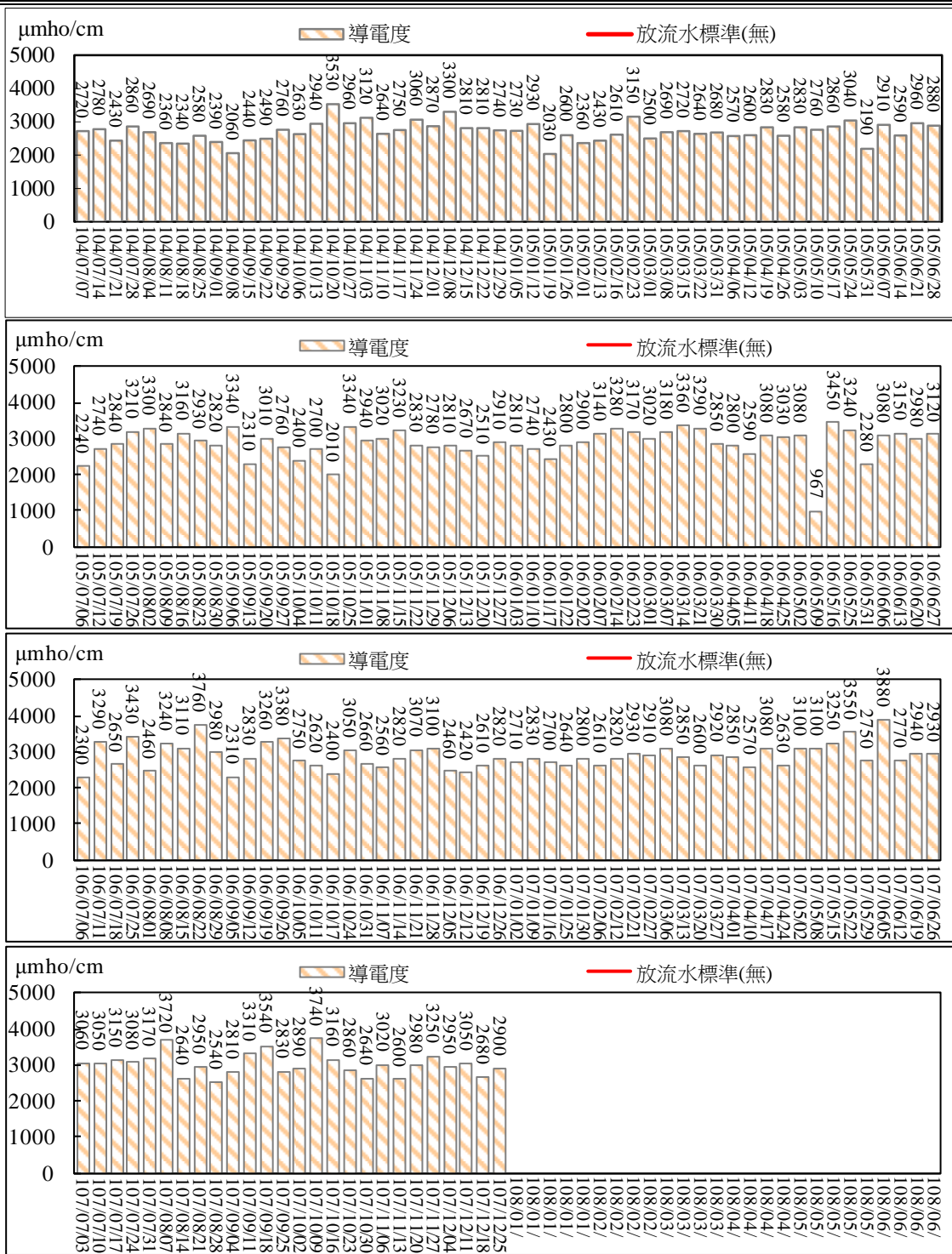
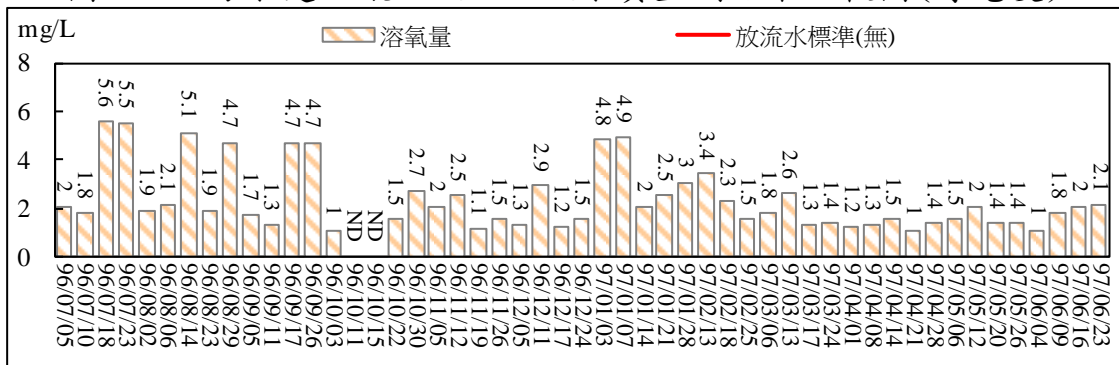
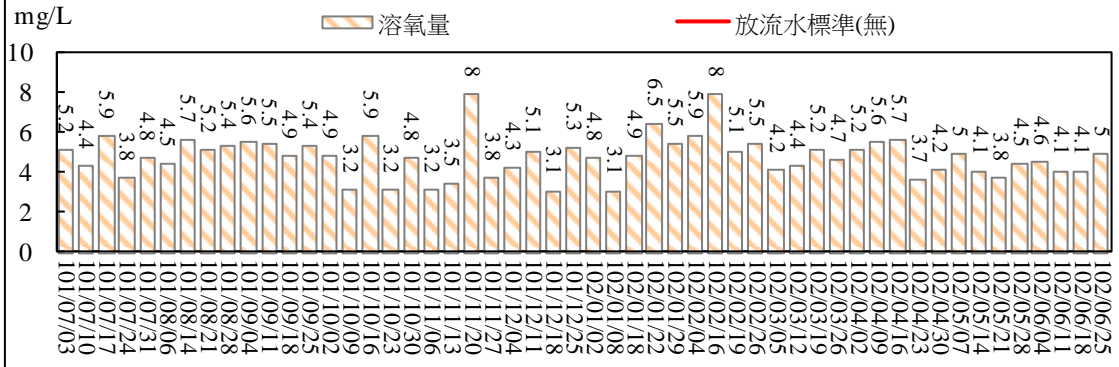
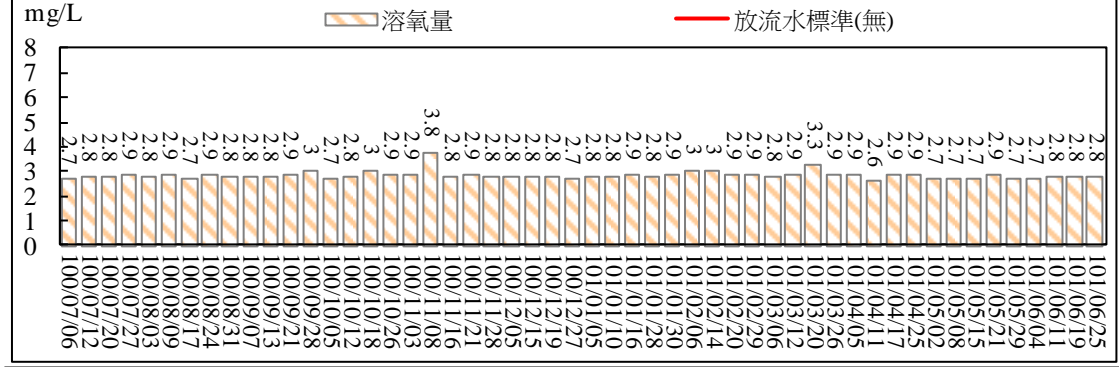
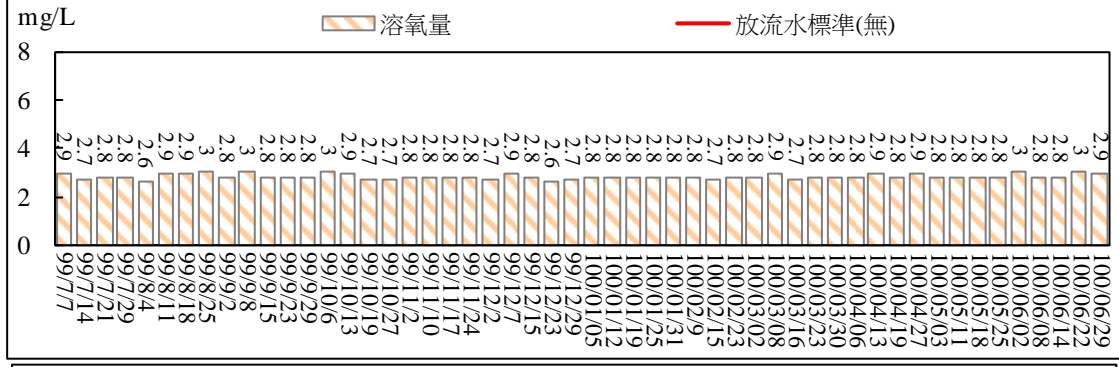
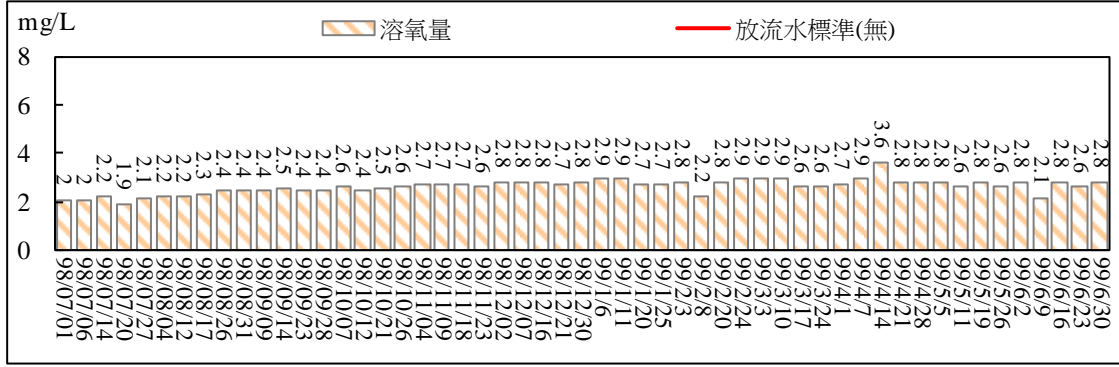
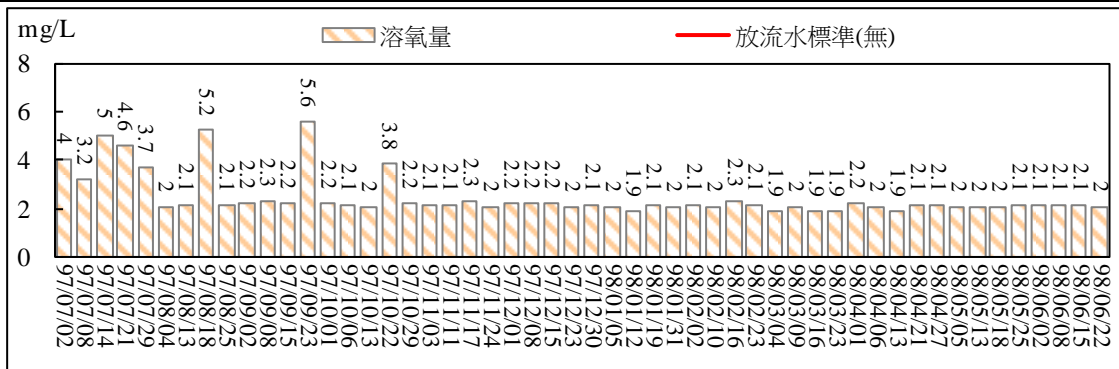
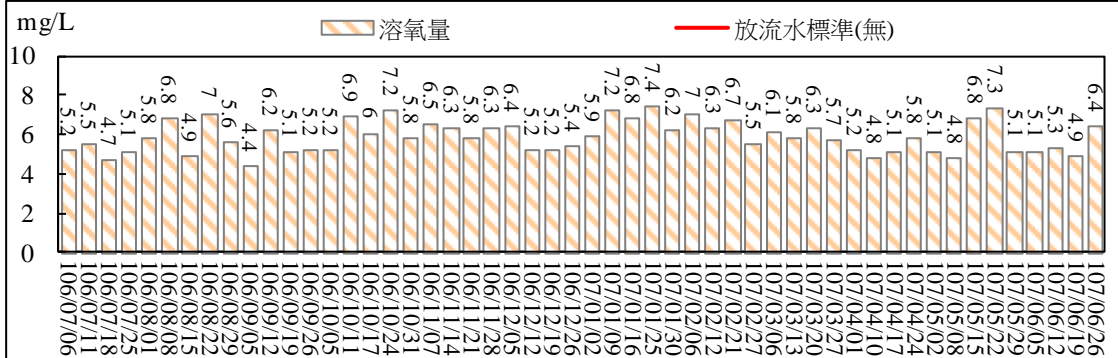
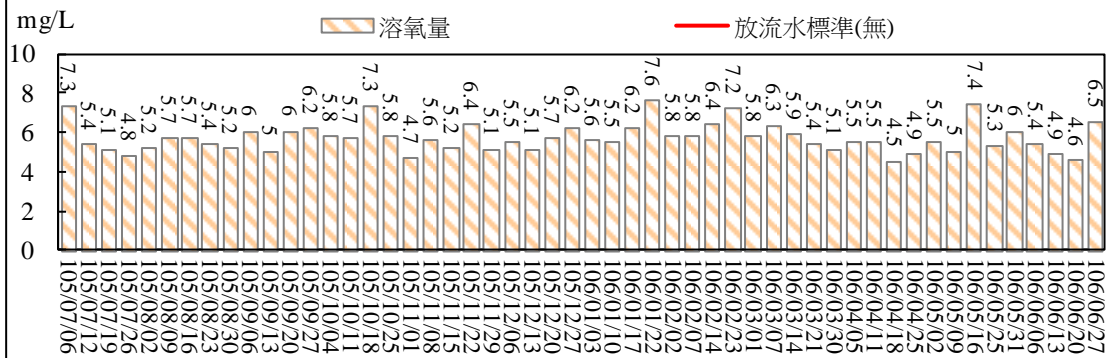
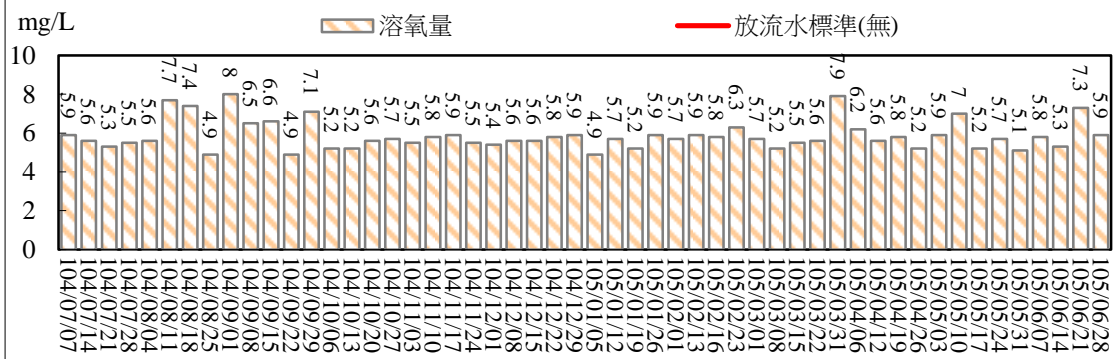
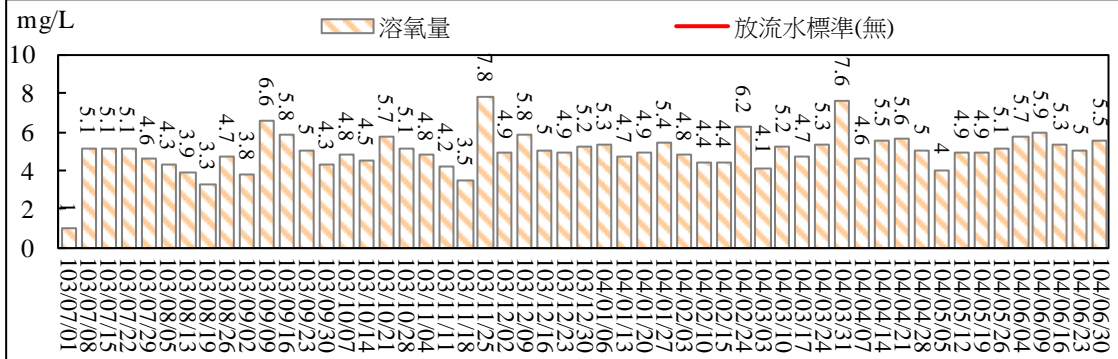
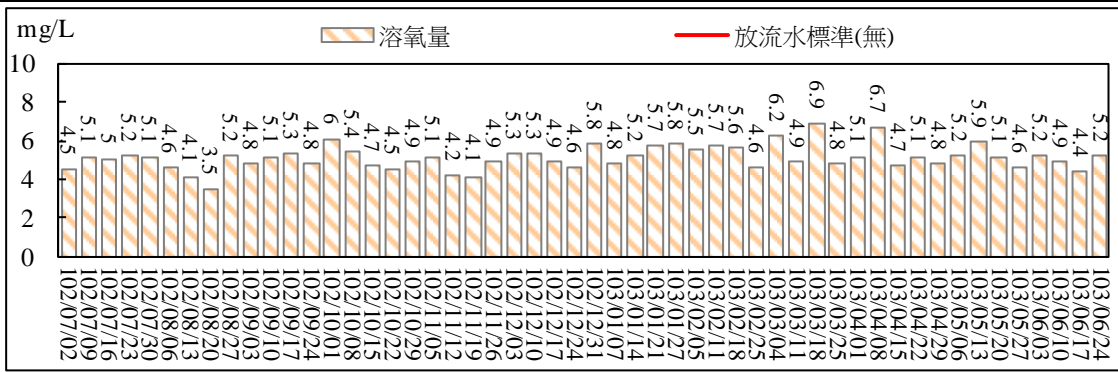


圖 2.36 污水處理廠放流口放流水質監測結果比較圖(導電度)







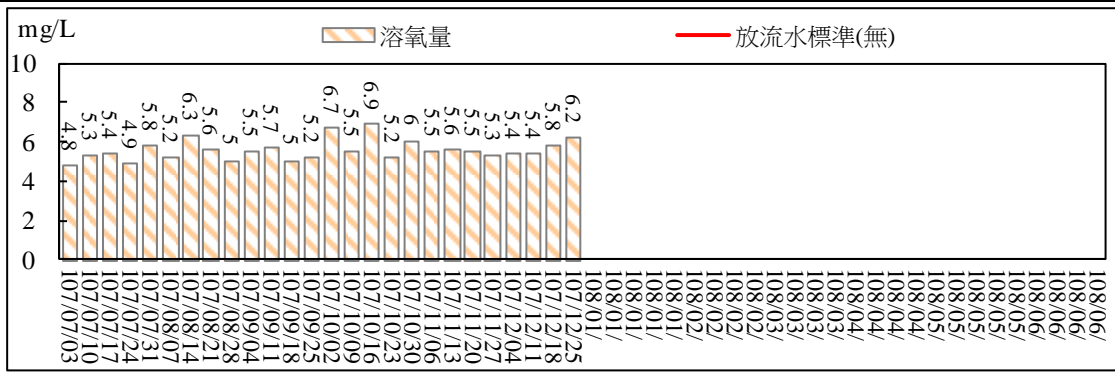
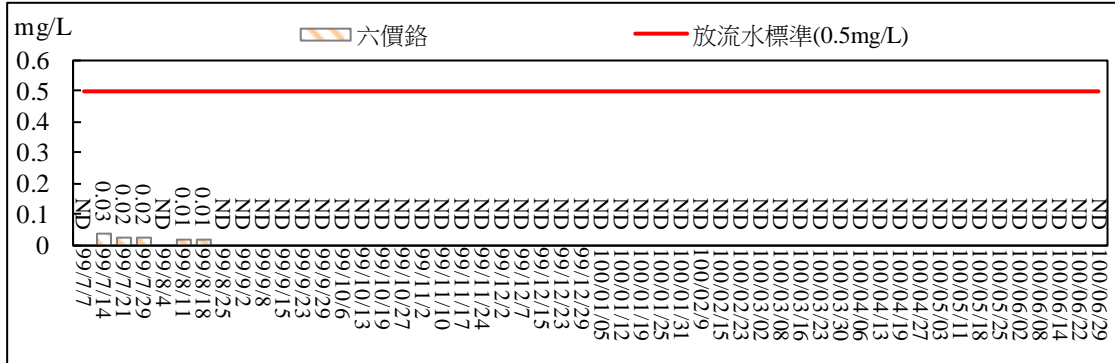
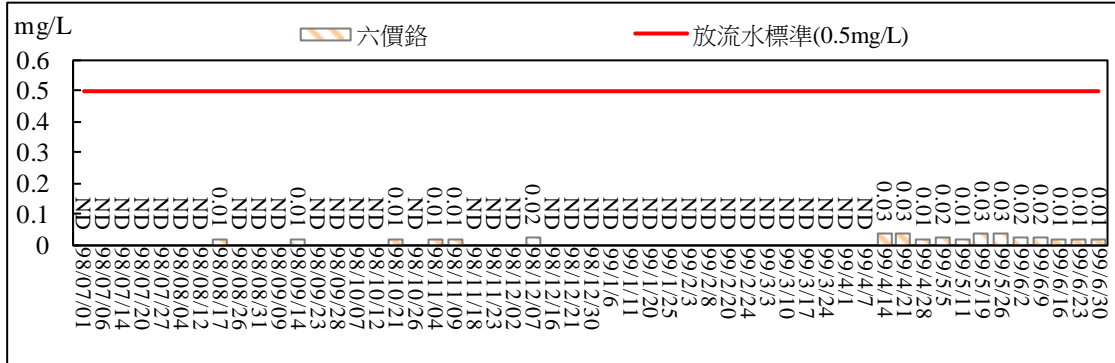
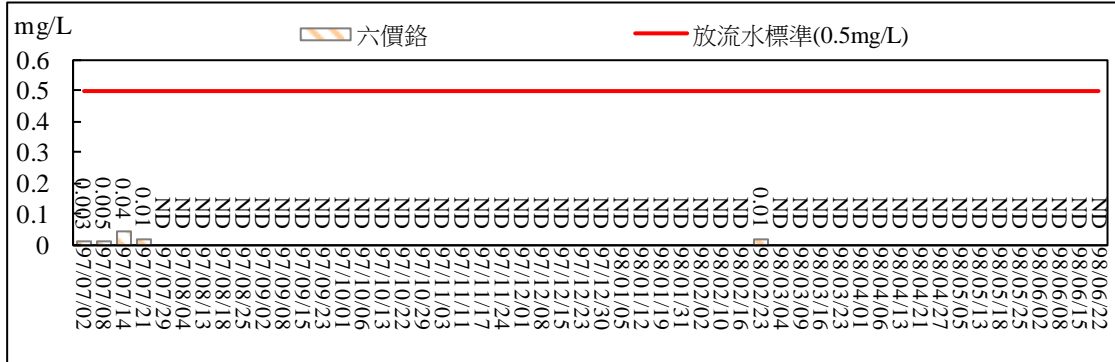
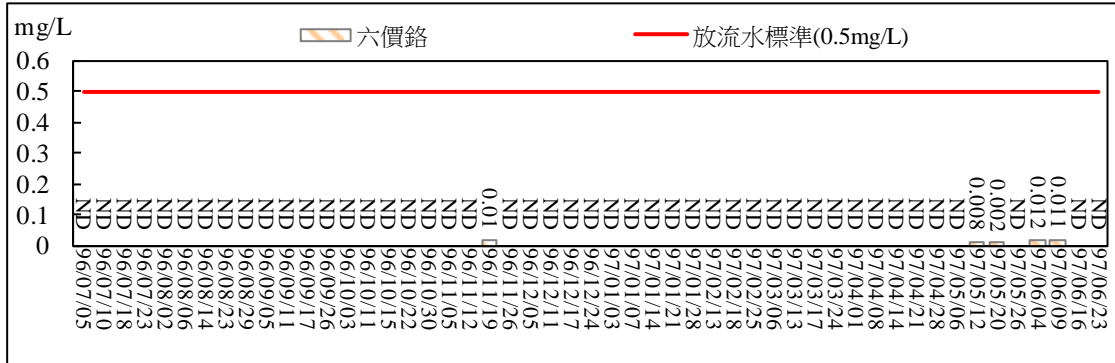
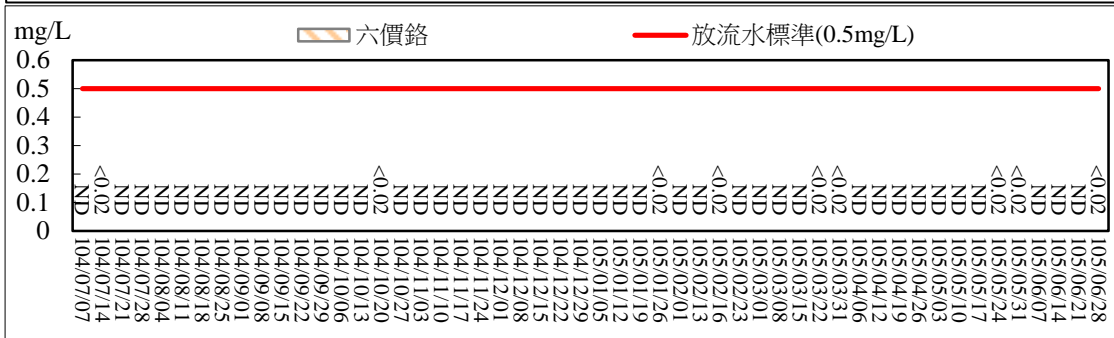
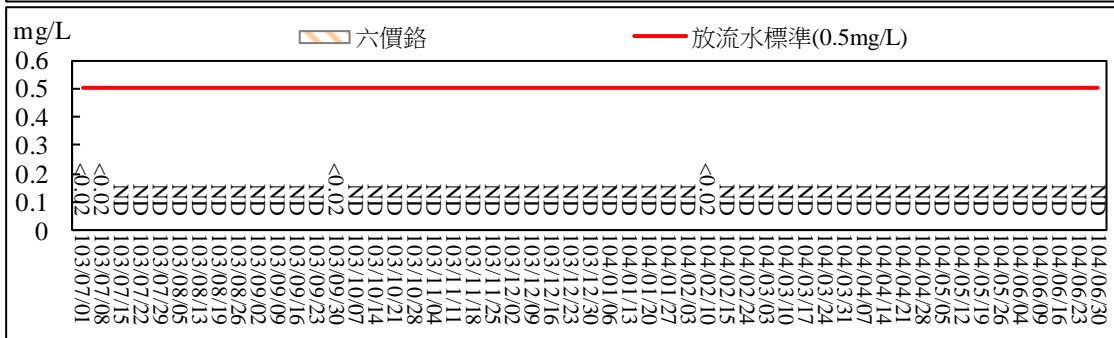
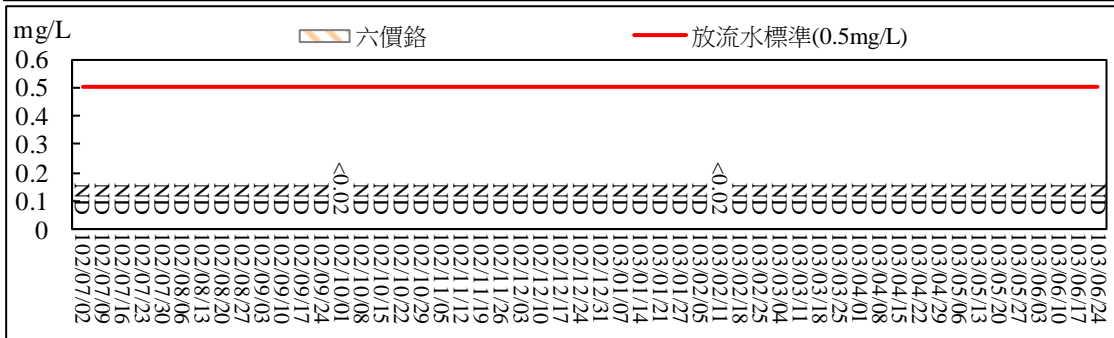
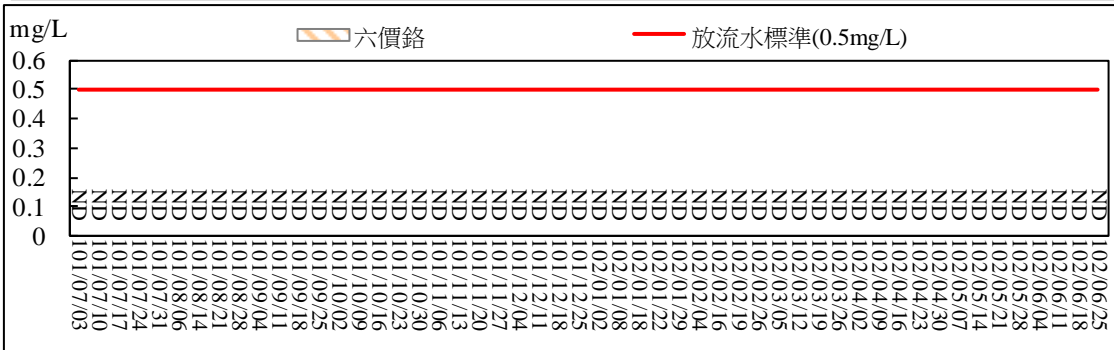
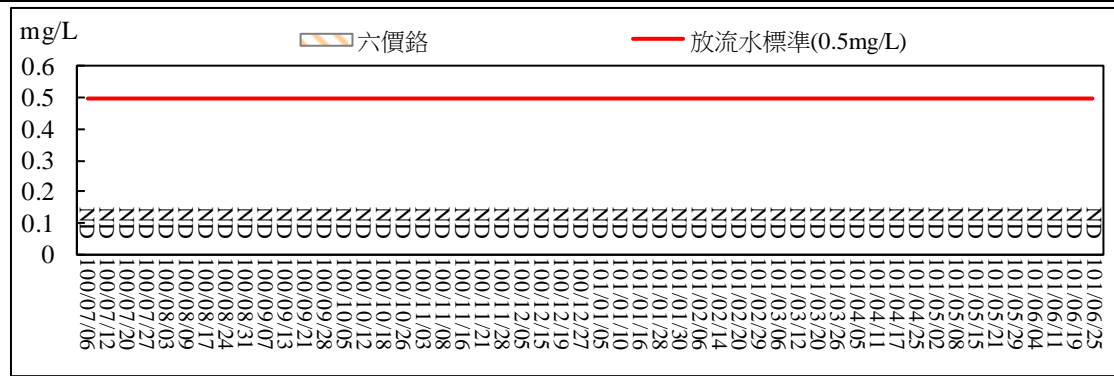


圖 2.37 污水處理廠放流口放流水質監測結果比較圖(溶氧量)





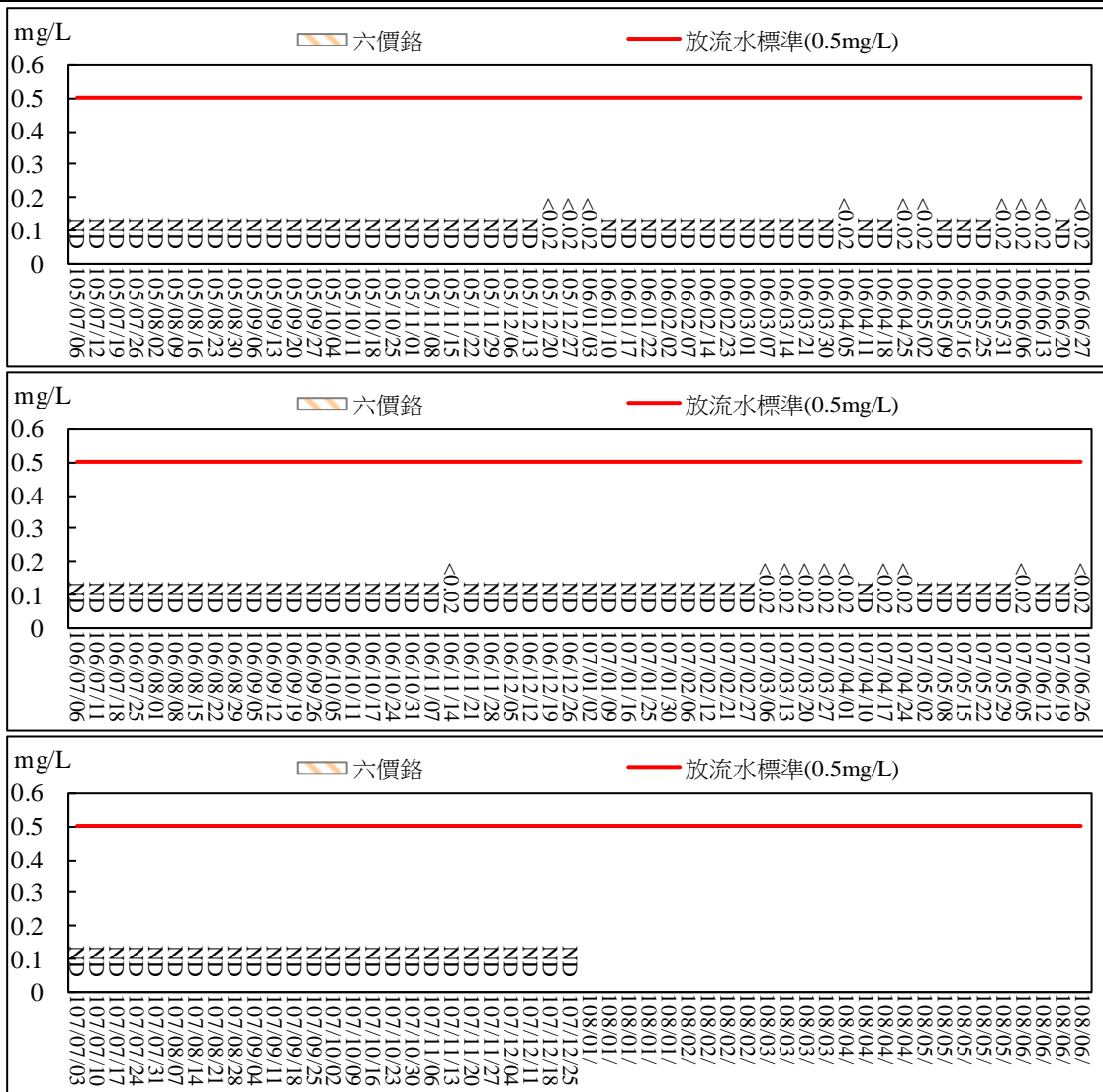
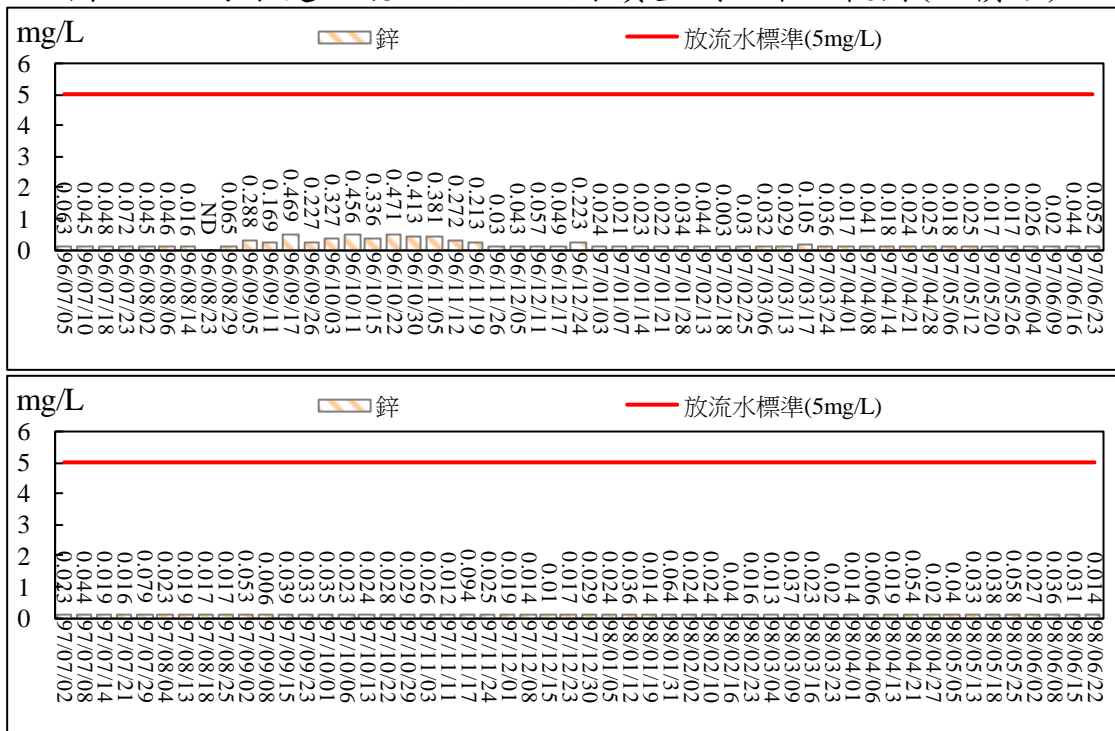
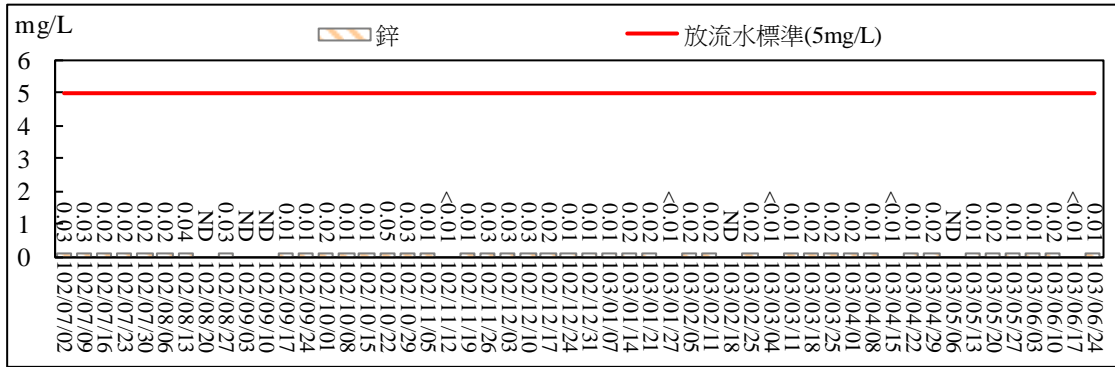
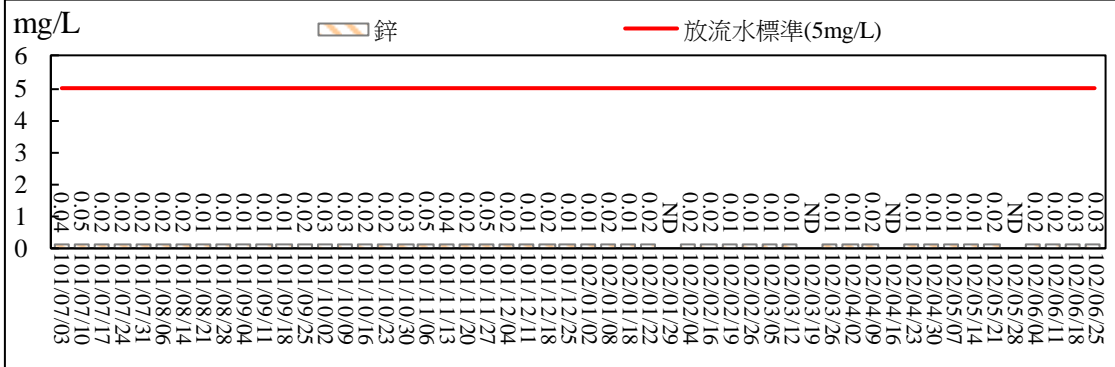
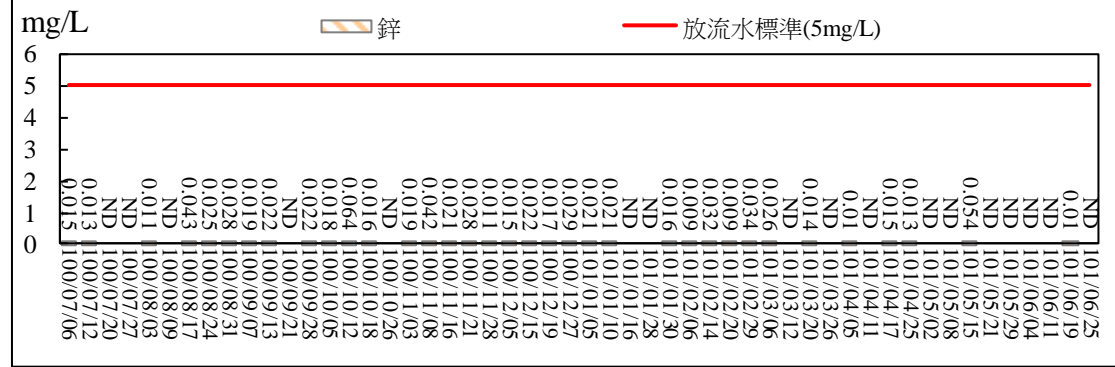
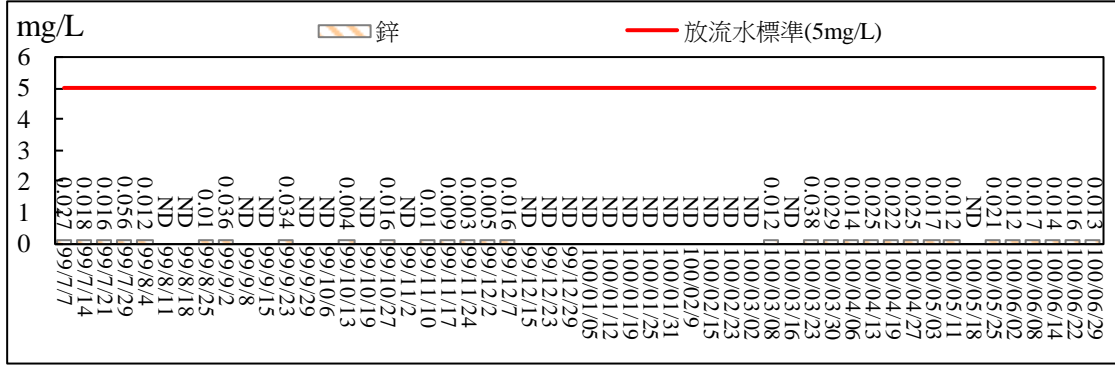
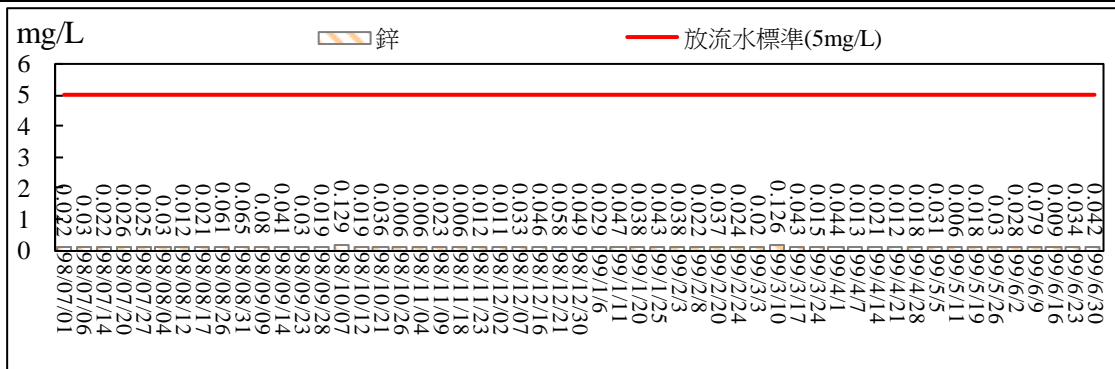


圖 2.38 污水處理廠放流口放流水質監測結果比較圖(六價鉻)





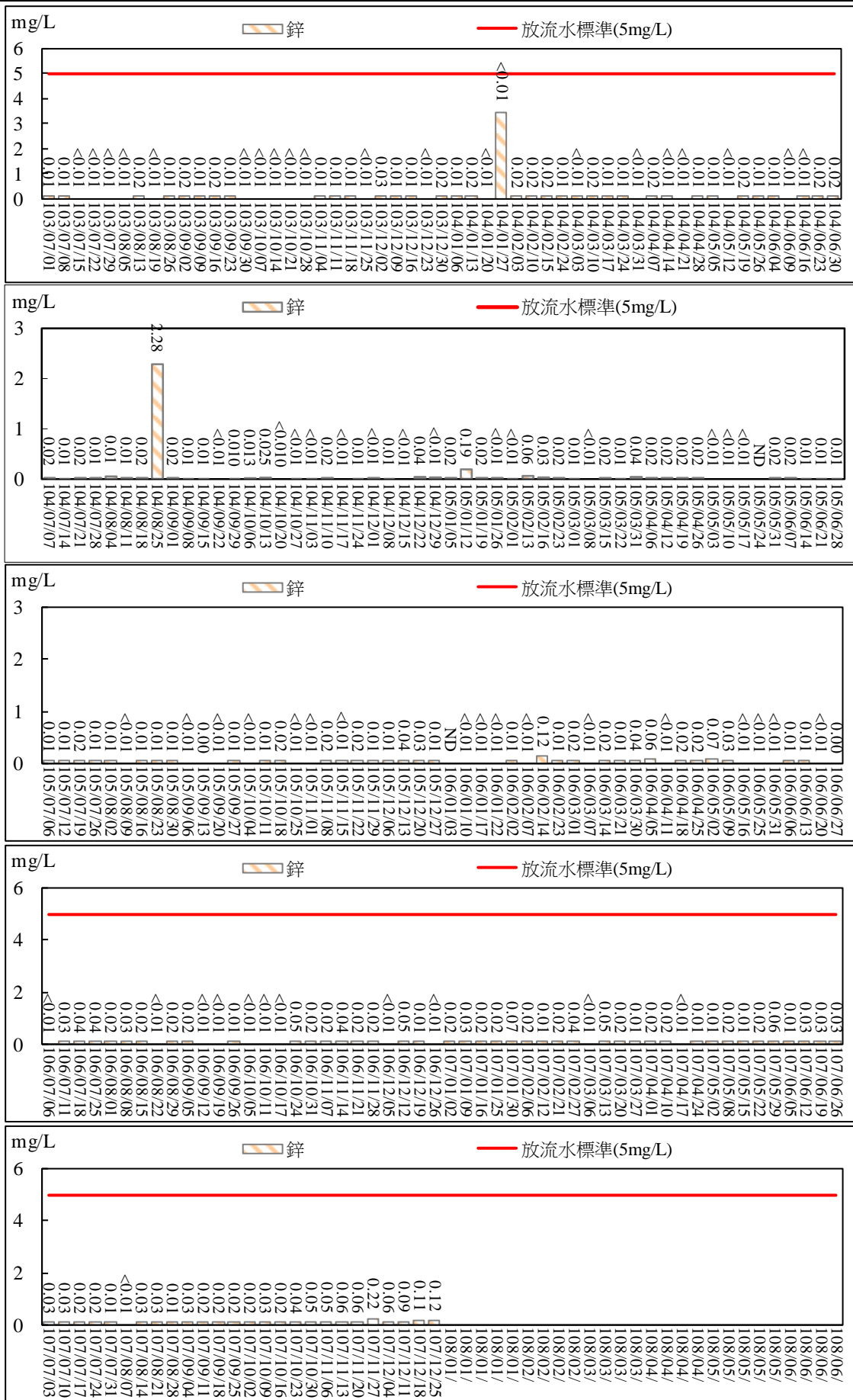
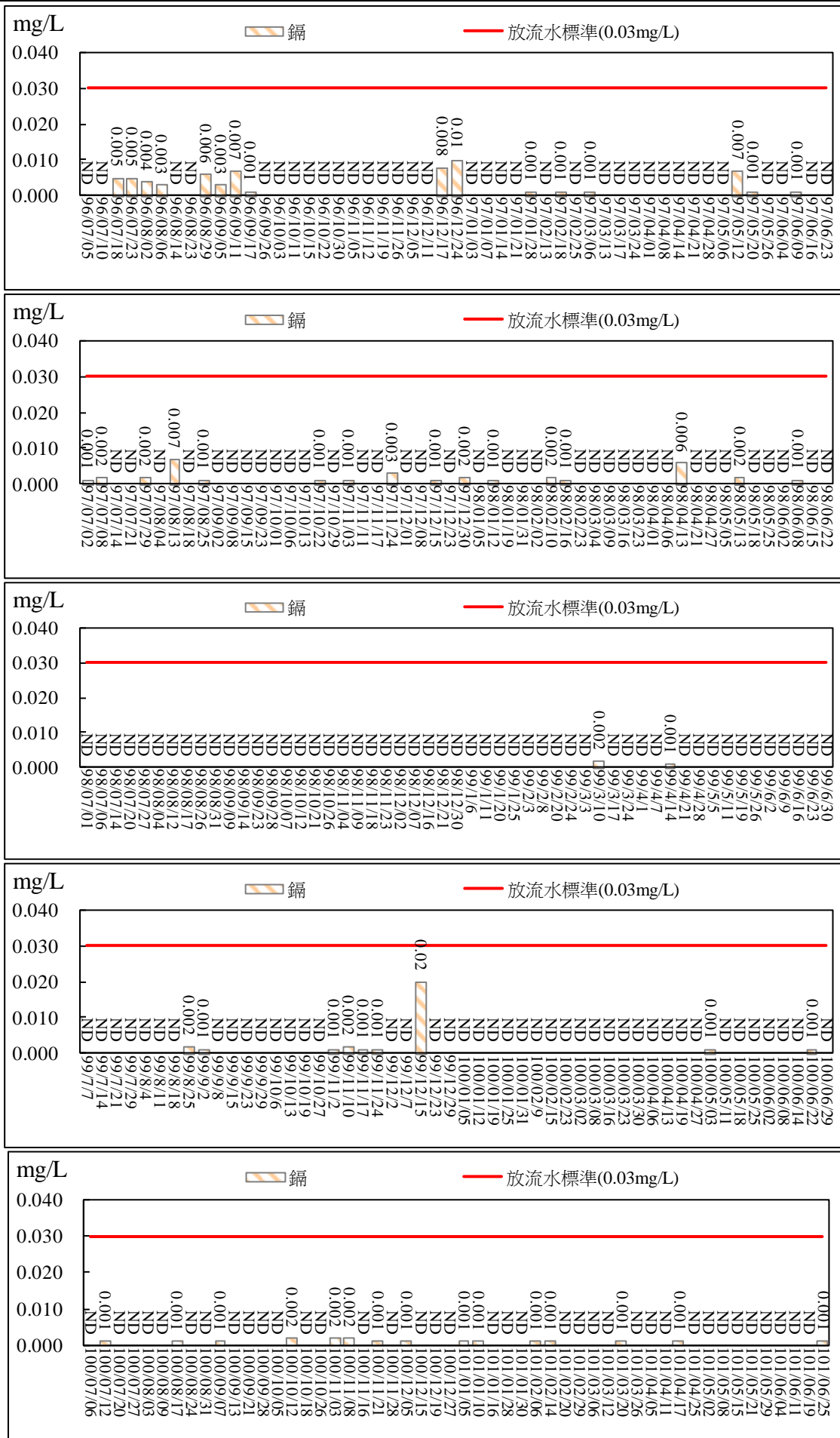


圖 2.39 污水處理廠放流口放流水質監測結果比較圖(鋅)



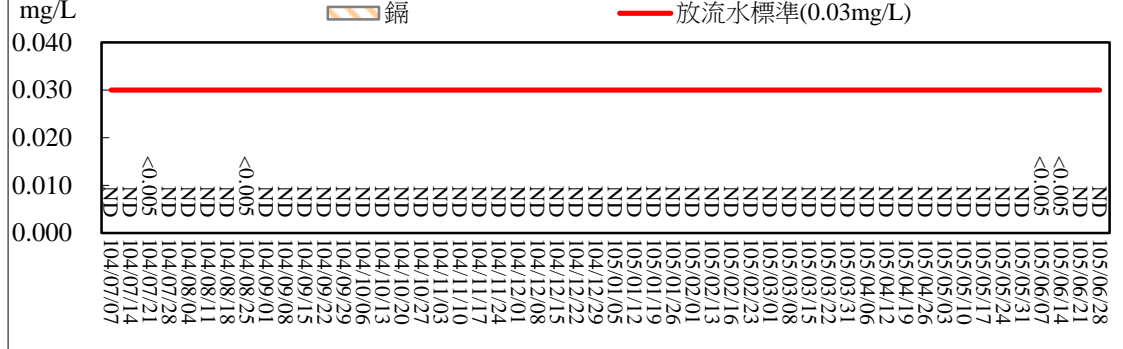
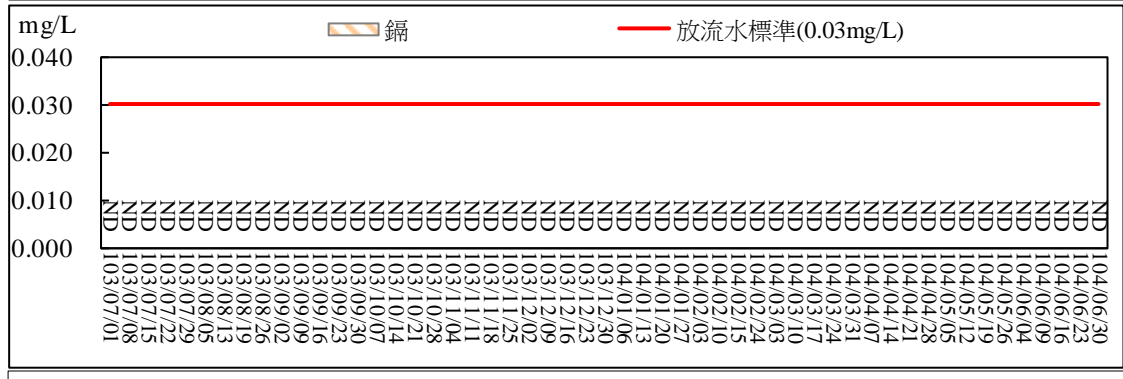
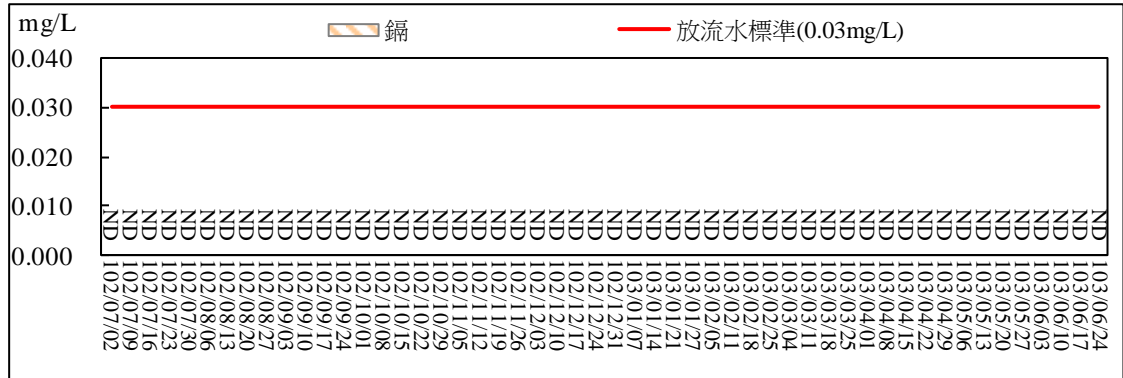
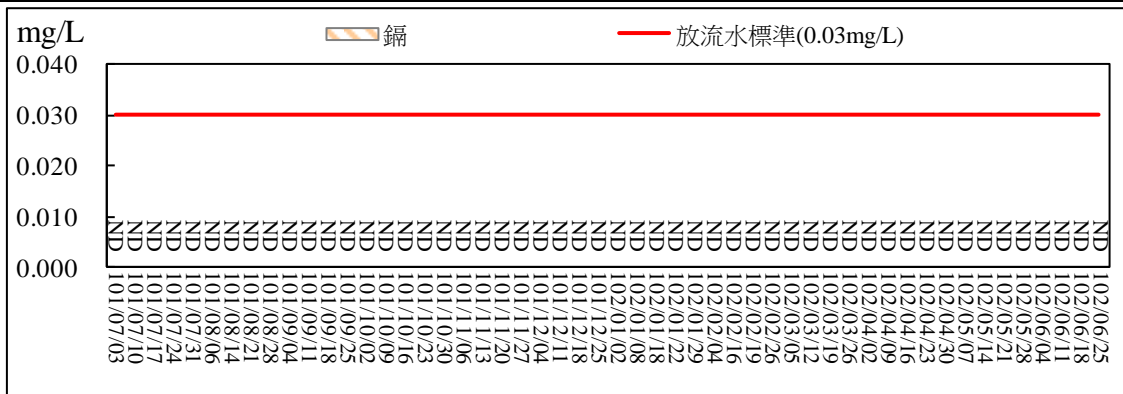
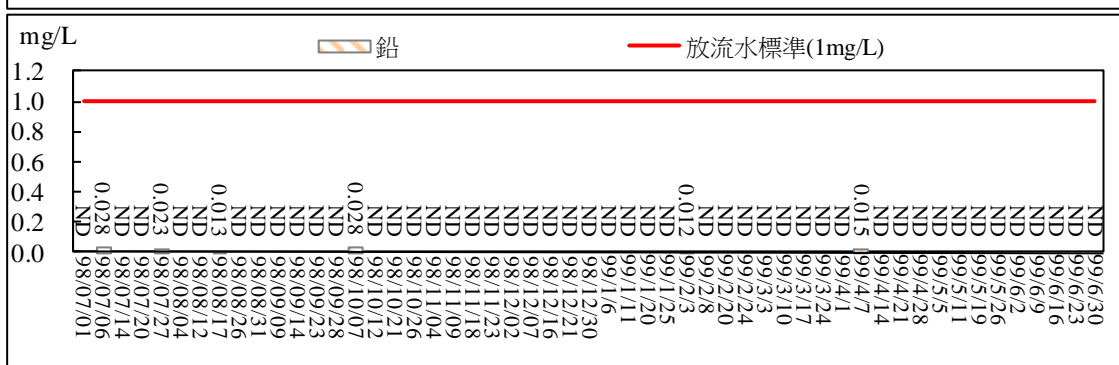
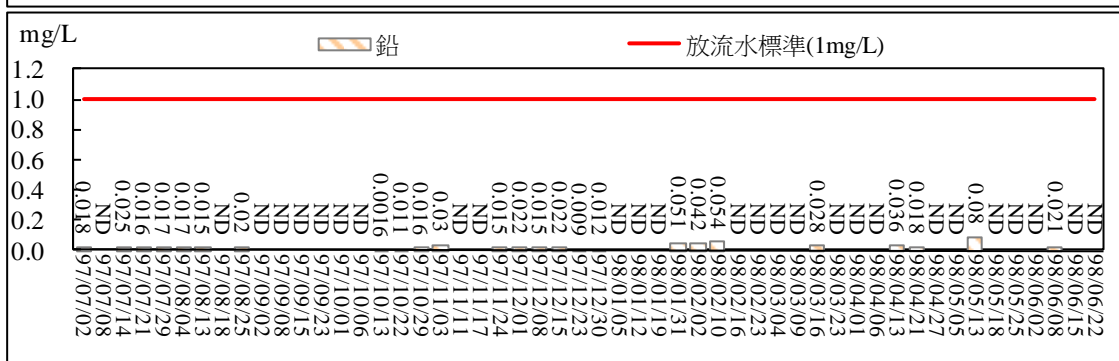
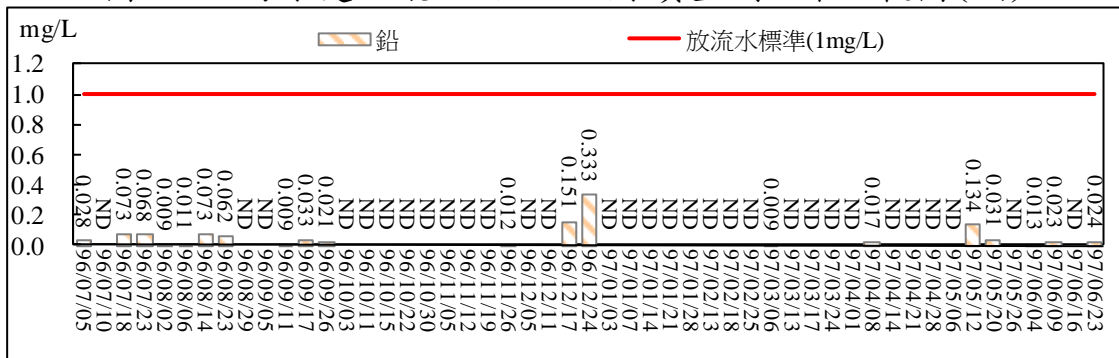
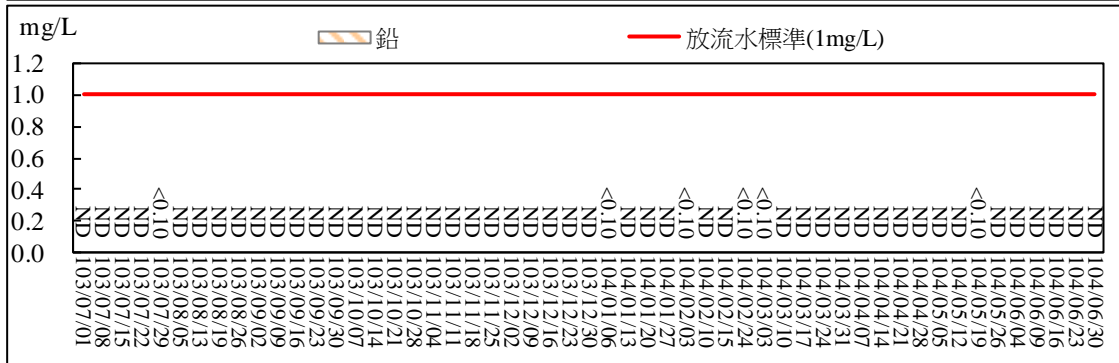
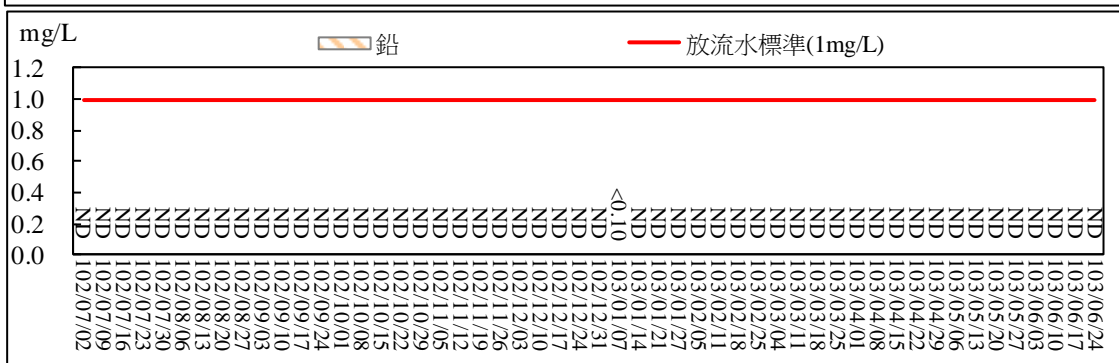
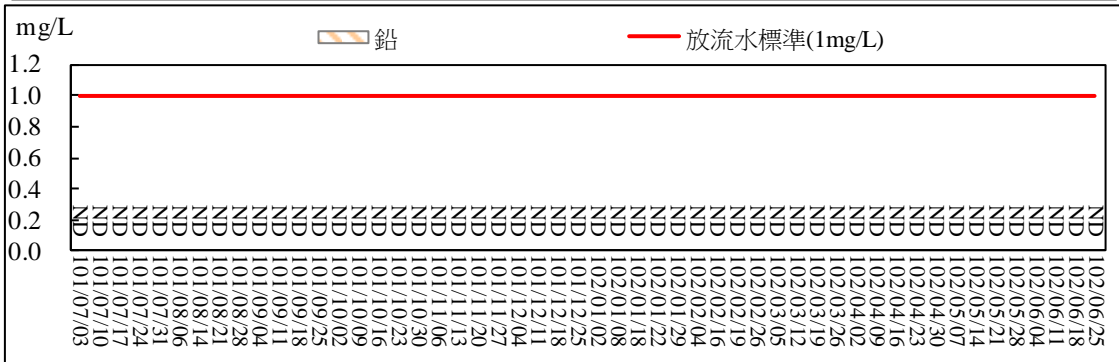
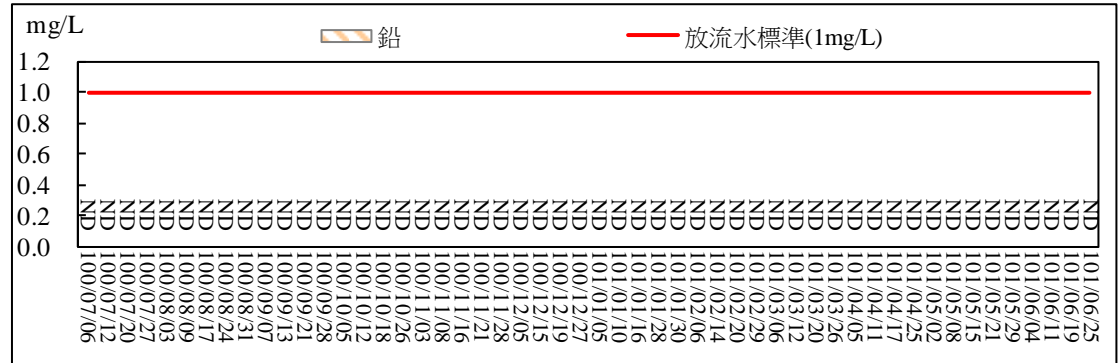
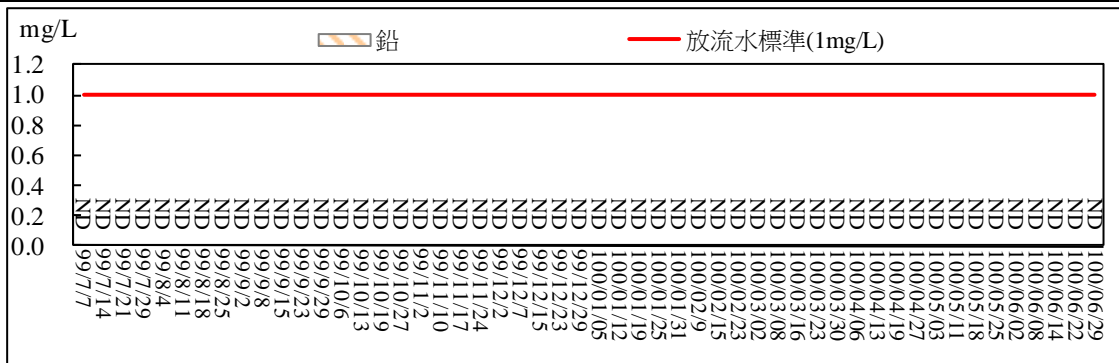




圖 2.40 污水處理廠放流口放流水質監測結果比較圖(鎘)





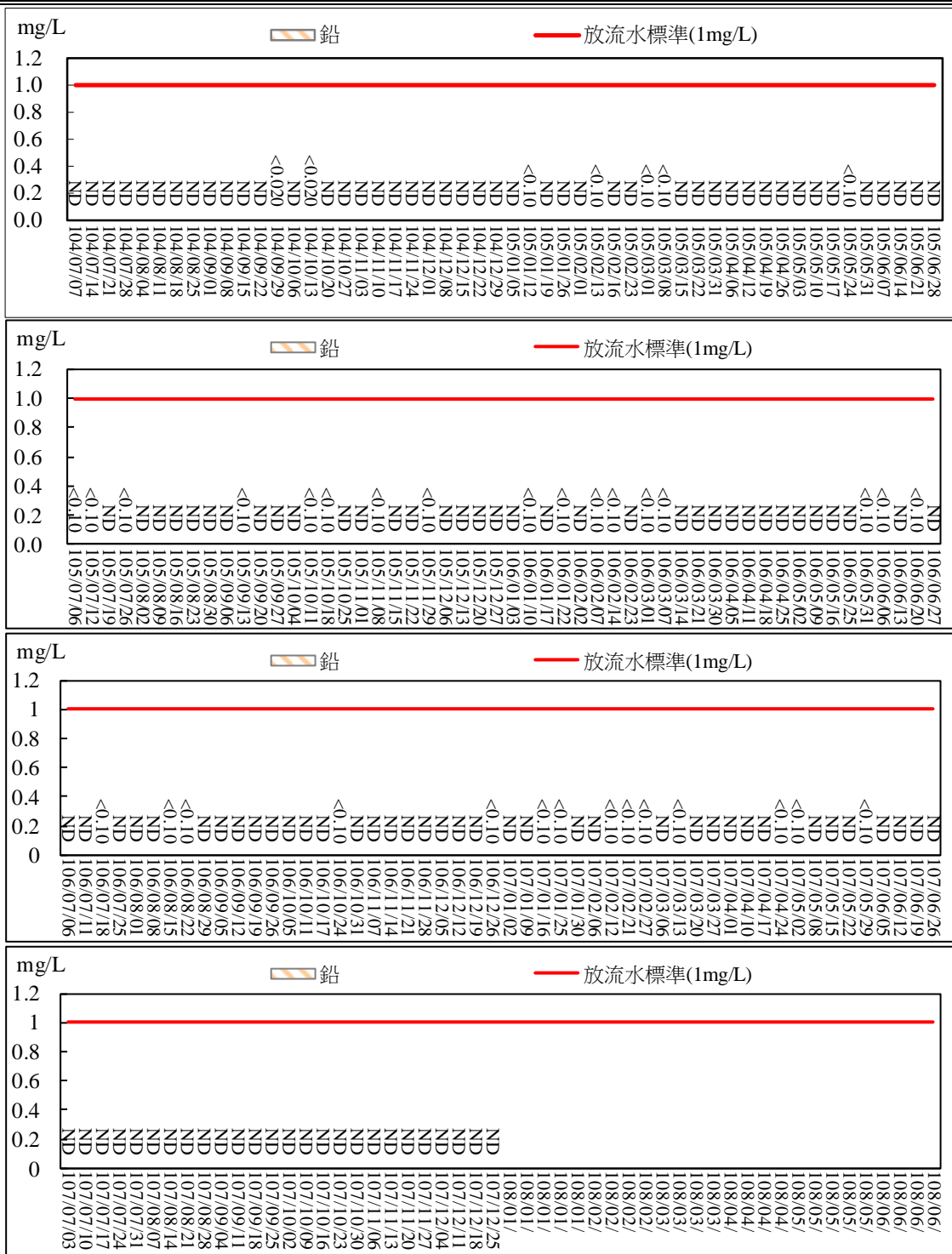
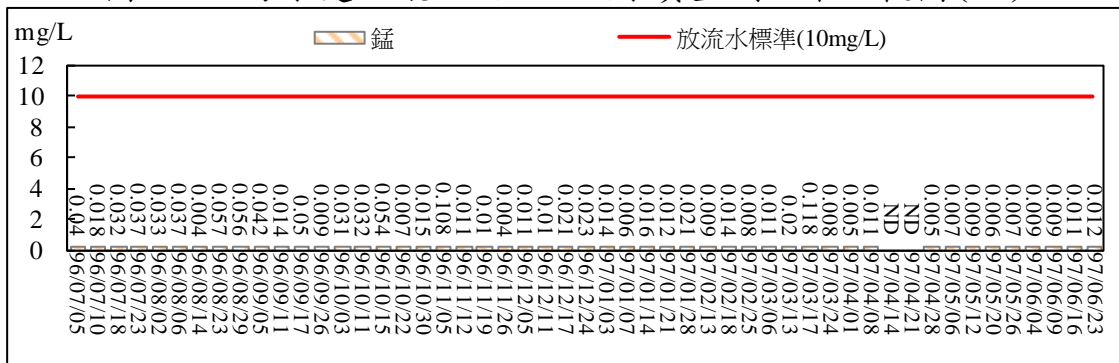
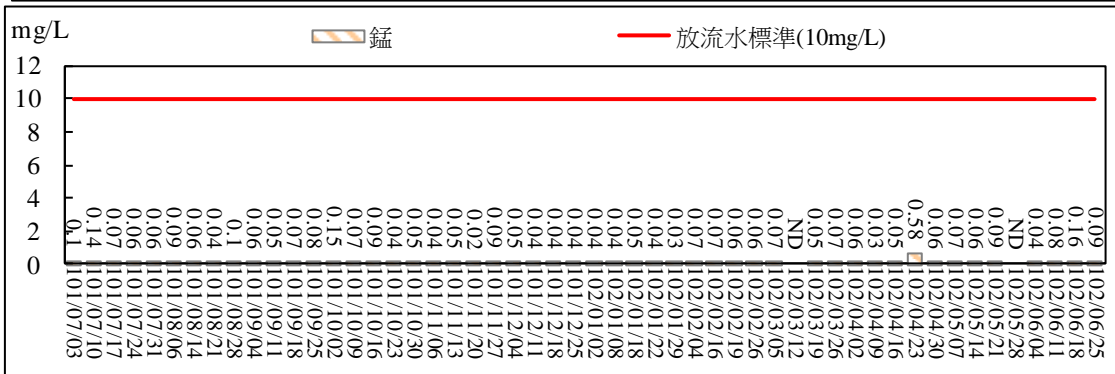
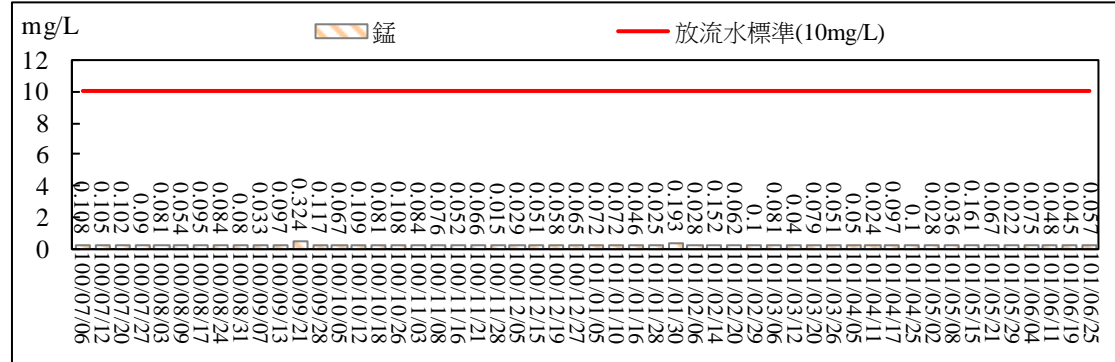
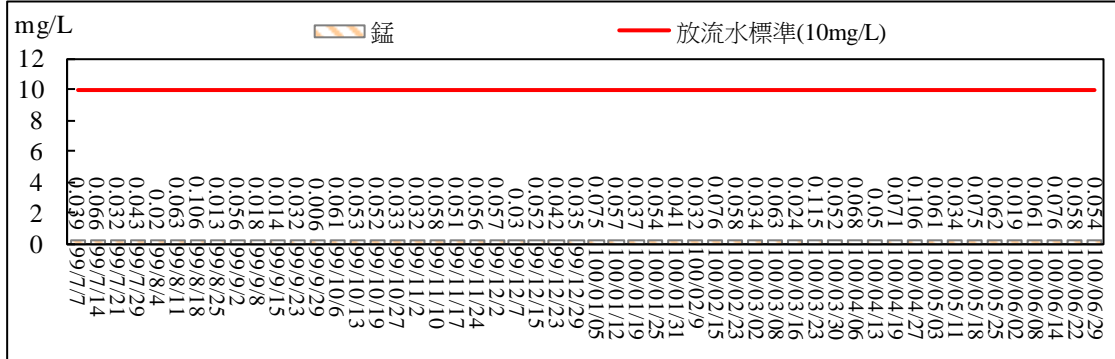
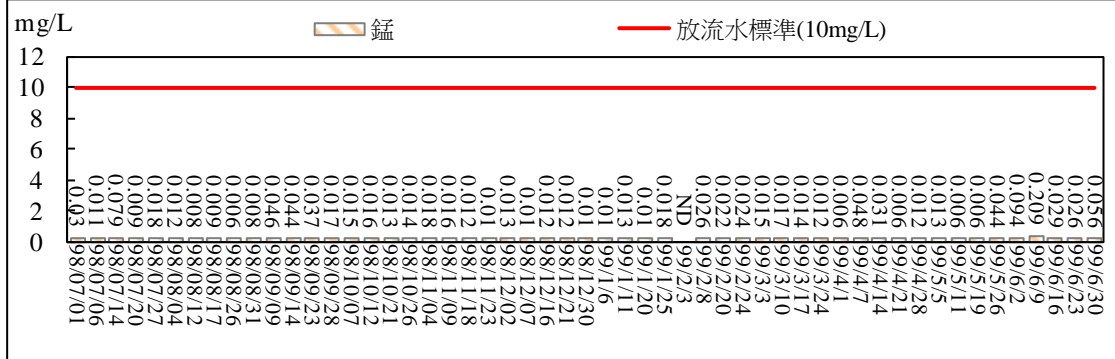
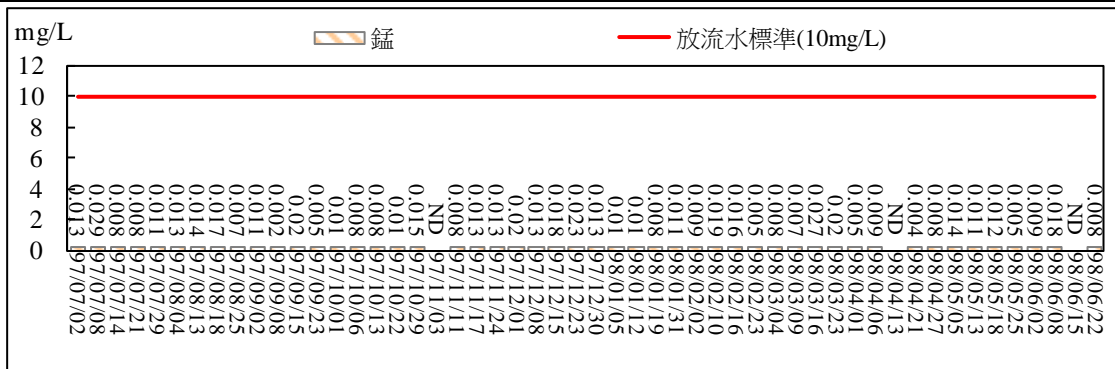
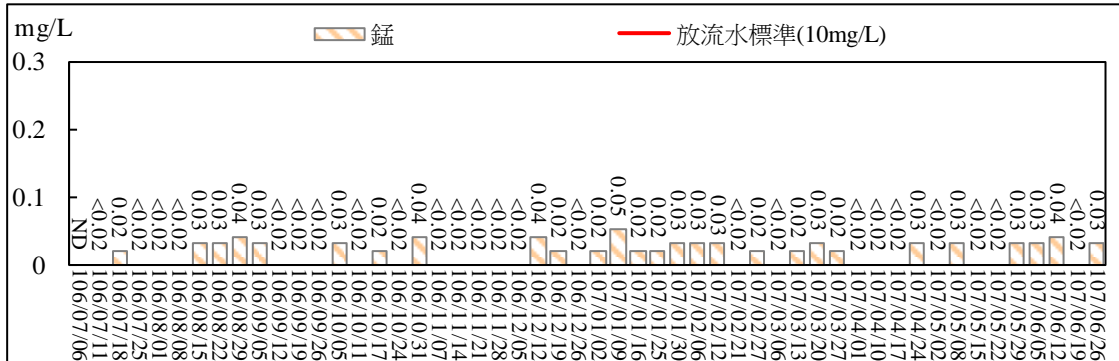
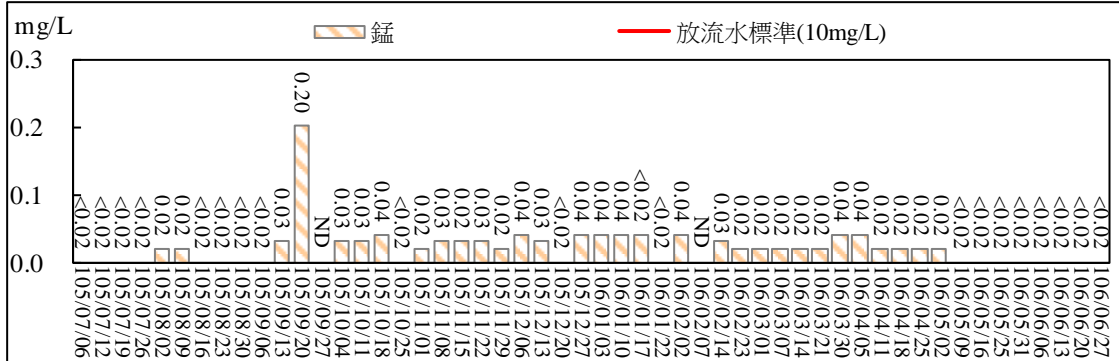
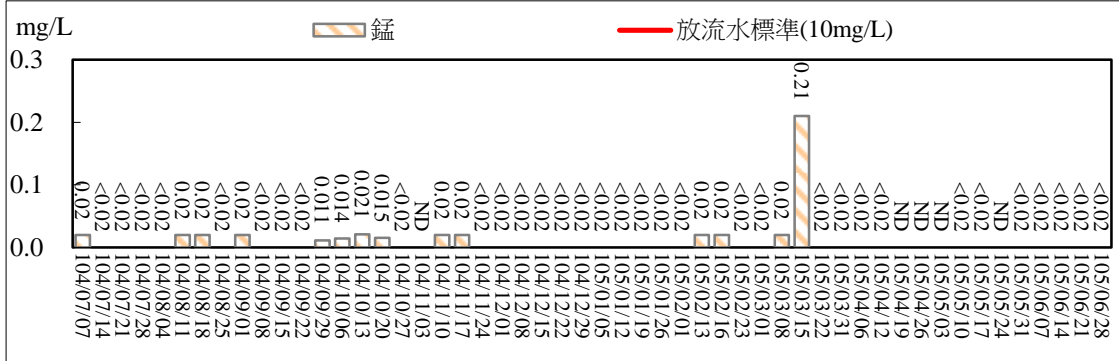
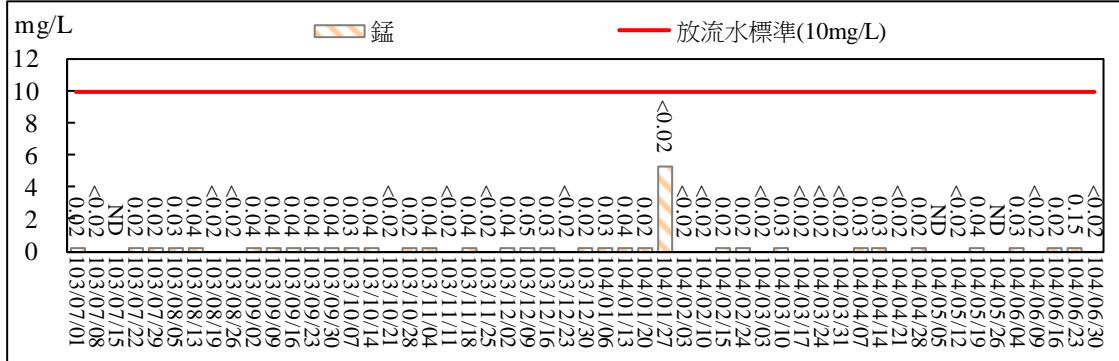


圖 2.41 污水處理廠放流口放流水質監測結果比較圖(鉛)







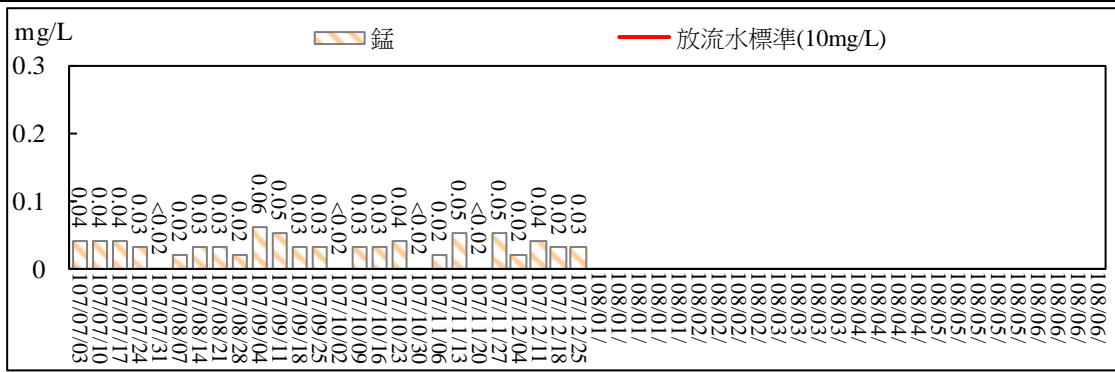
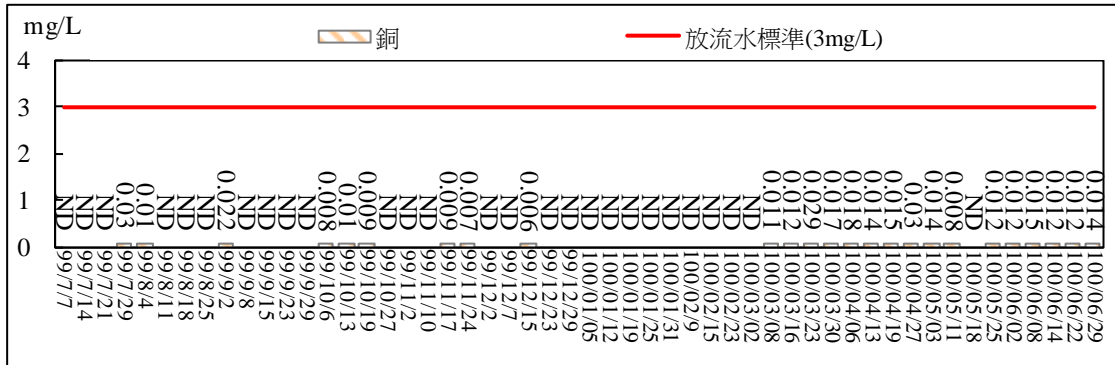
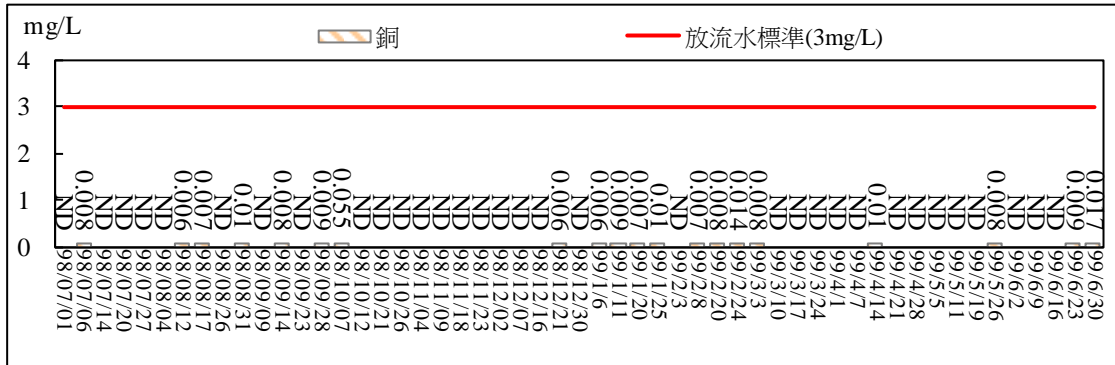
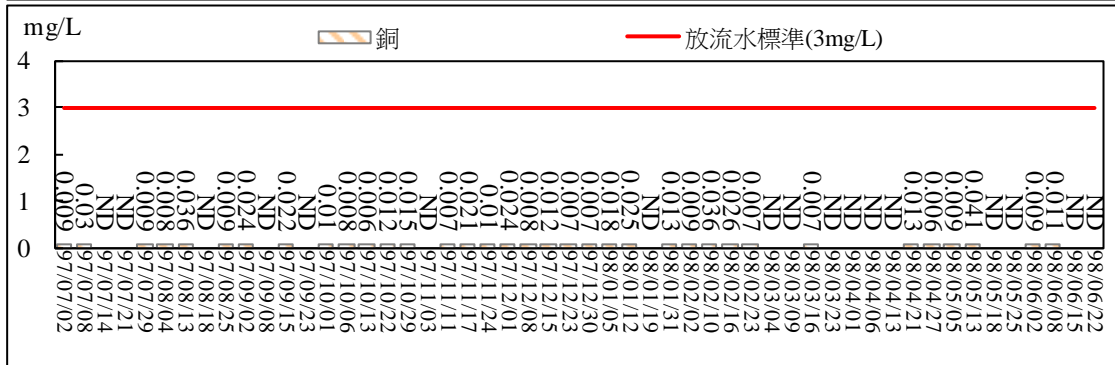
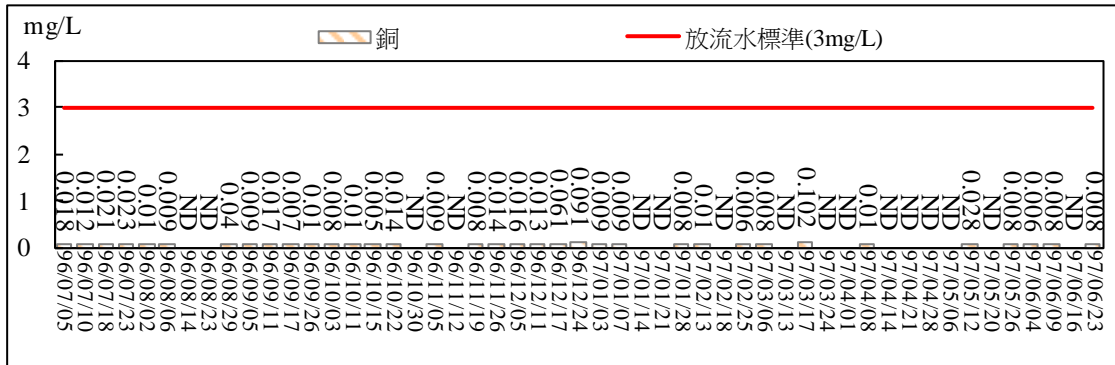


圖 2.42 污水處理廠放流口放流水質監測結果比較圖(錳)



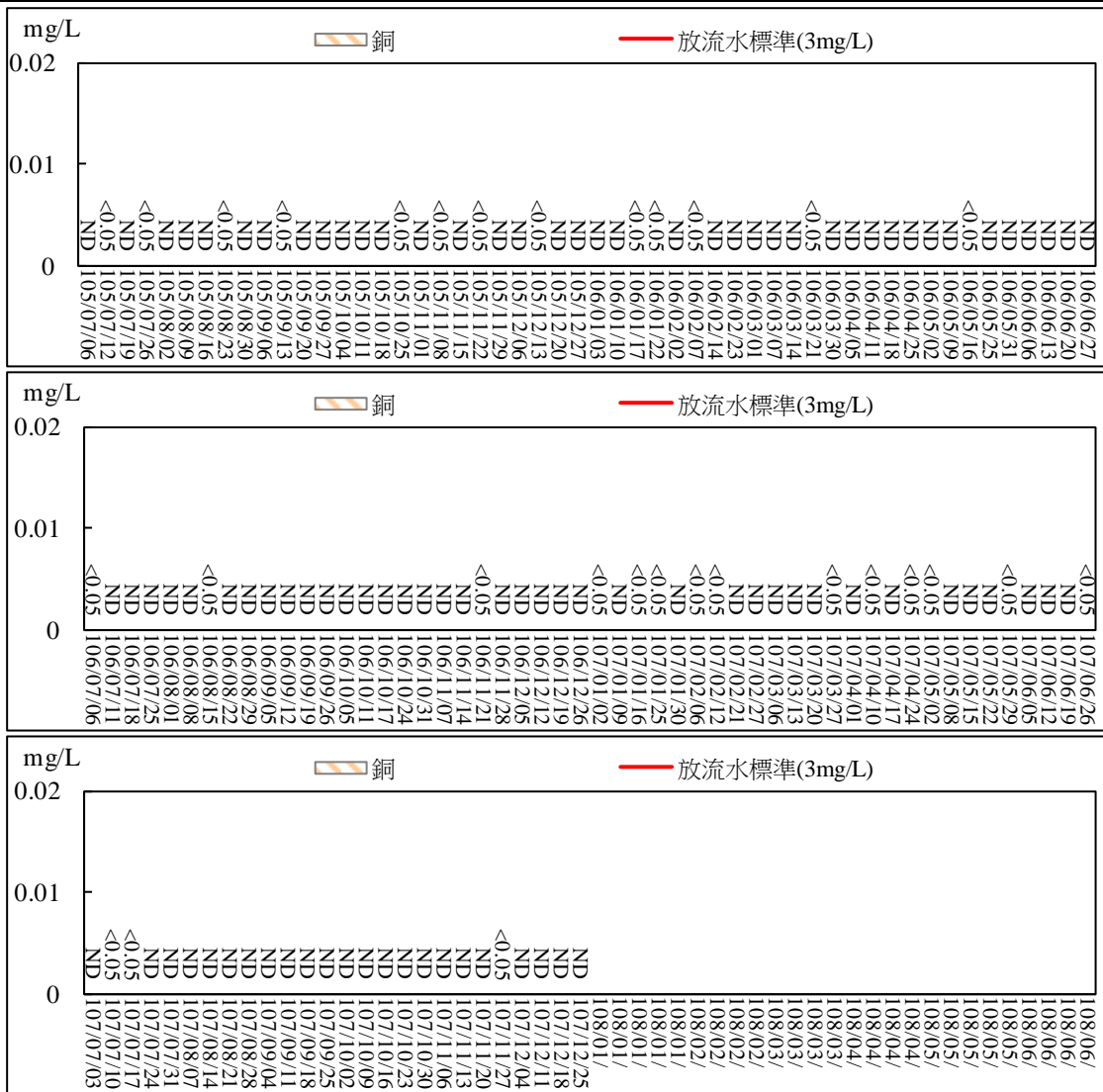
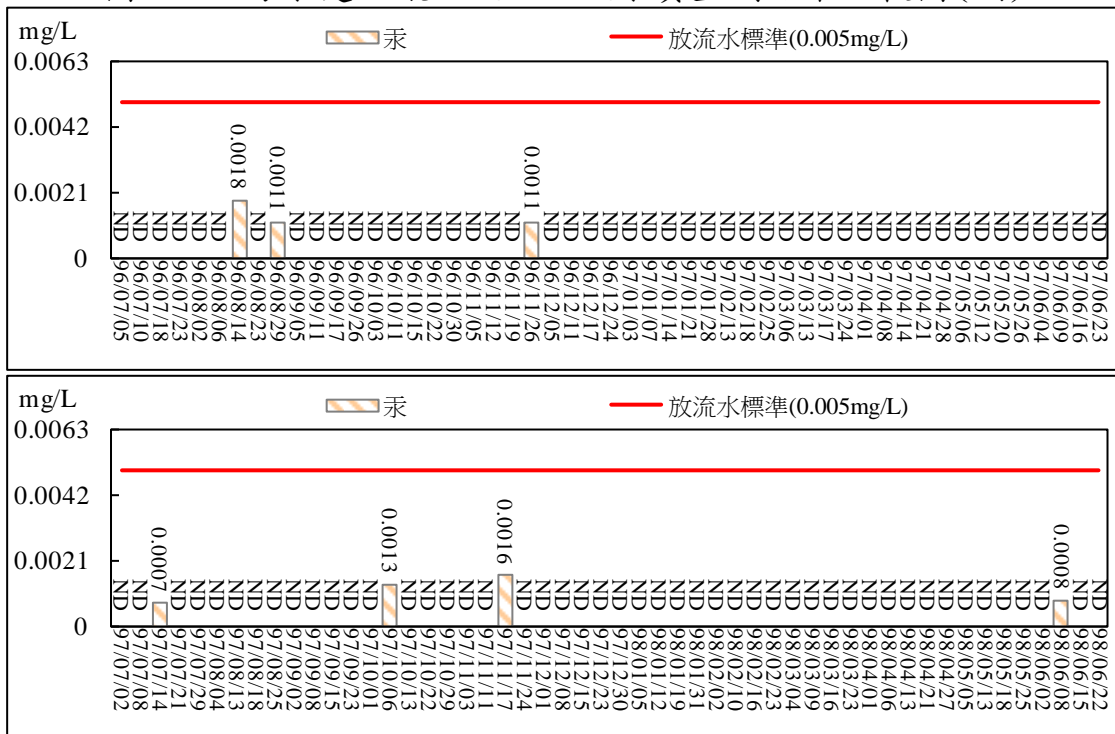
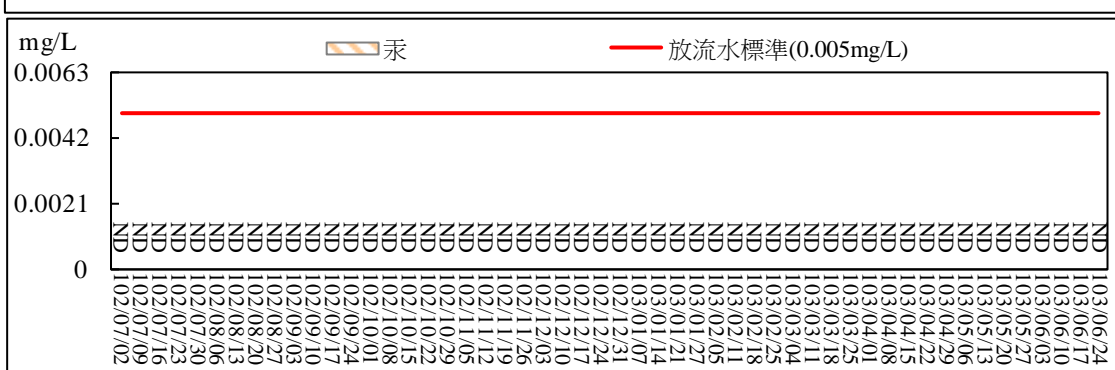
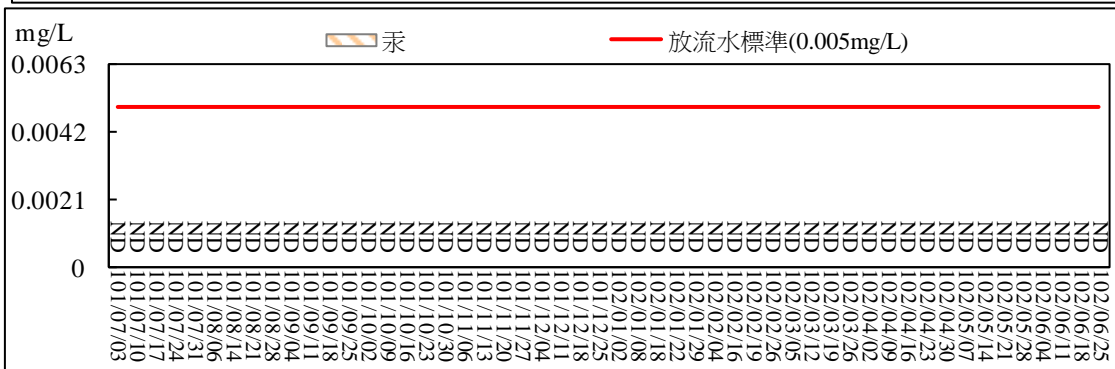
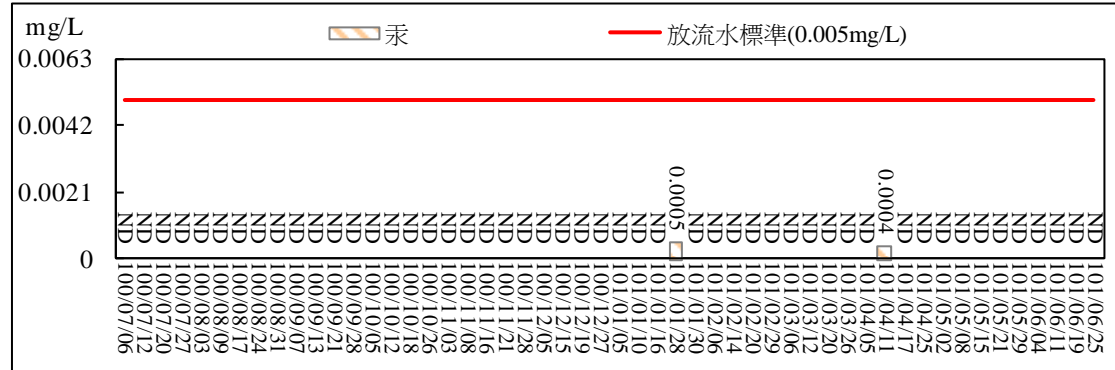
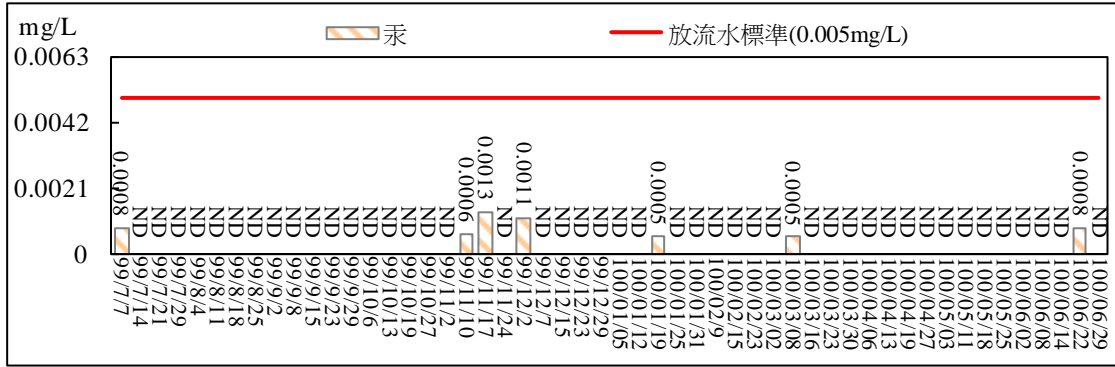
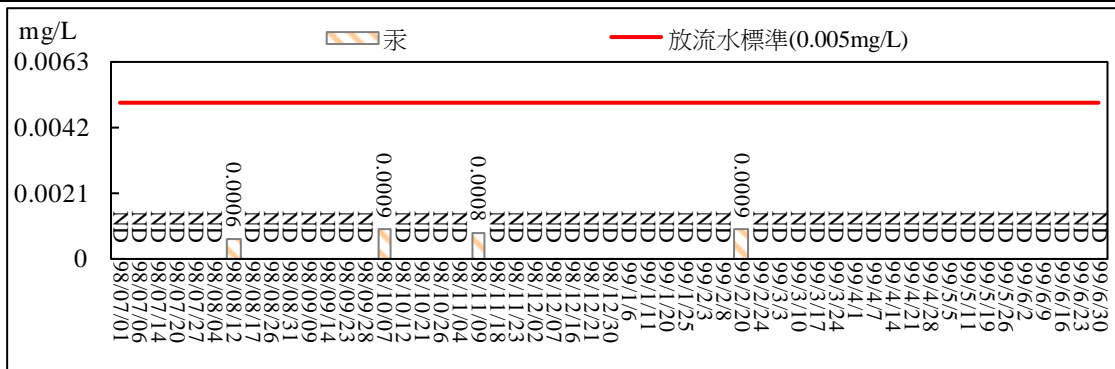


圖 2.43 污水處理廠放流口放流水質監測結果比較圖(銅)





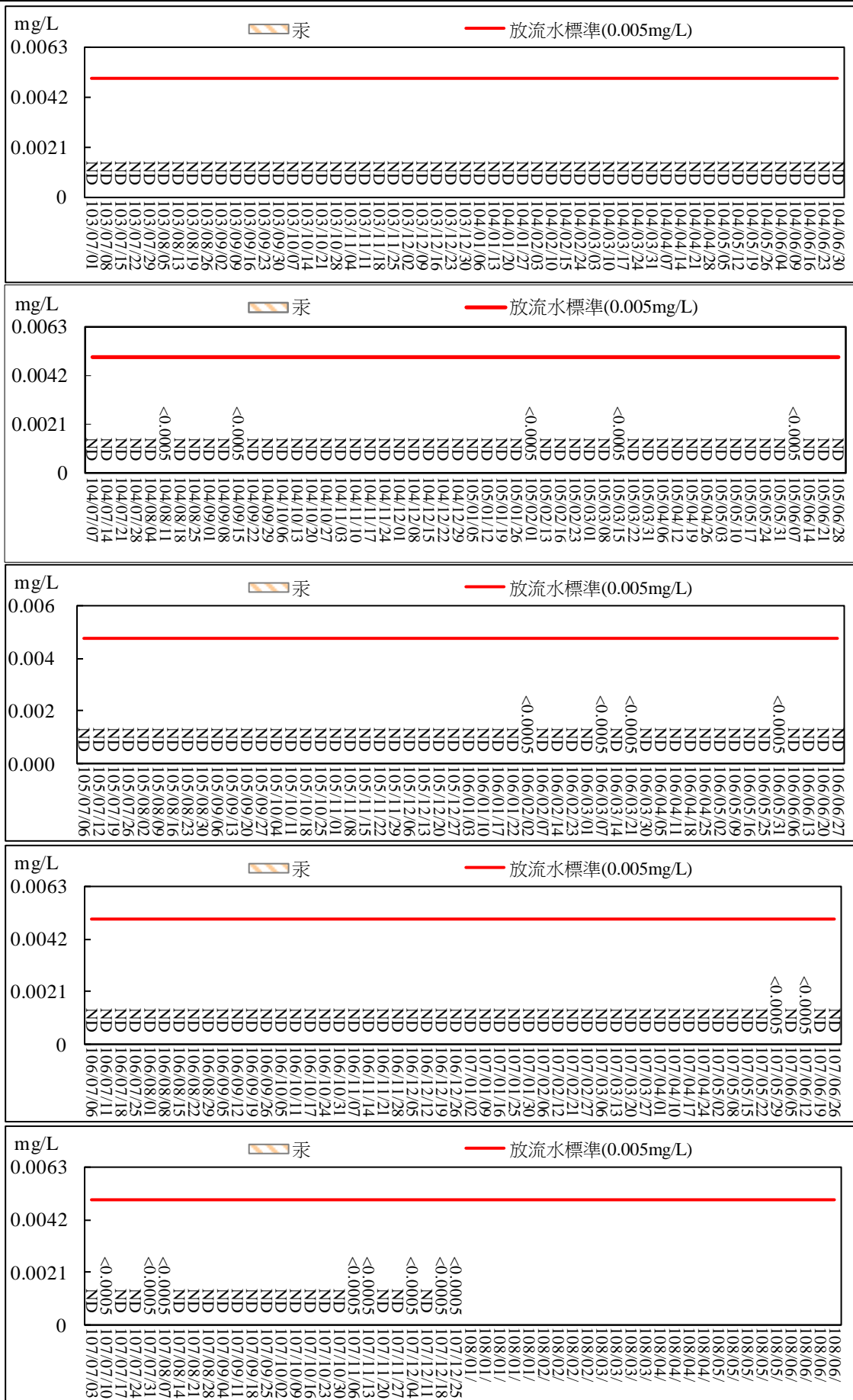
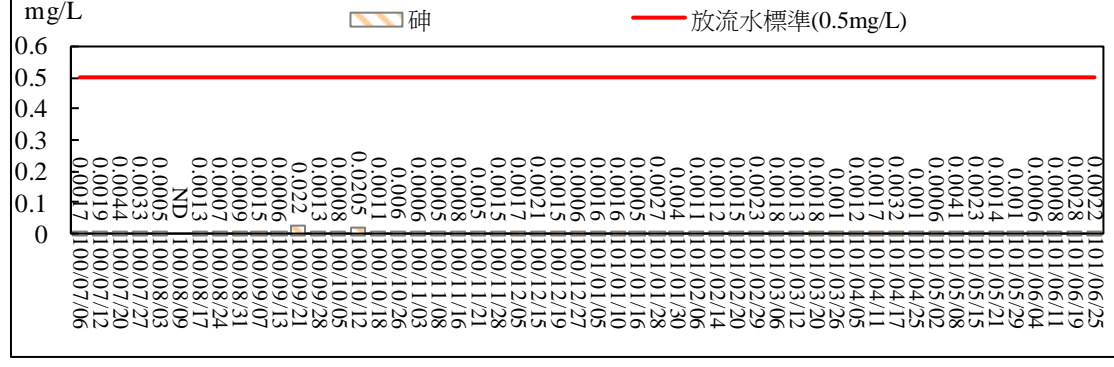
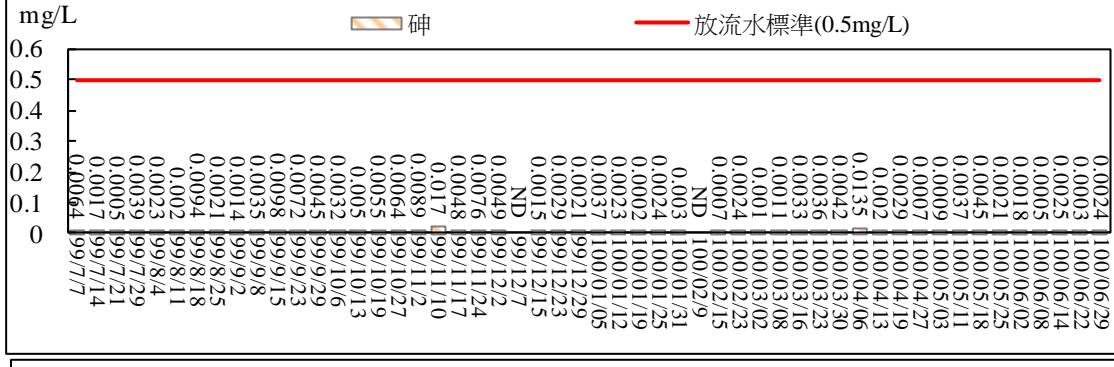
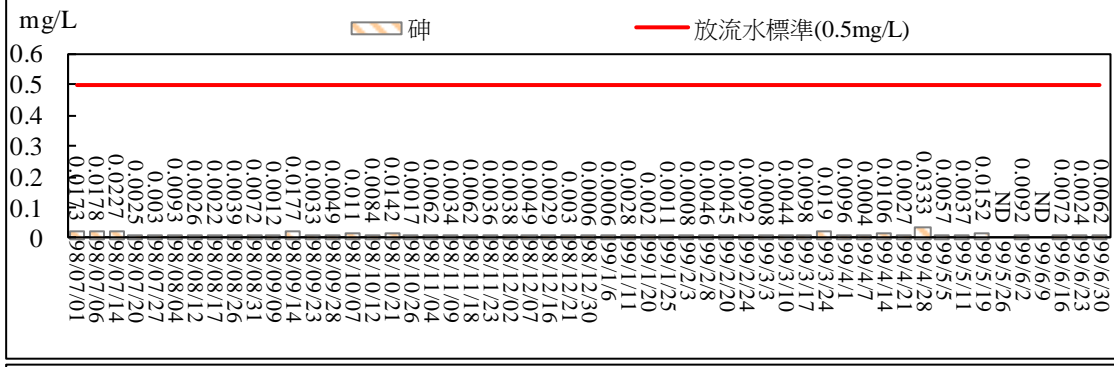
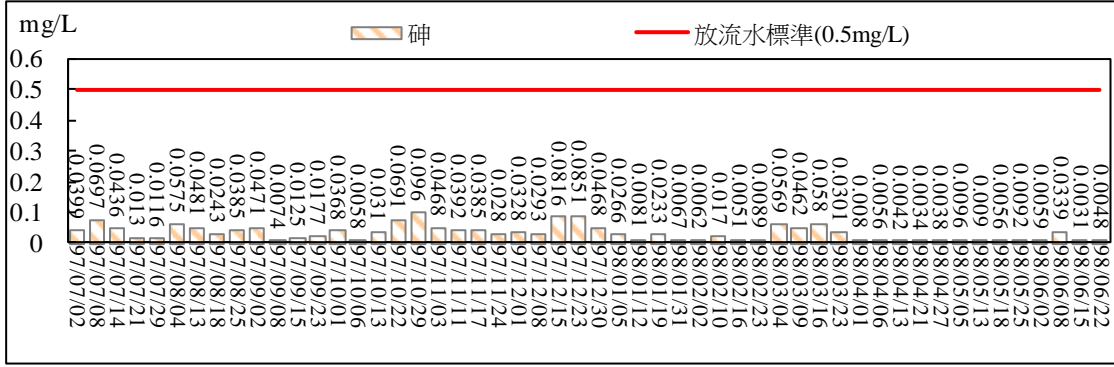
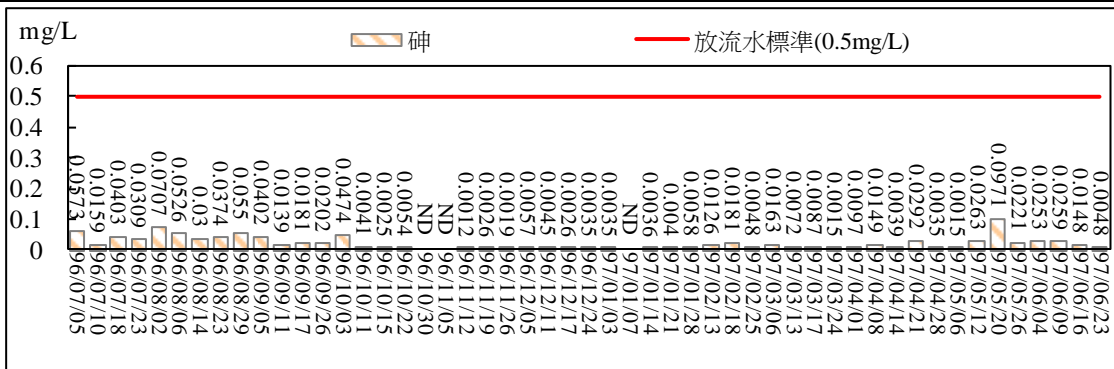
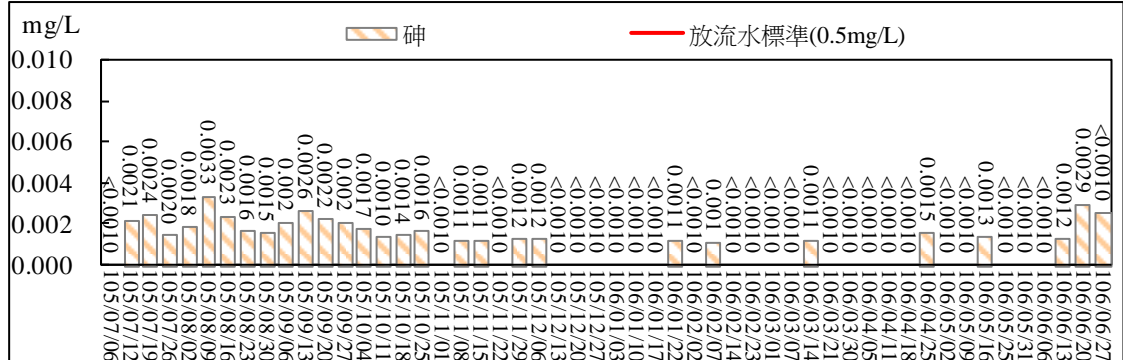
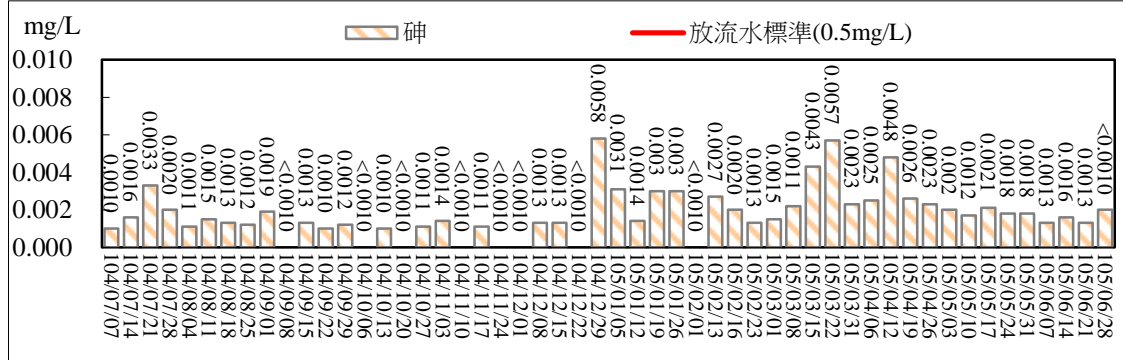
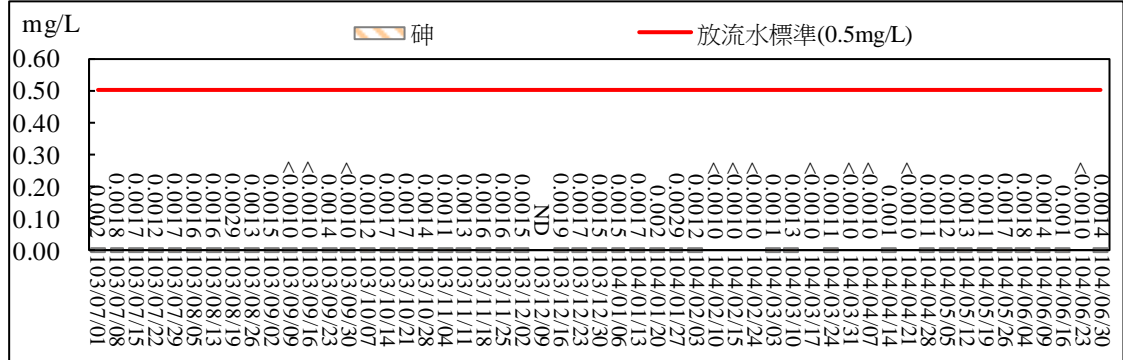
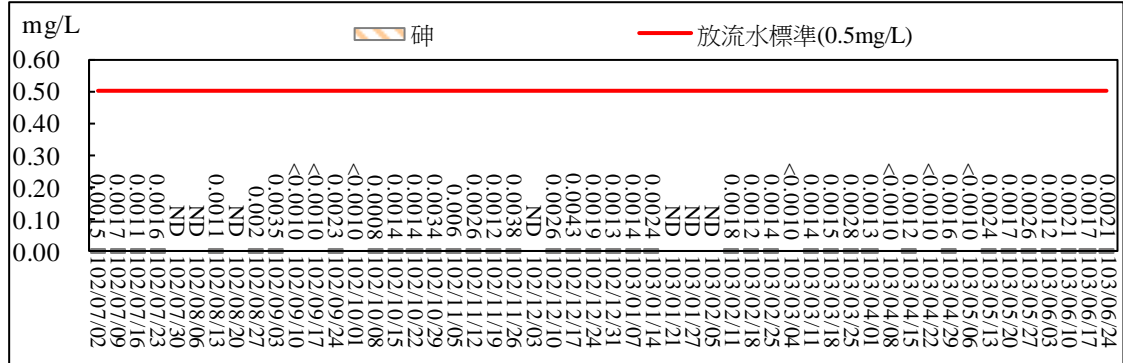
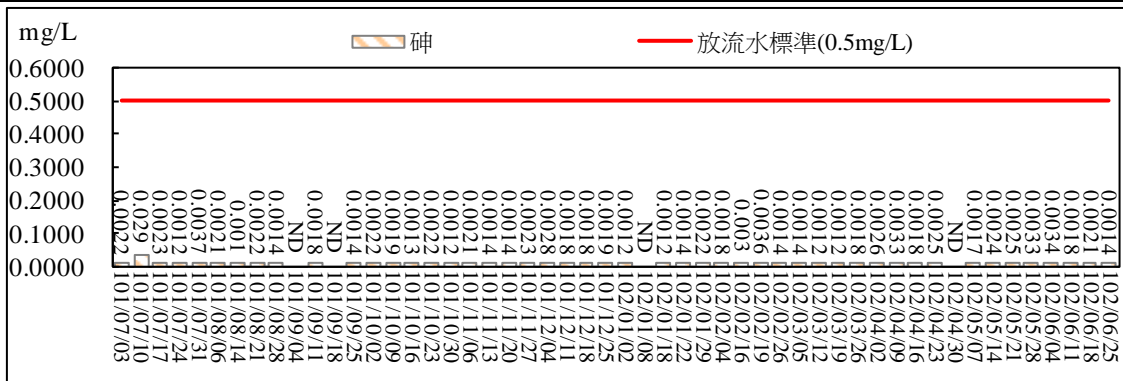


圖 2.44 污水處理廠放流口放流水質監測結果比較圖(汞)





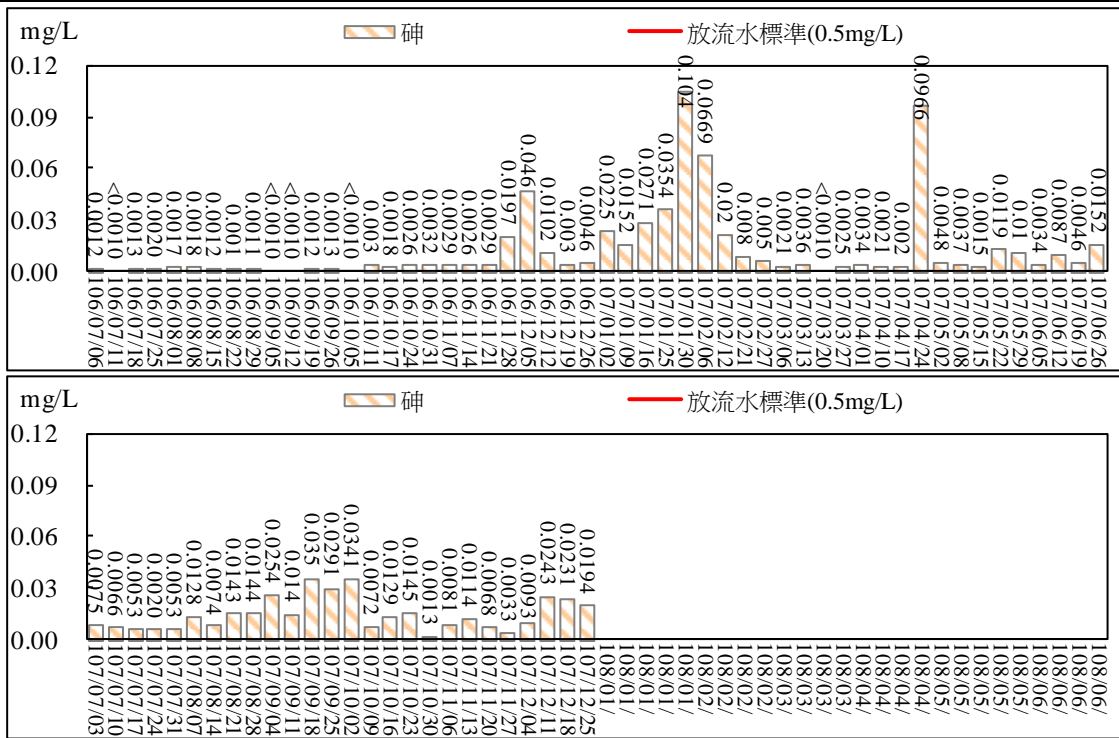
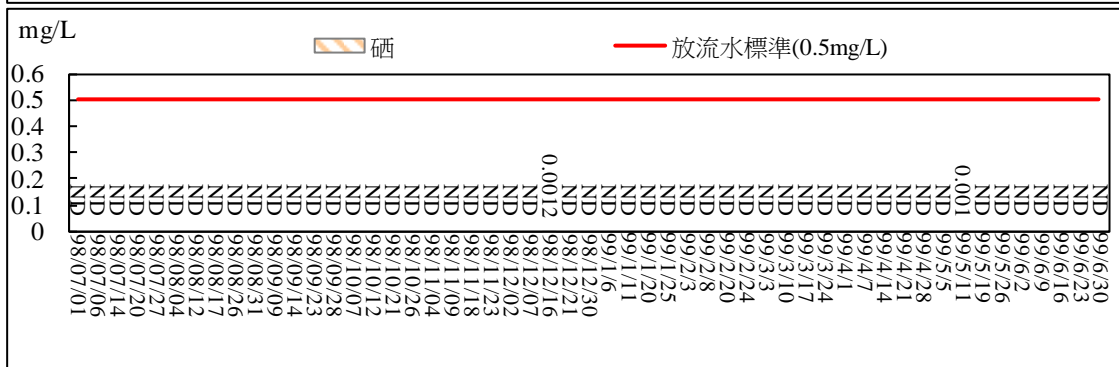
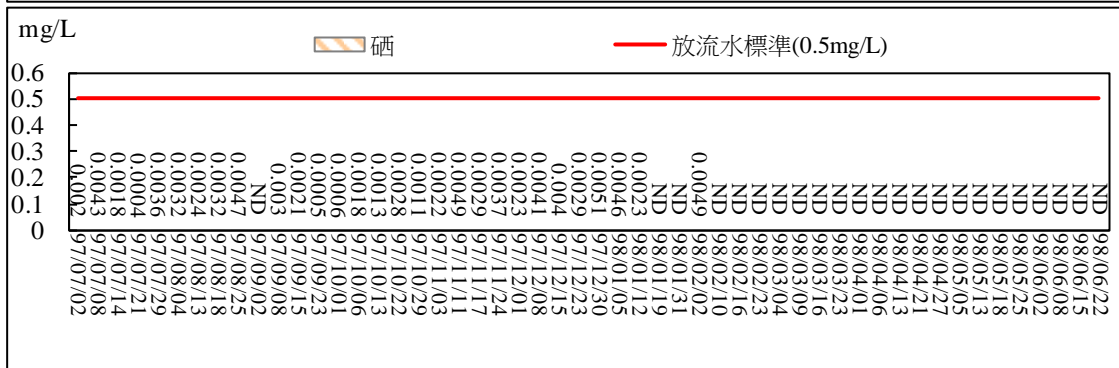
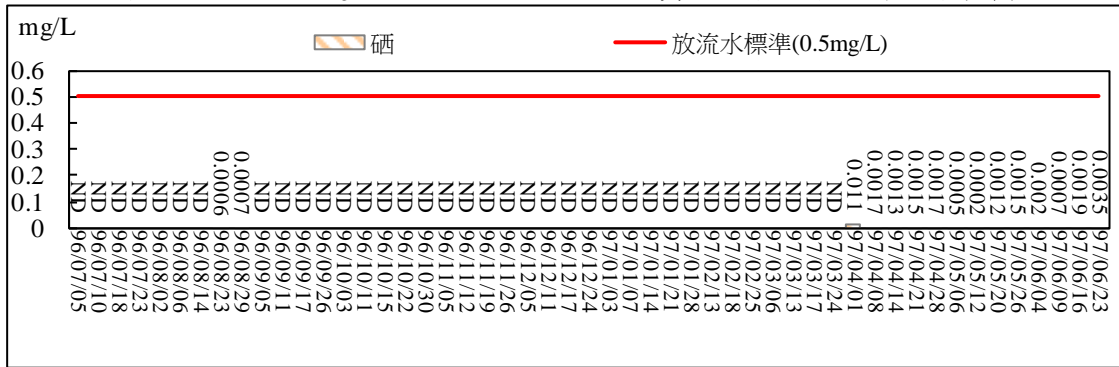
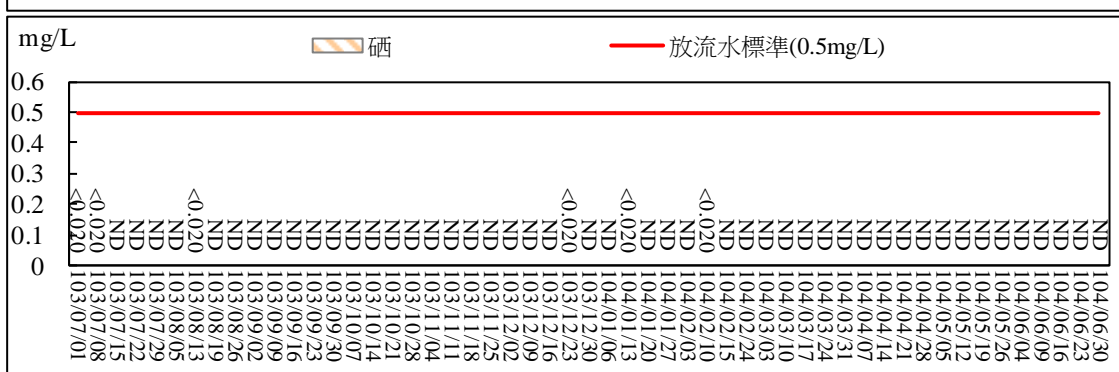
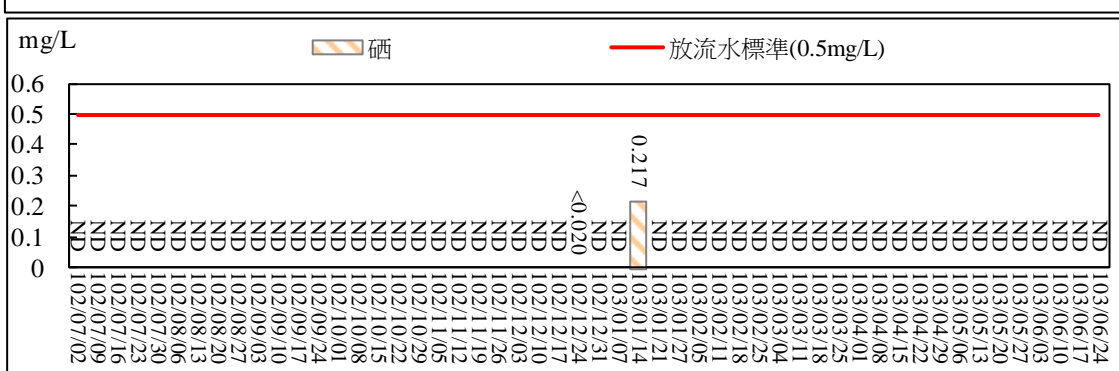
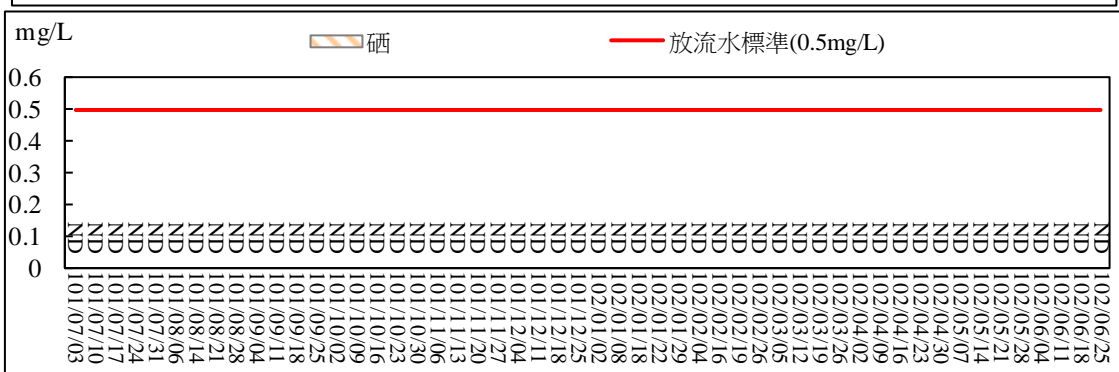
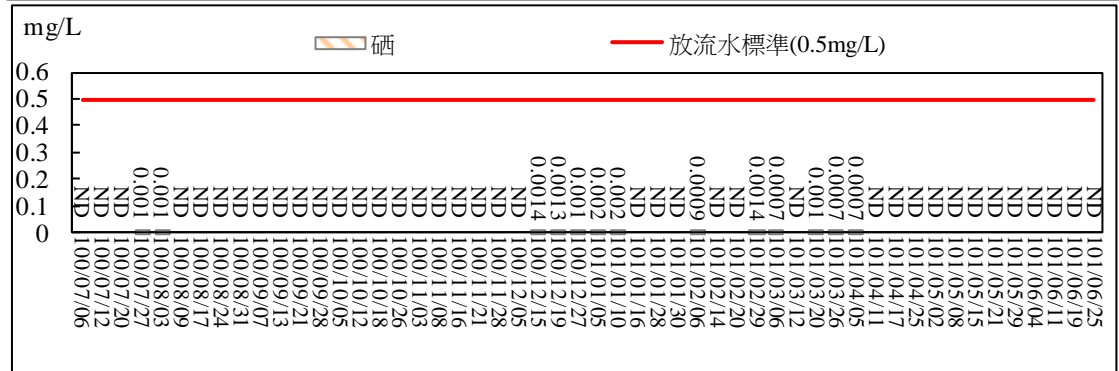
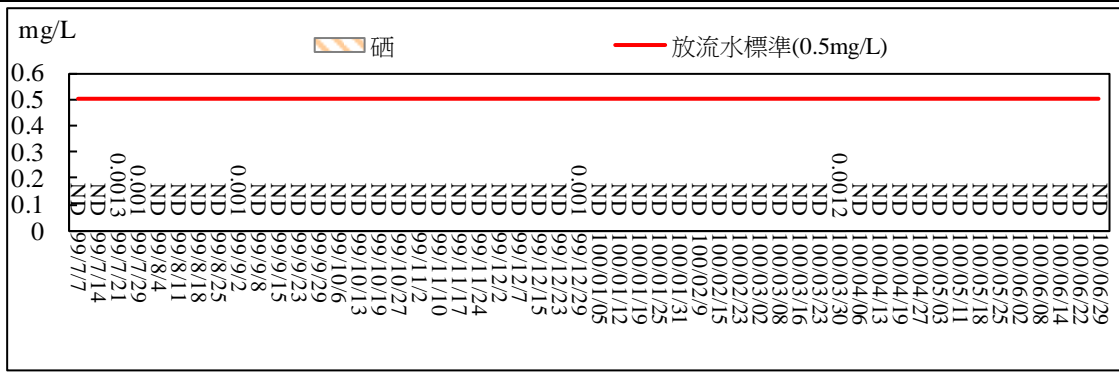


圖 2.45 污水處理廠放流口放流水質監測結果比較圖(砷)





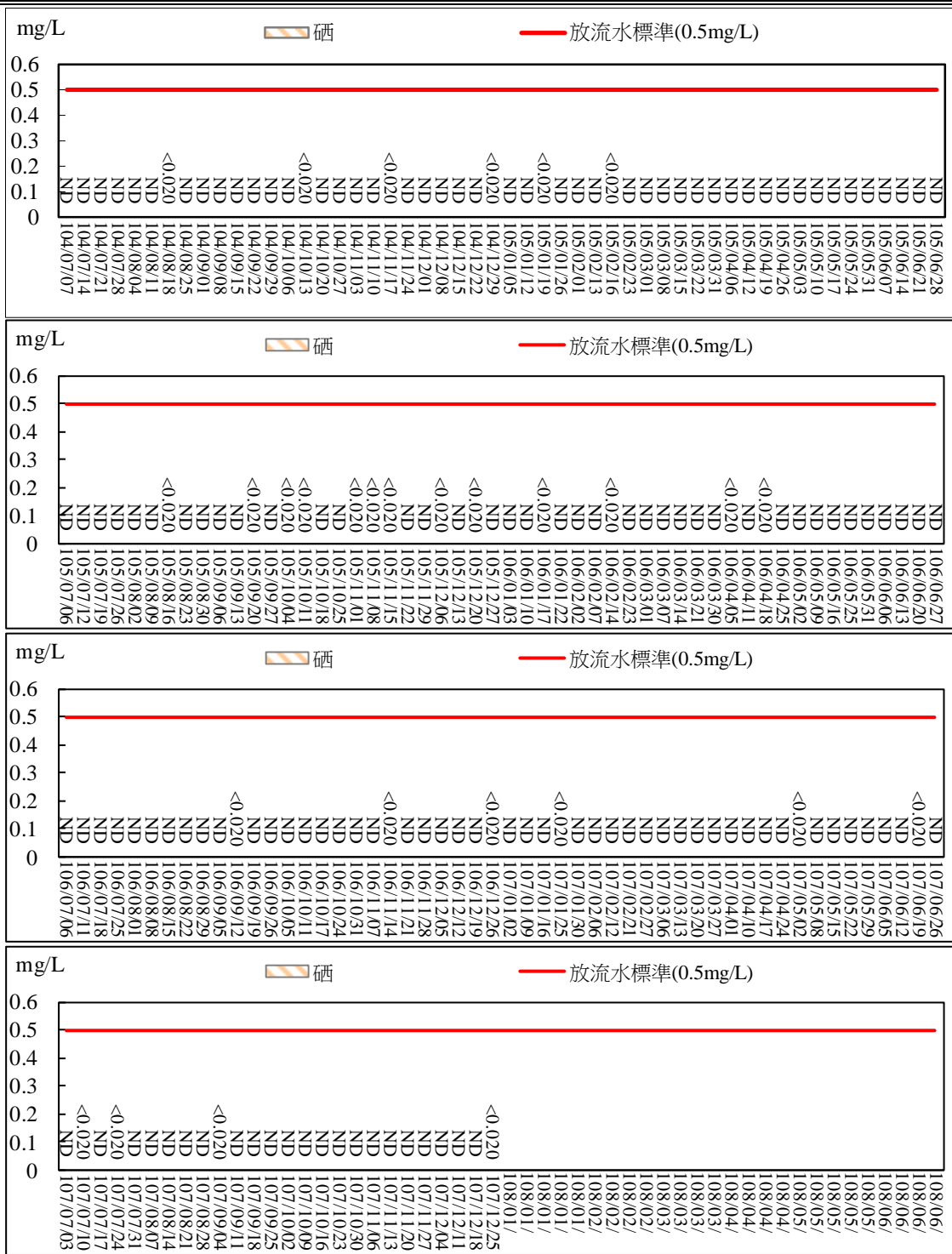
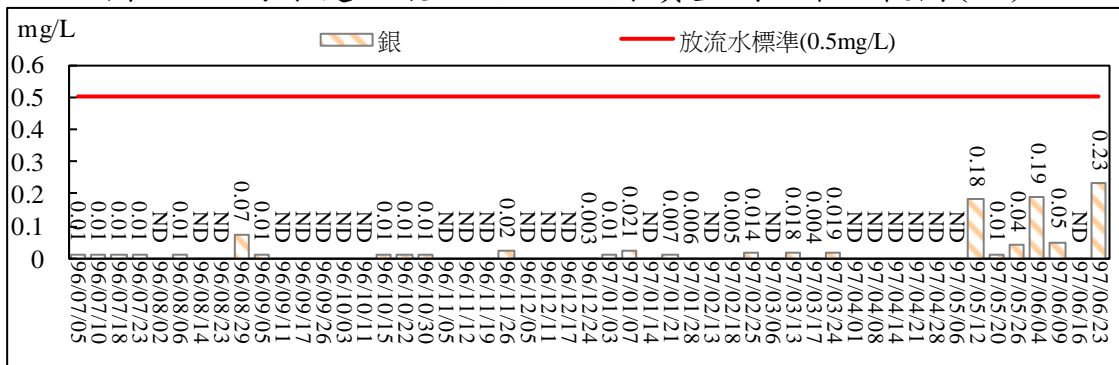
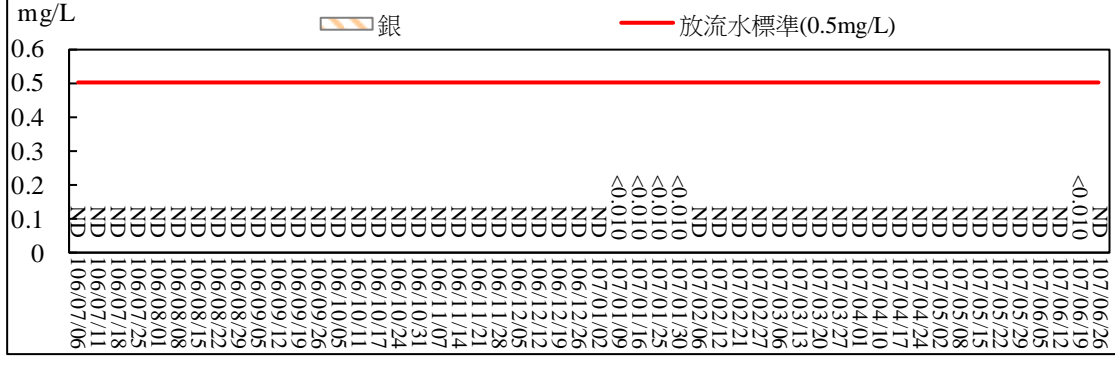
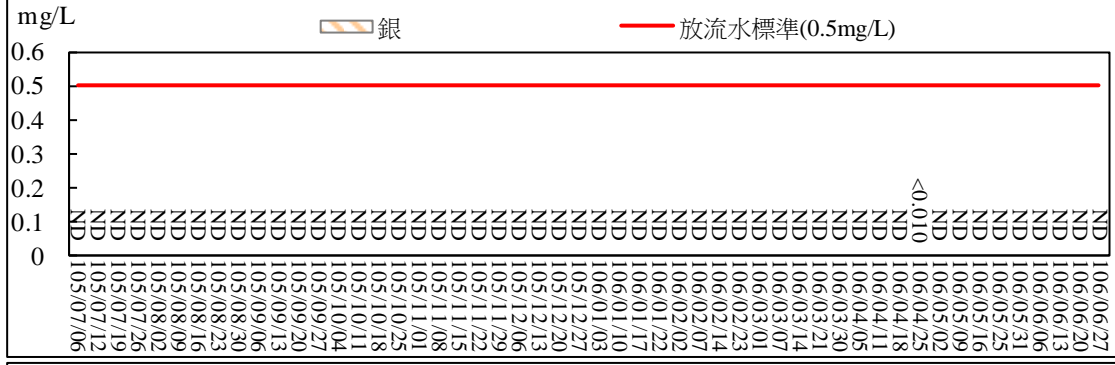
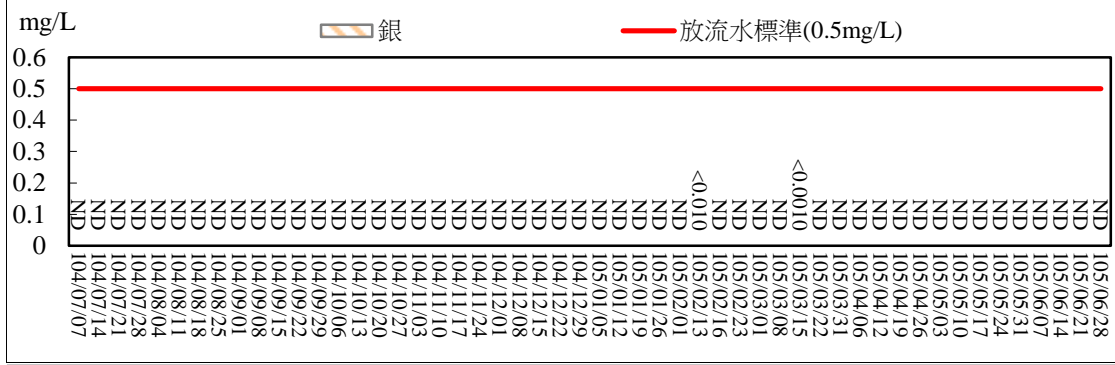
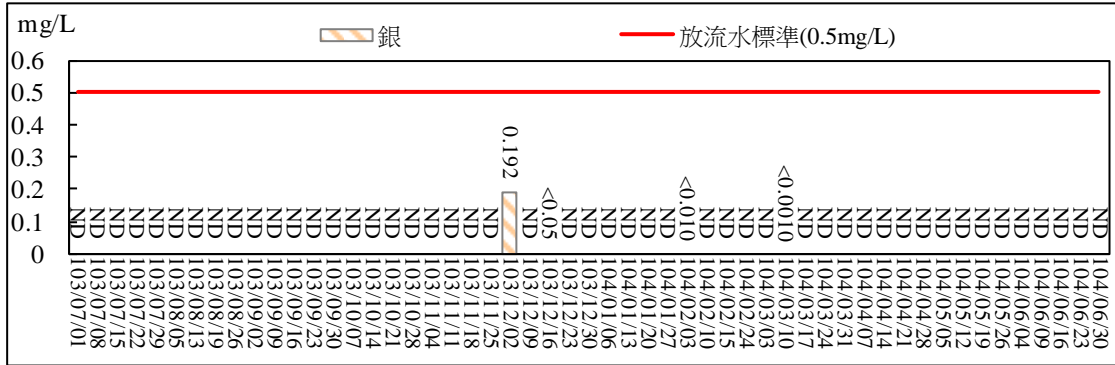
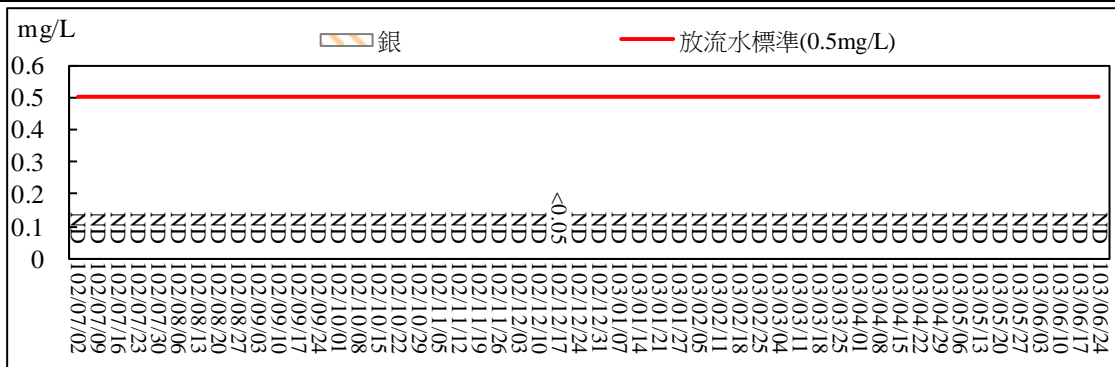


圖 2.46 污水處理廠放流口放流水質監測結果比較圖(硒)





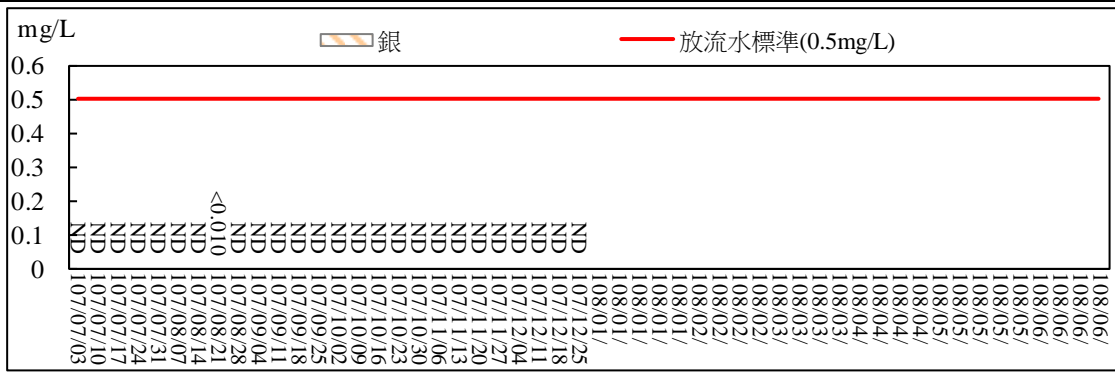
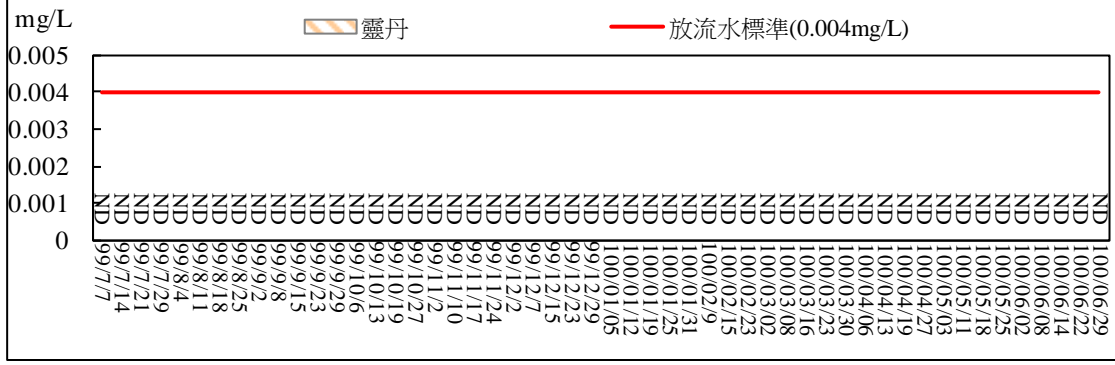
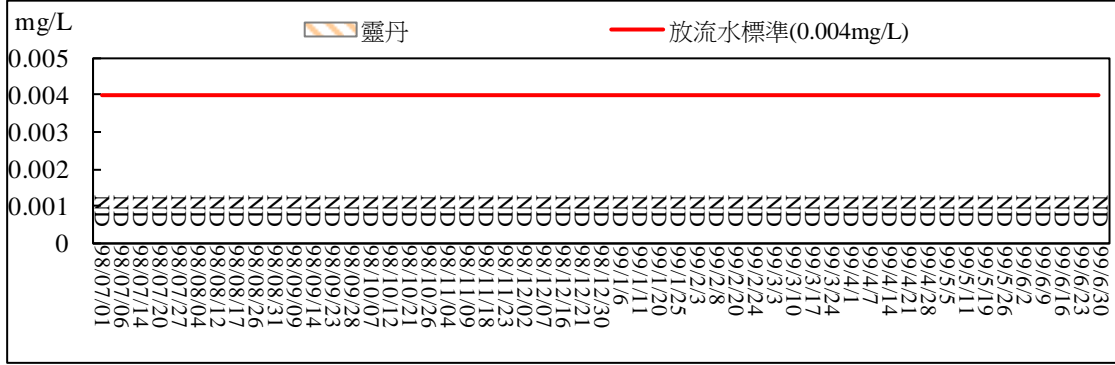
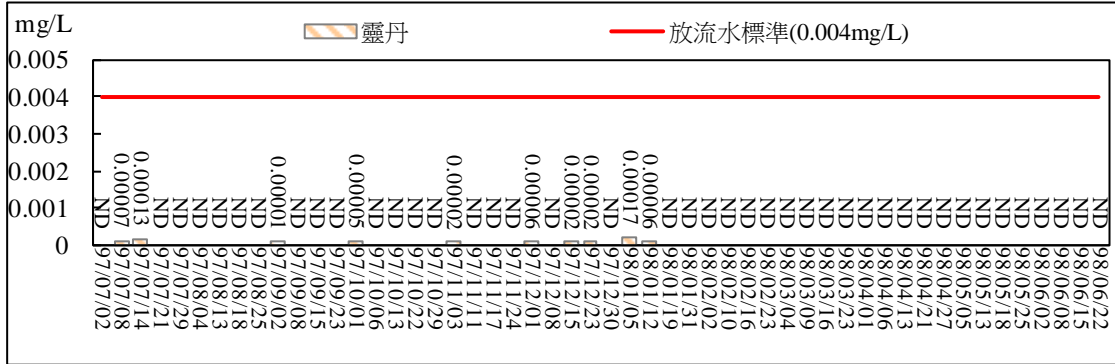
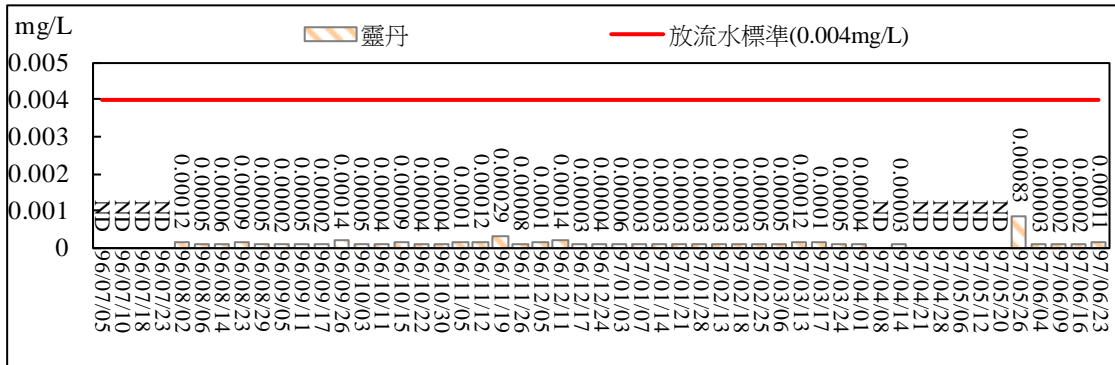
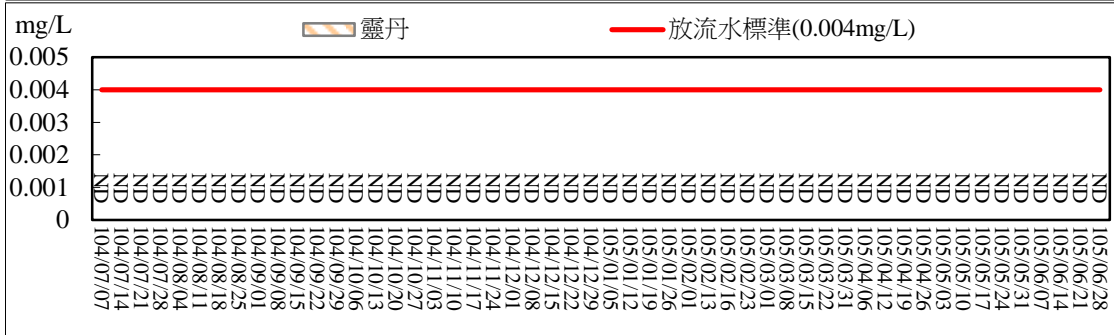
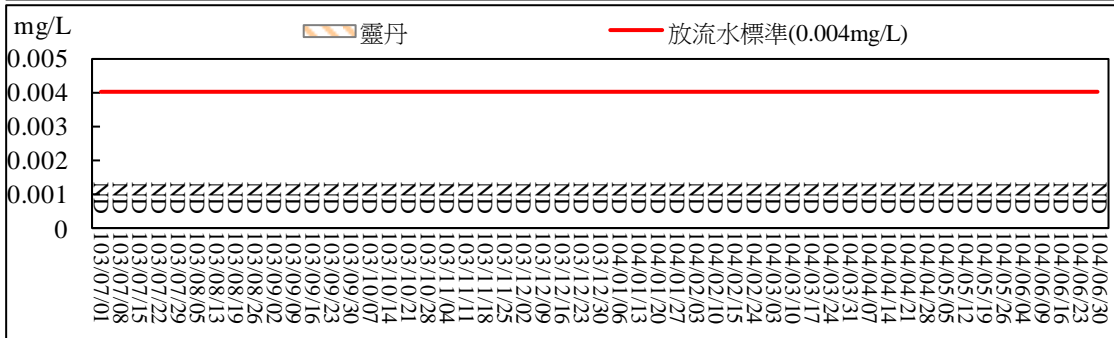
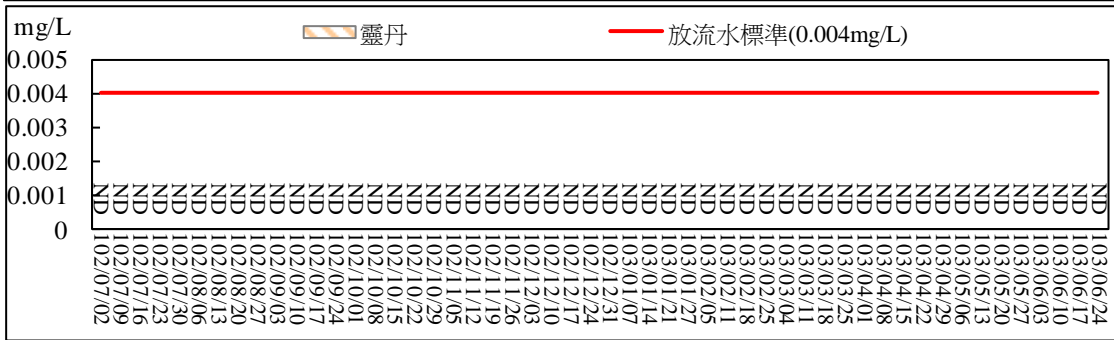
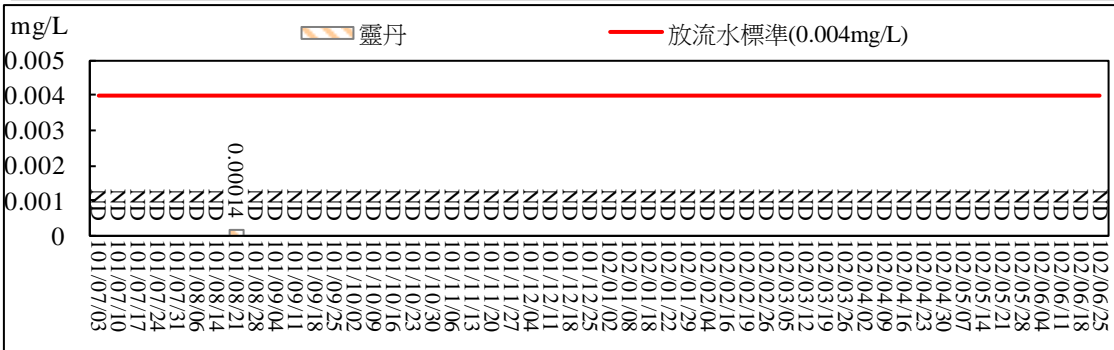
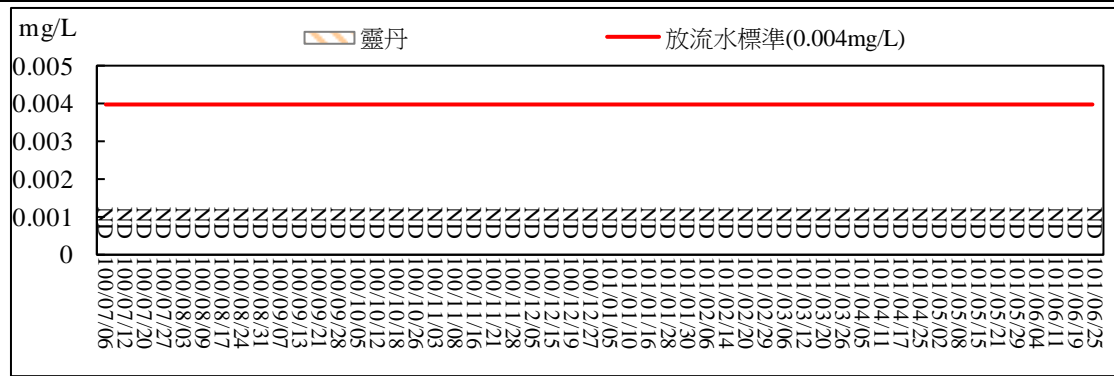


圖 2.47 污水處理廠放流口放流水質監測結果比較圖(銀)





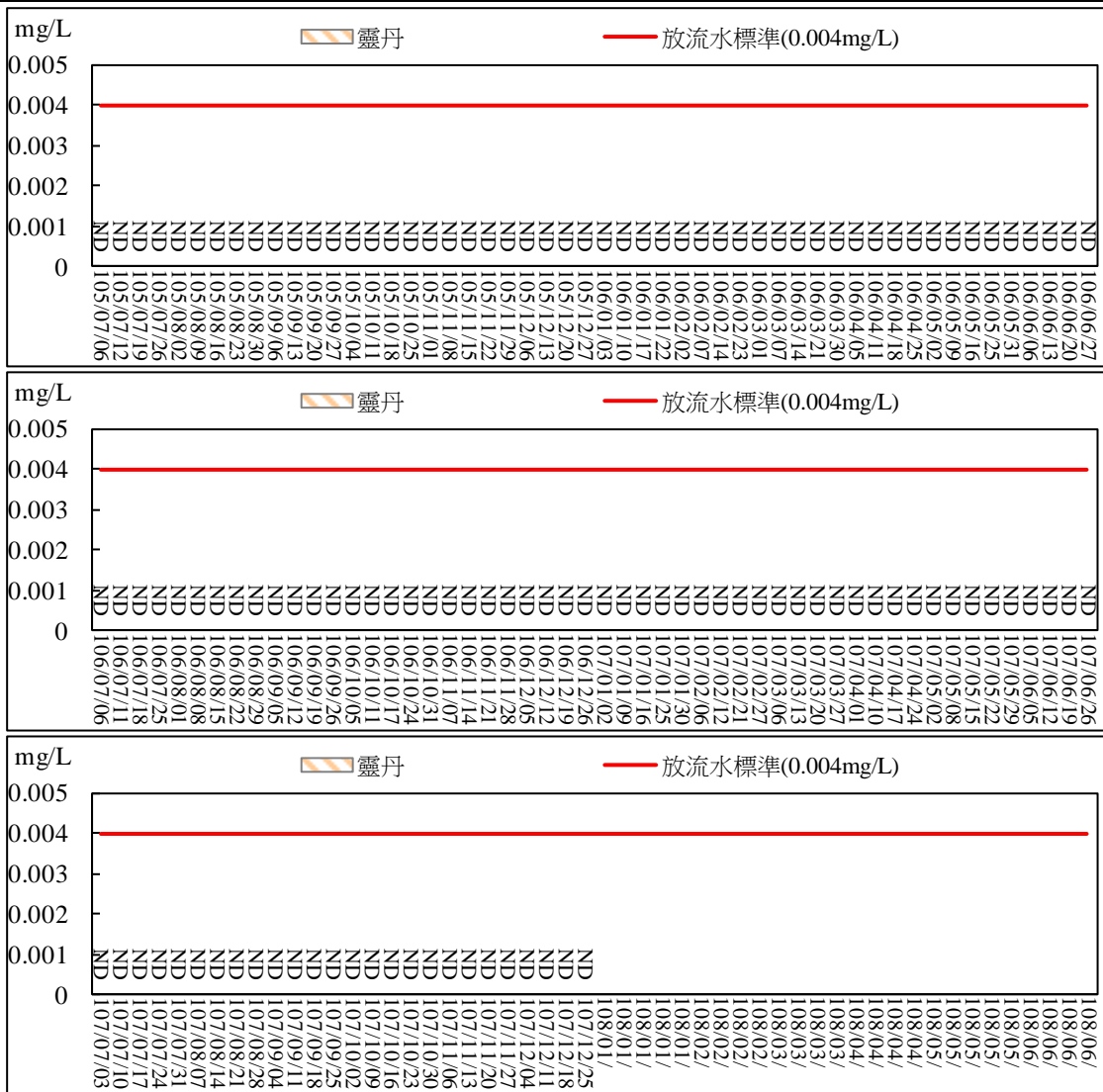
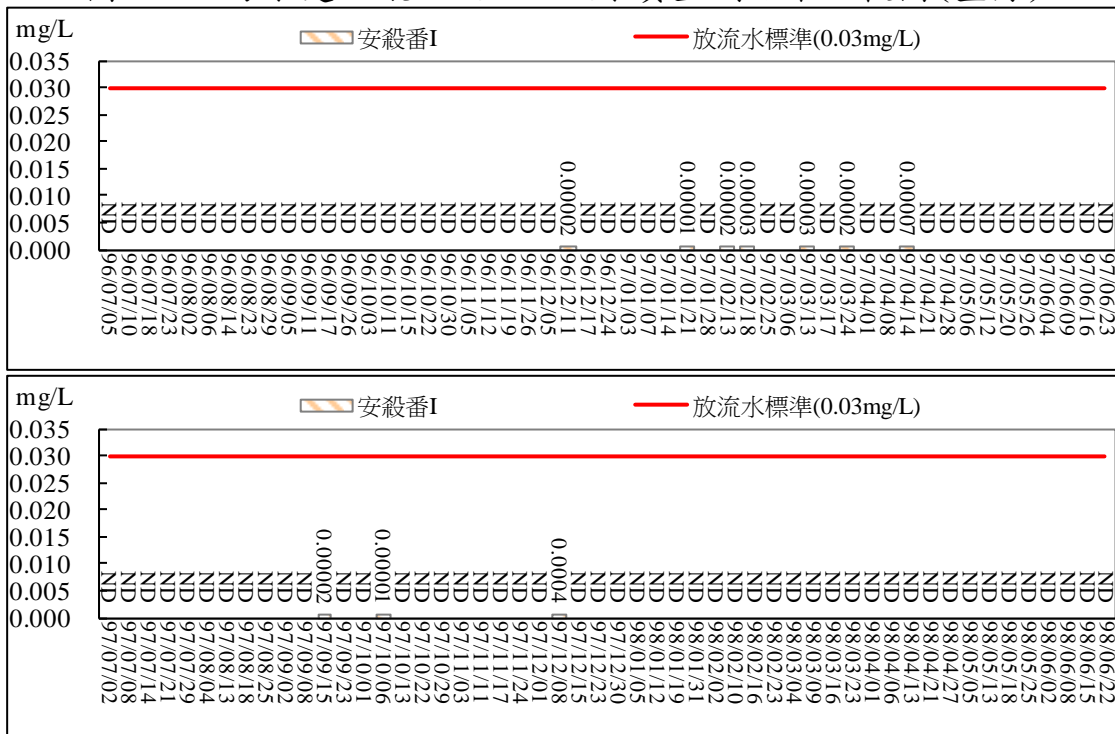
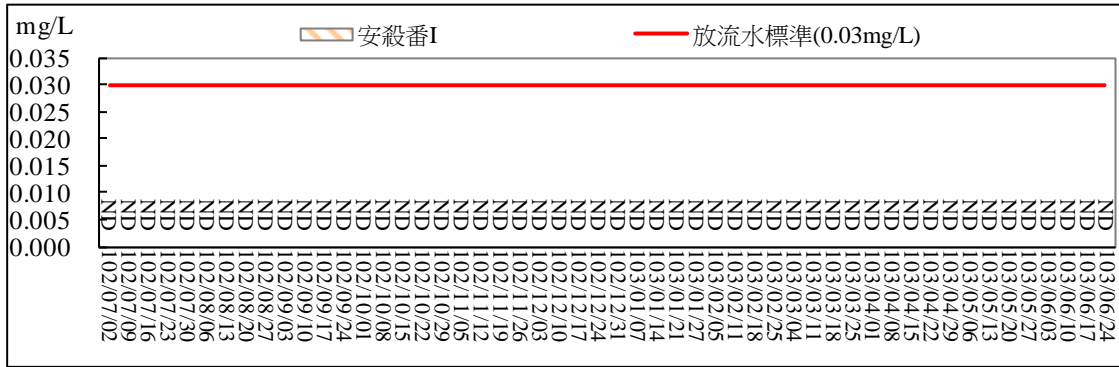
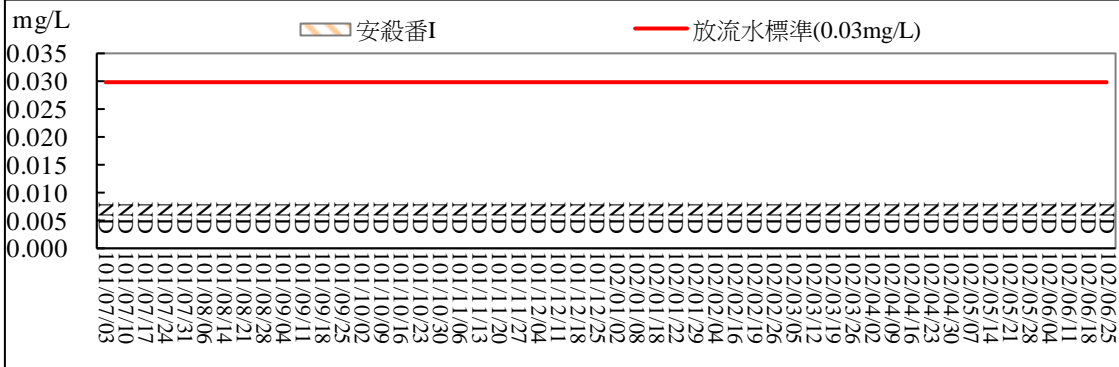
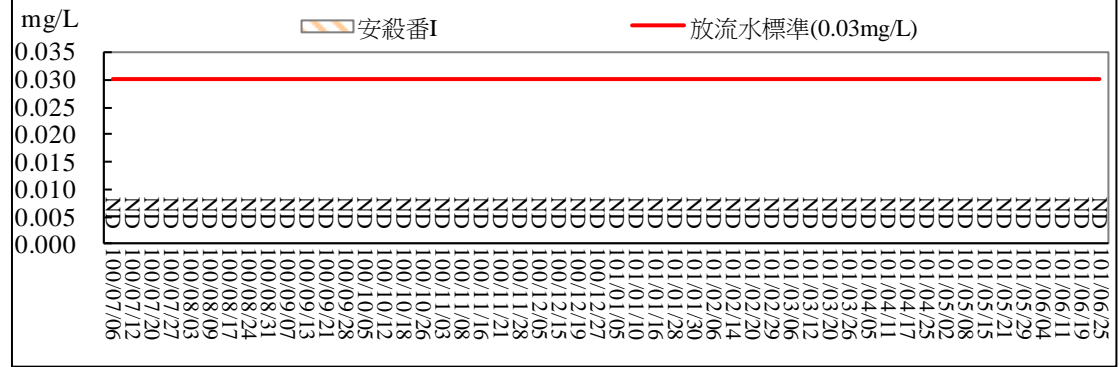
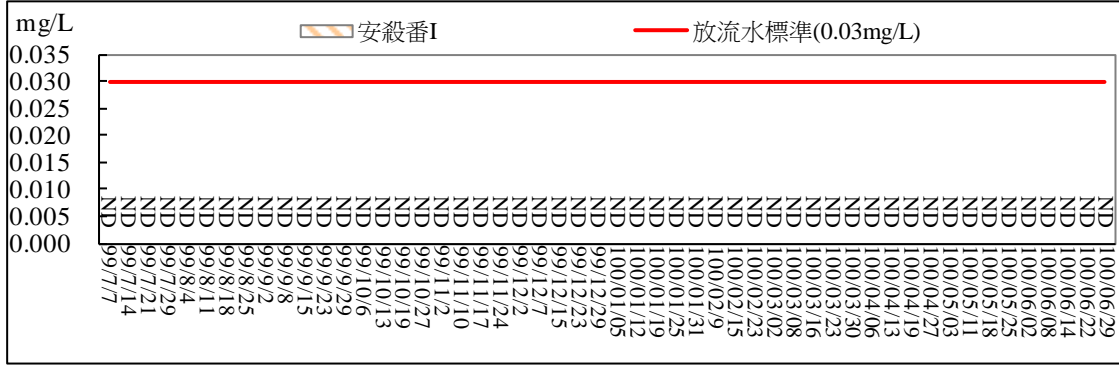
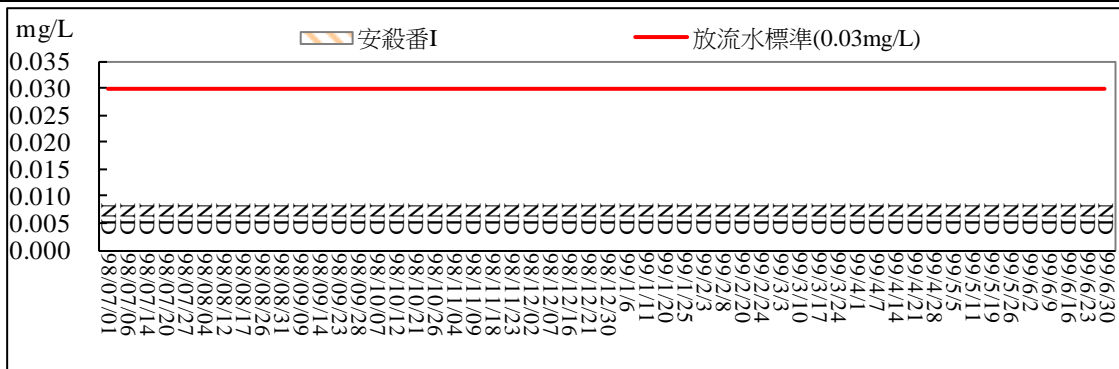


圖 2.48 污水處理廠放流口放流水質監測結果比較圖(靈丹)





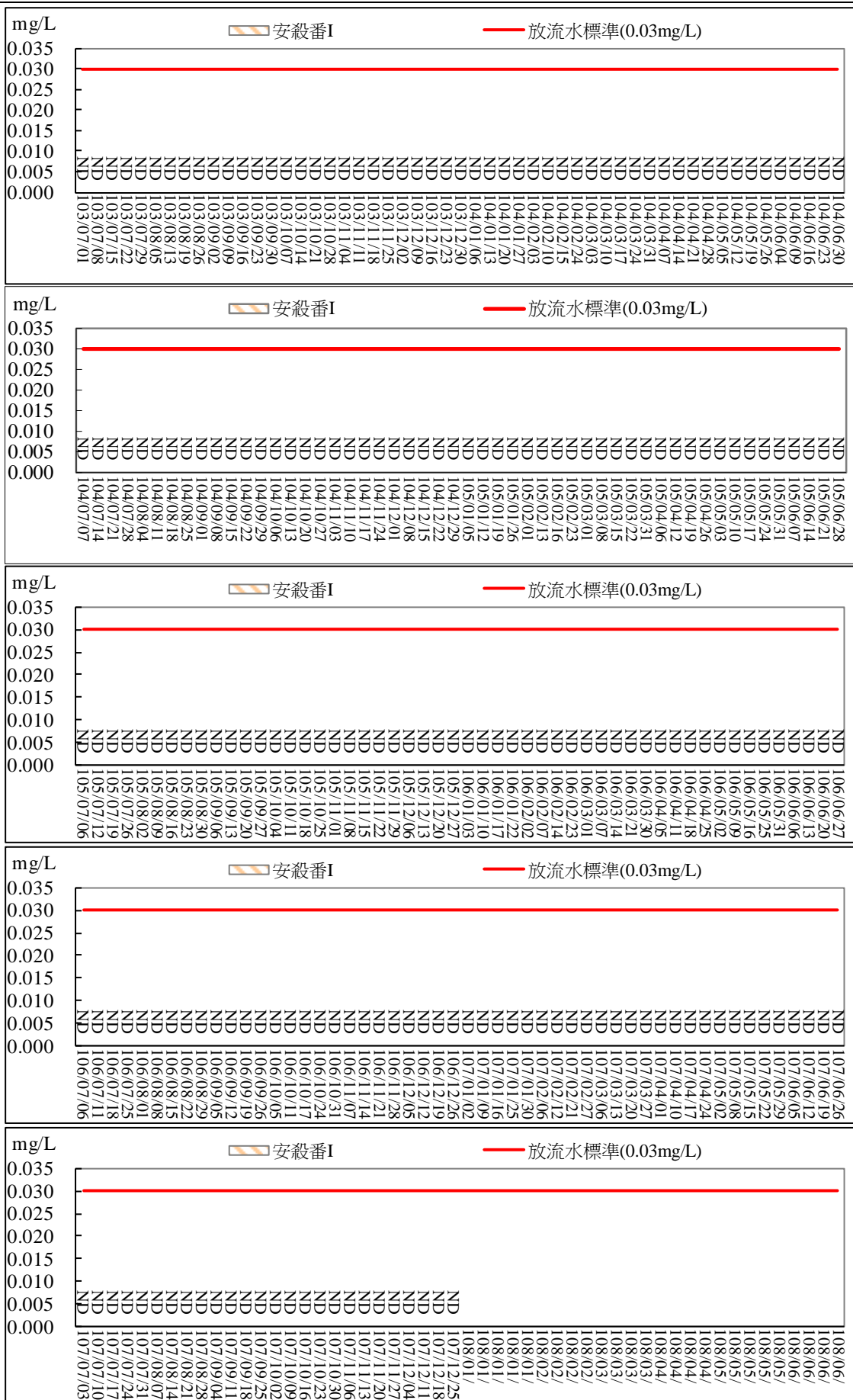


圖 2.49 污水處理廠放流口放流水質監測結果比較圖(安殺番 I)

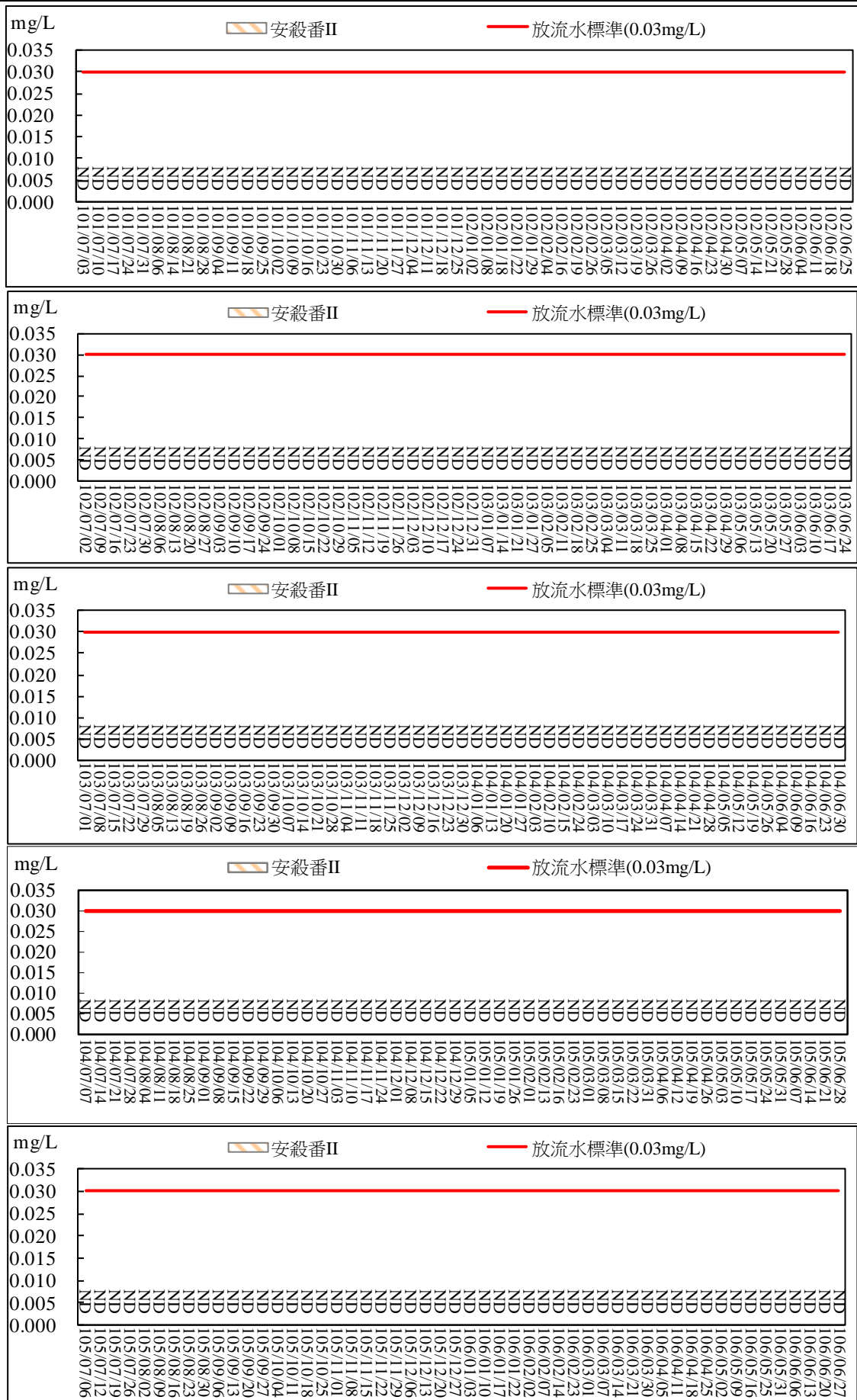
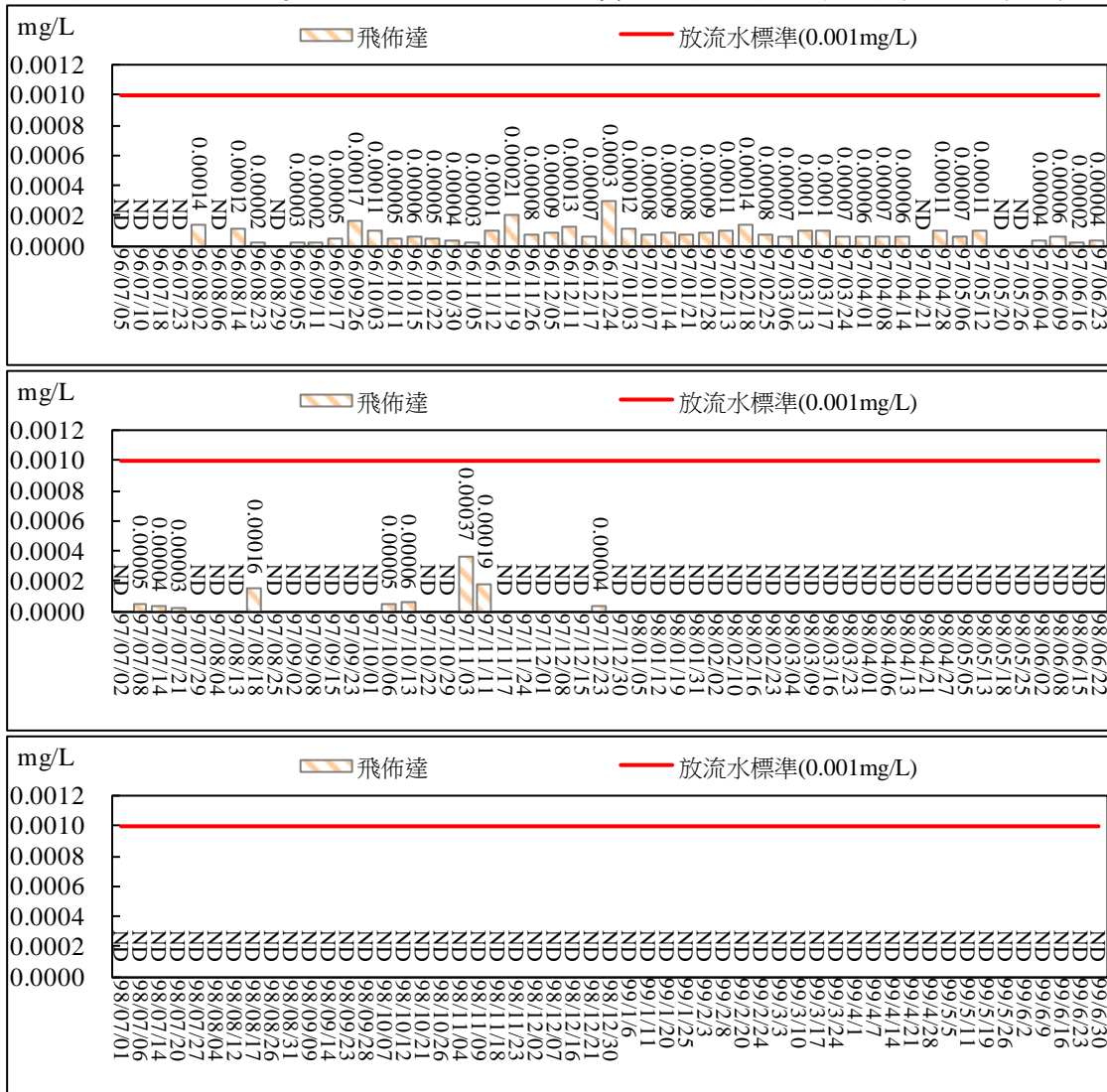
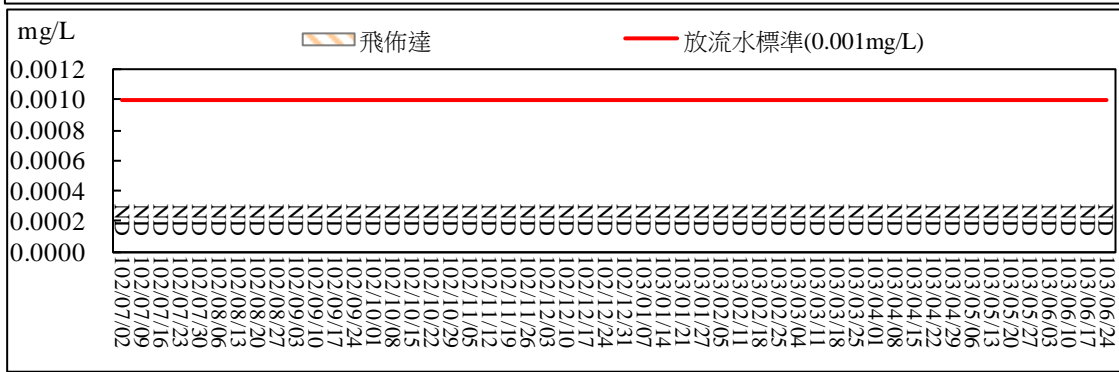
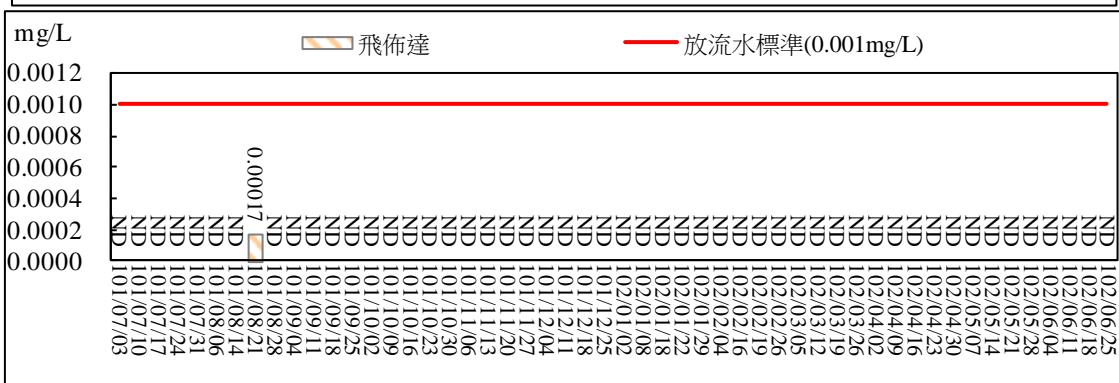
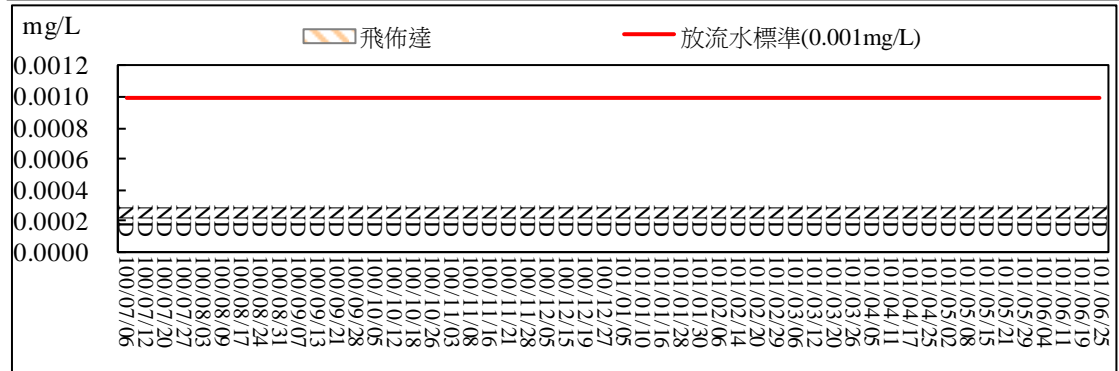
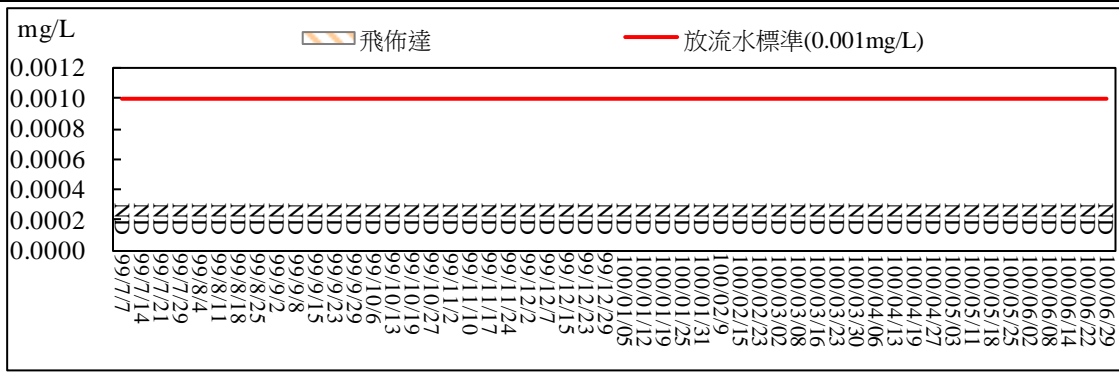




圖 2.50 污水處理廠放流口放流水質監測結果比較圖(安殺番 II)





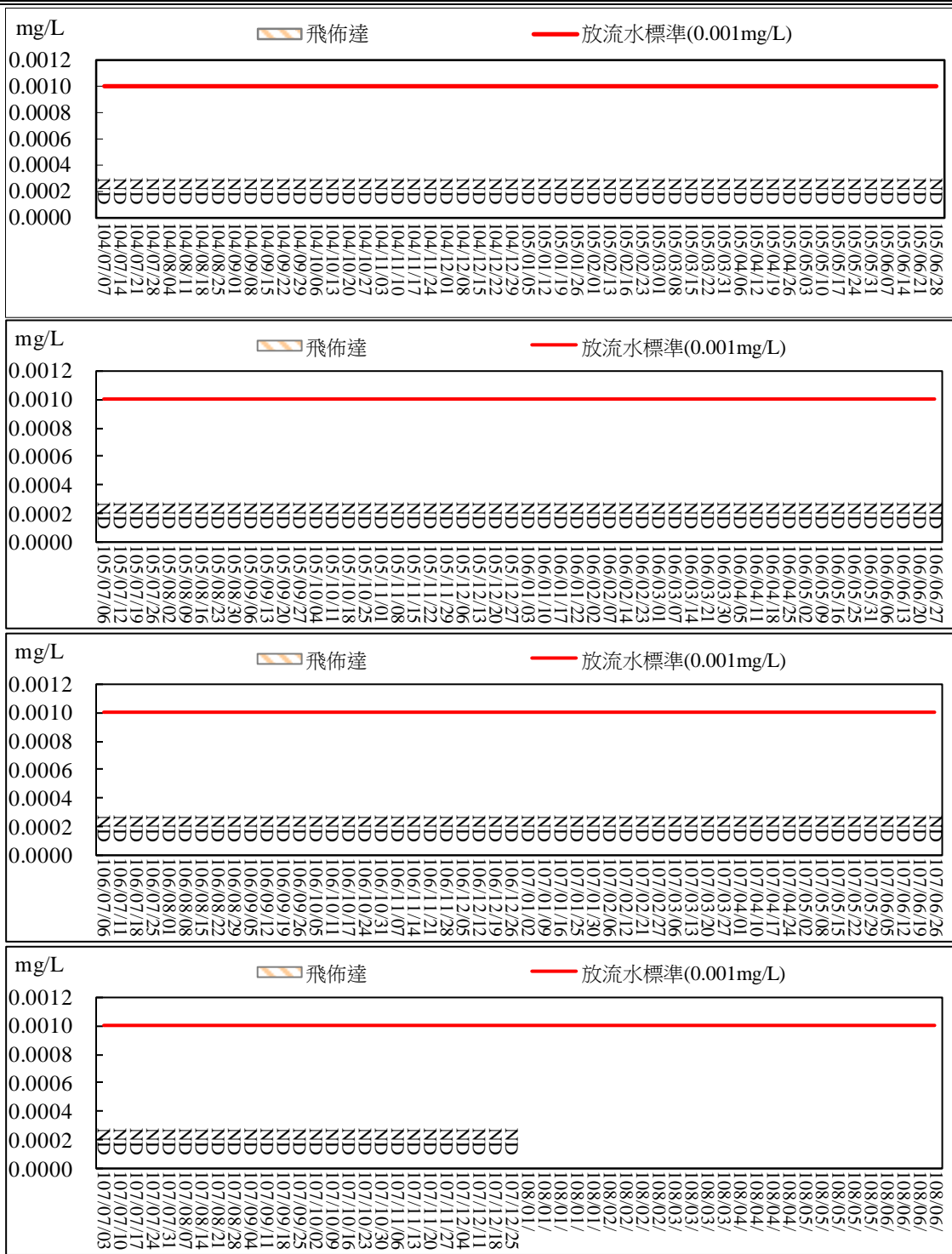
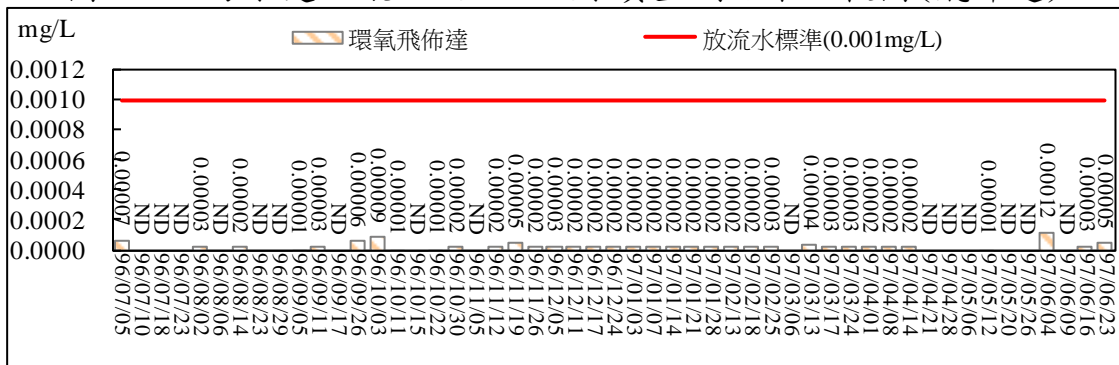
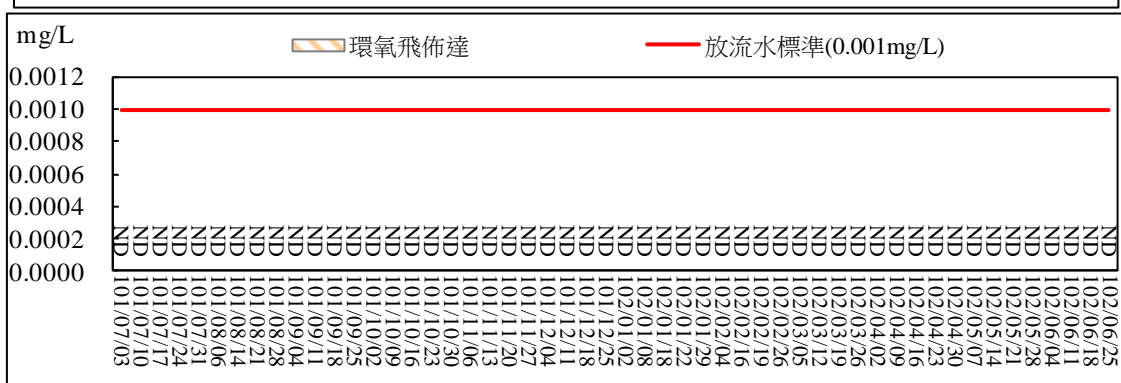
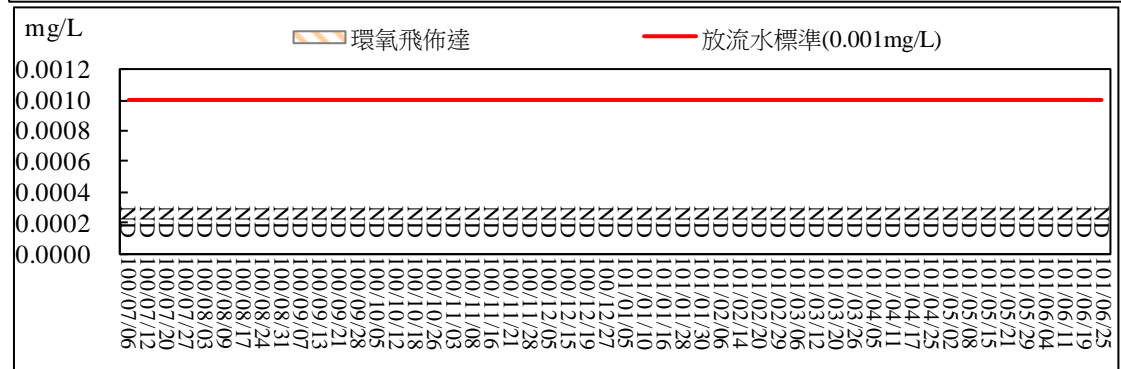
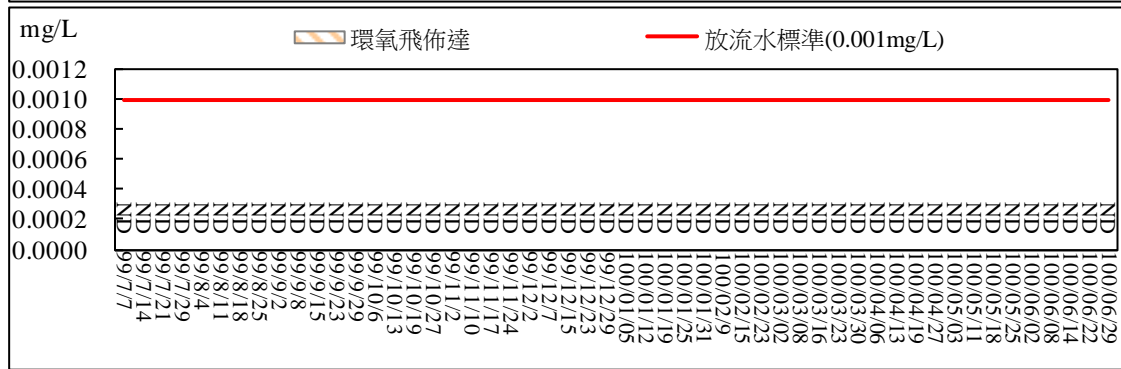
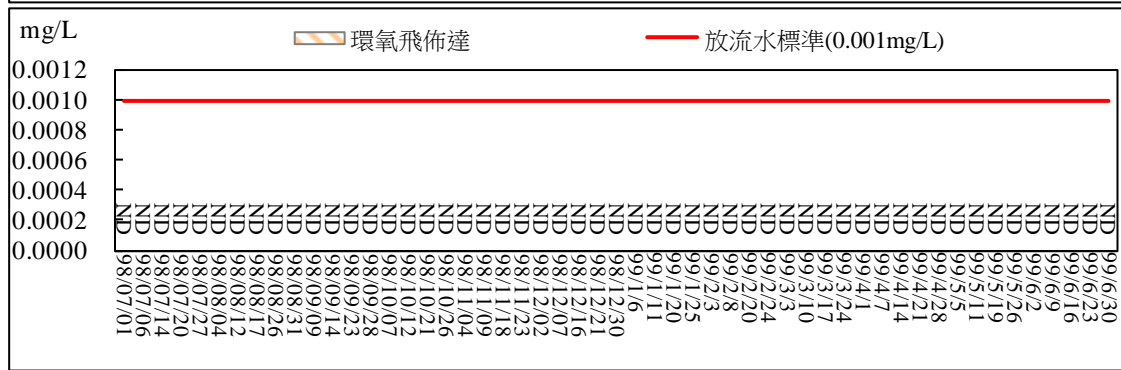
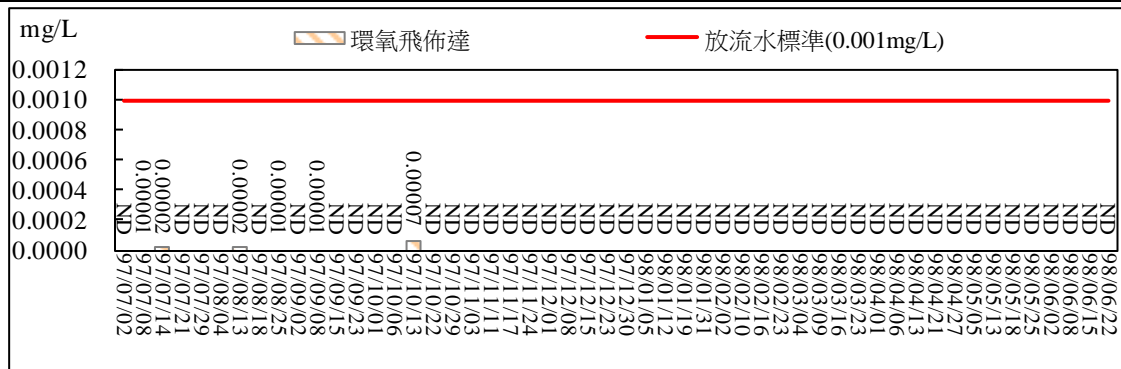


圖 2.51 污水處理廠放流口放流水質監測結果比較圖(飛佈達)





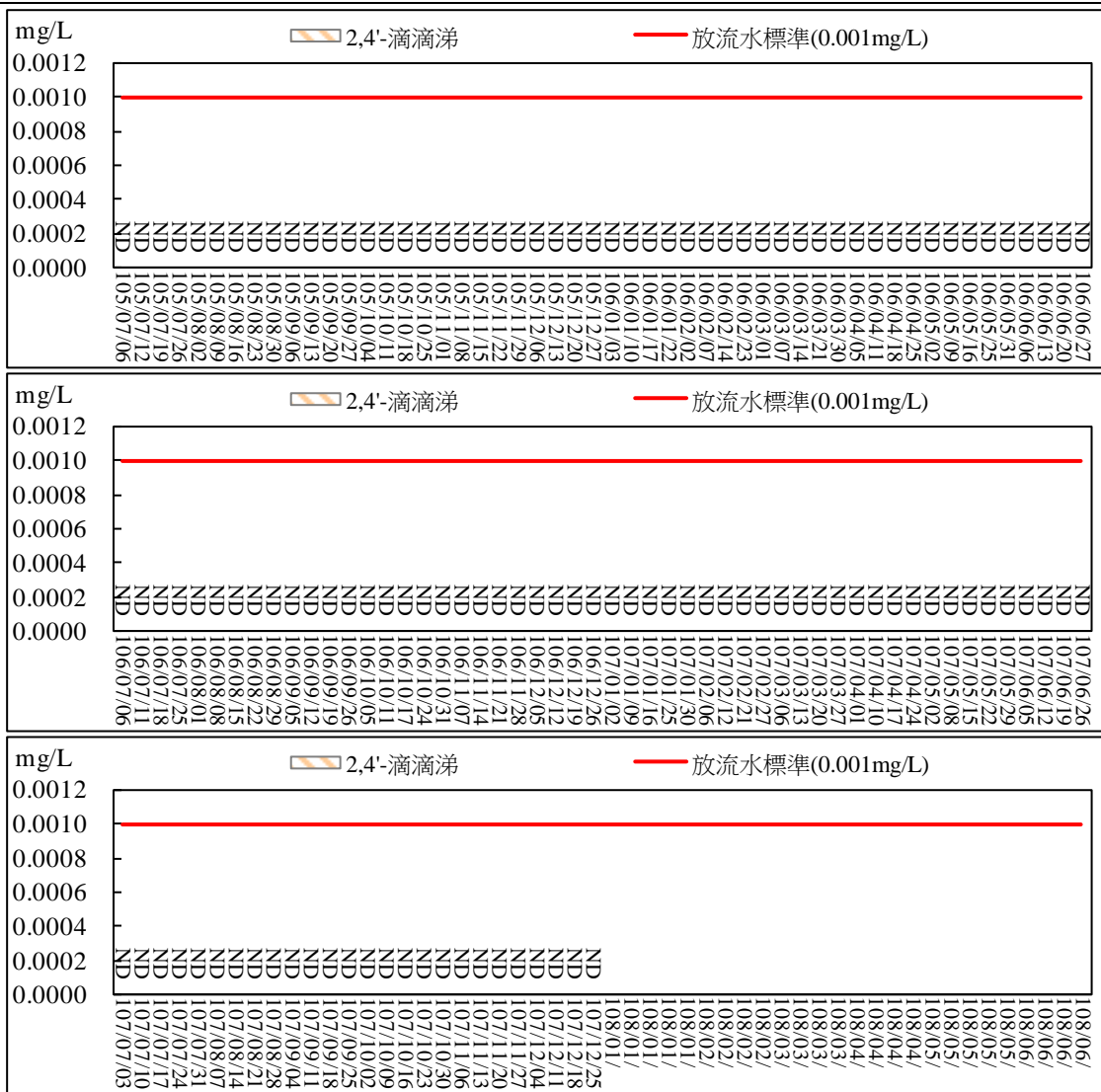
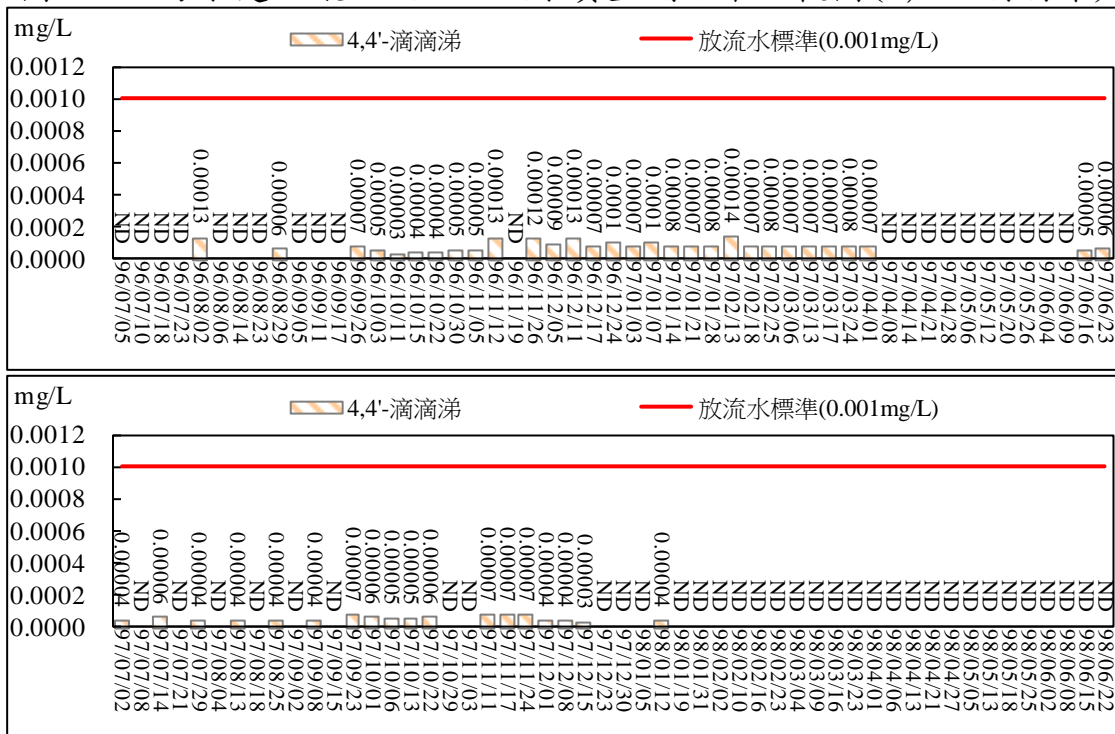


圖 2.53 污水處理廠放流口放流水質監測結果比較圖(2,4'-滴滴涕)



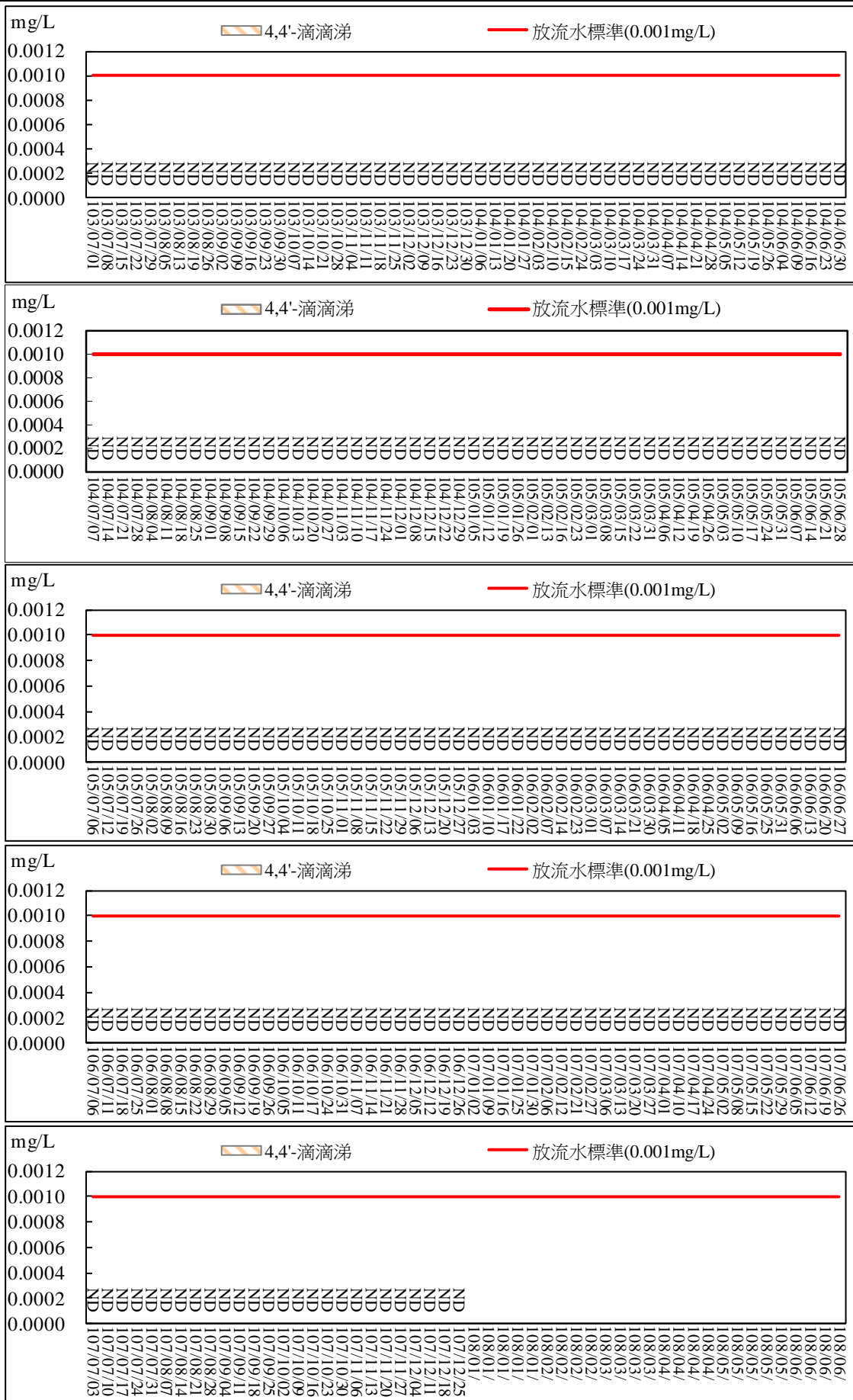
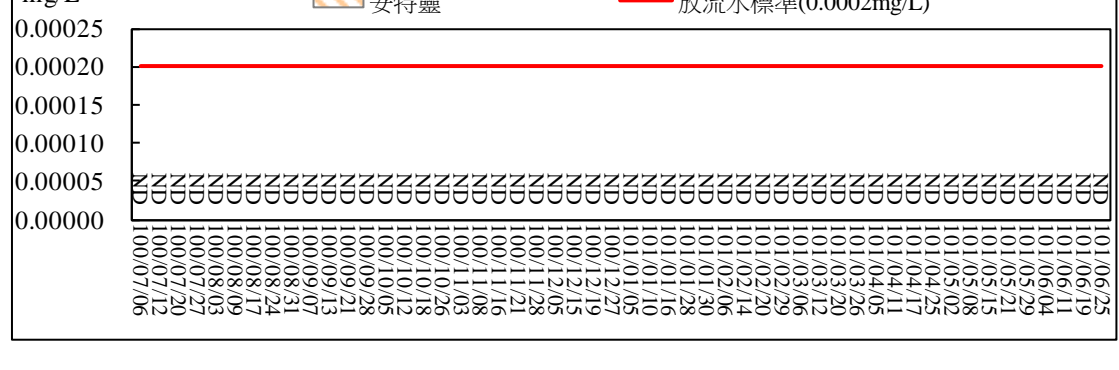
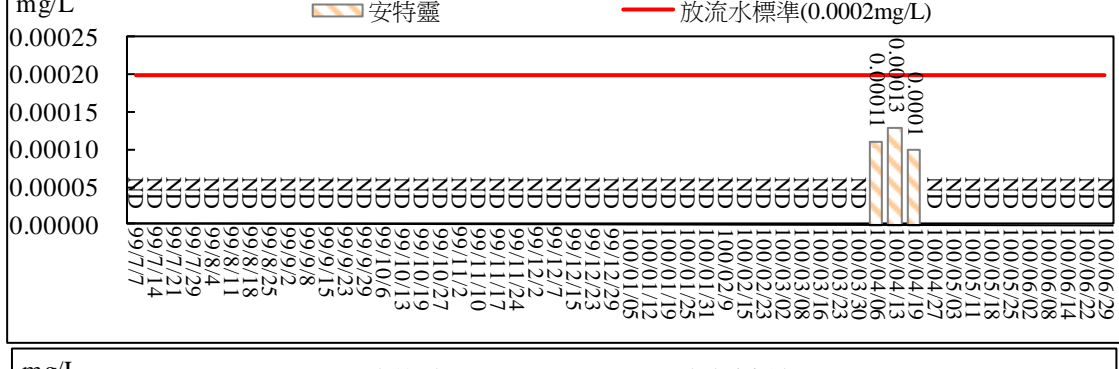
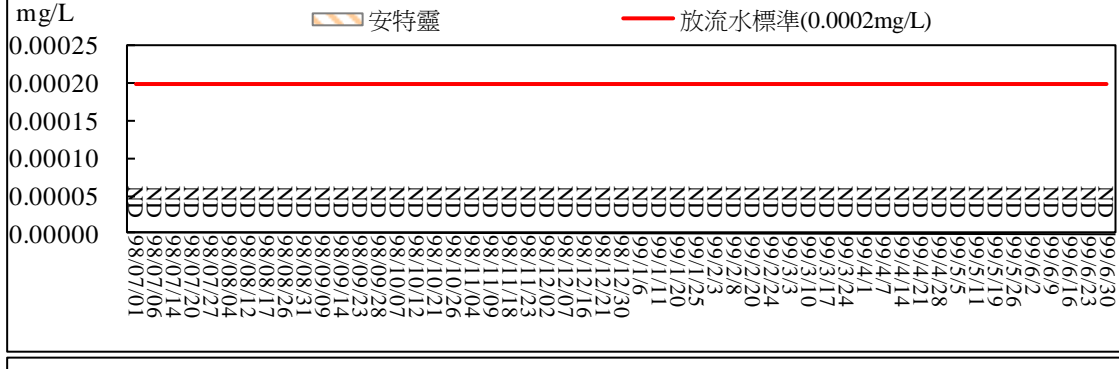
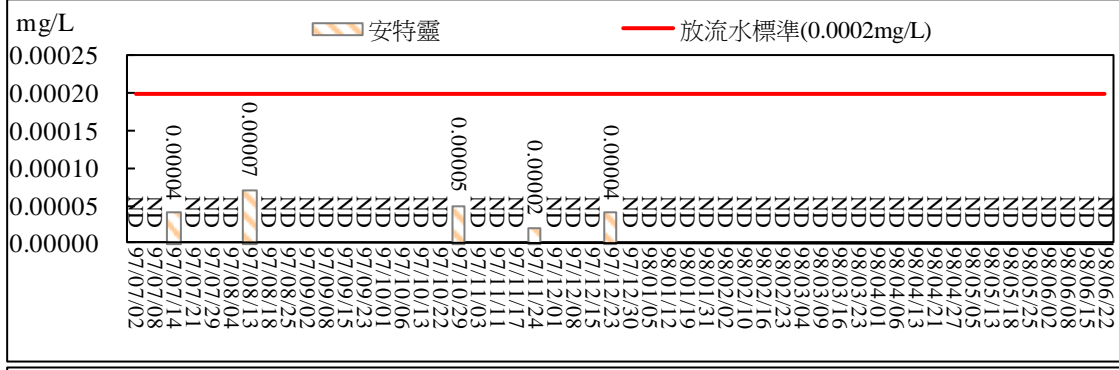
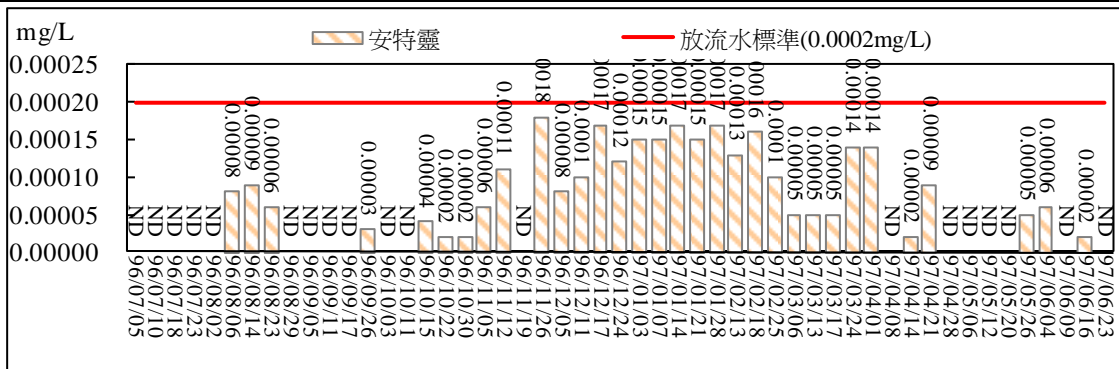


圖 2.54 污水處理廠放流口放流水質監測結果比較圖(4,4'-滴滴涕)



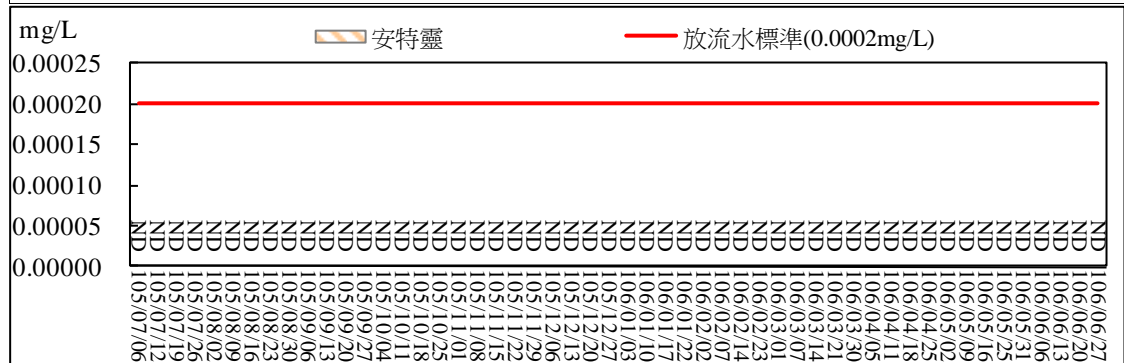
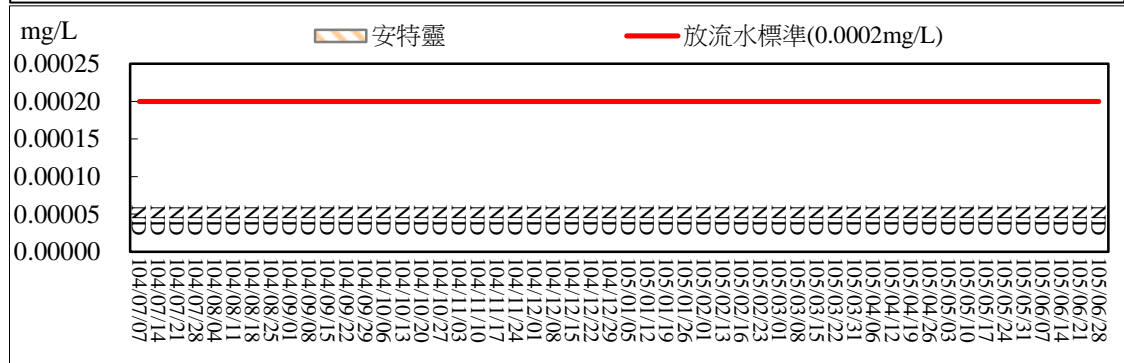
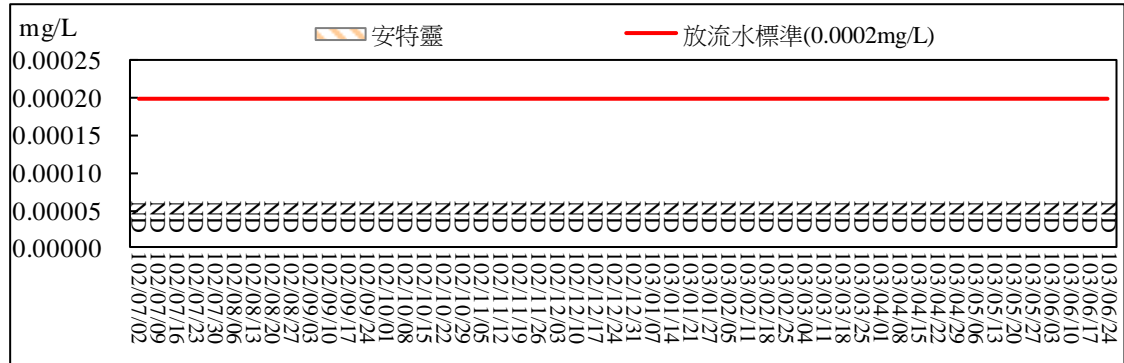
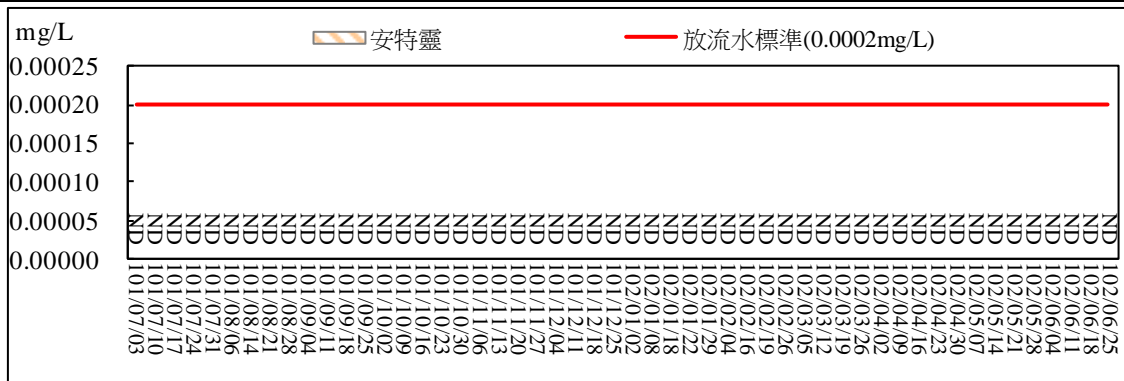
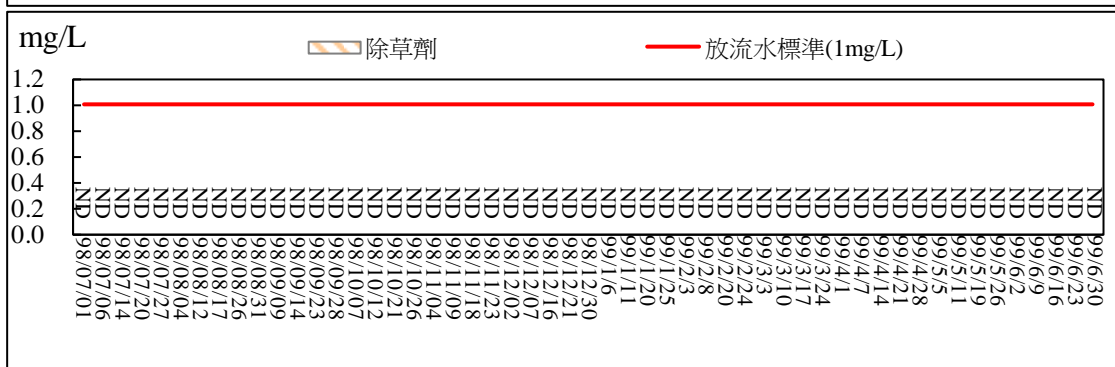
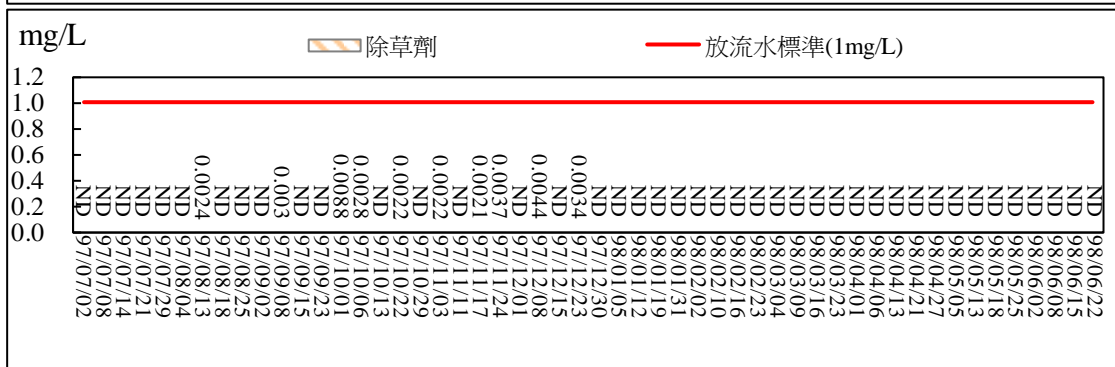
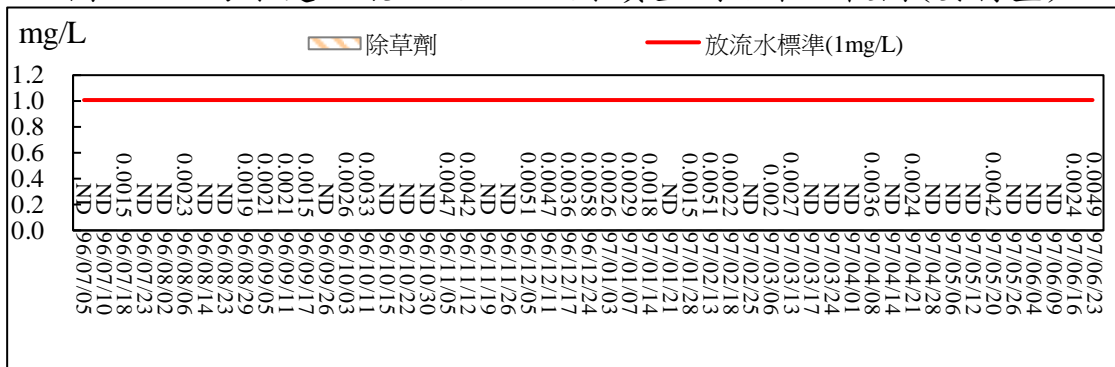
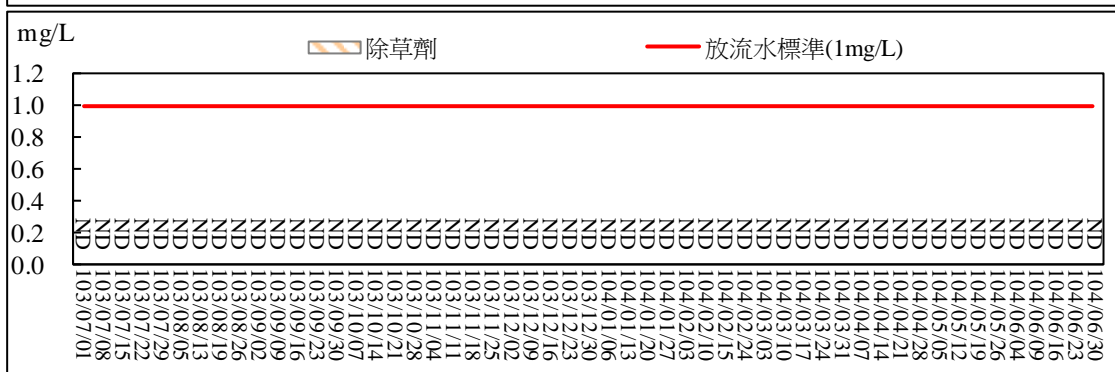
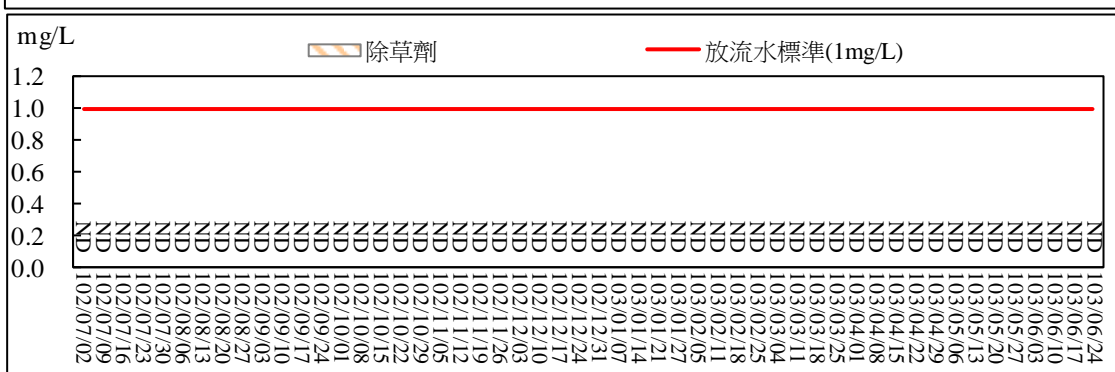
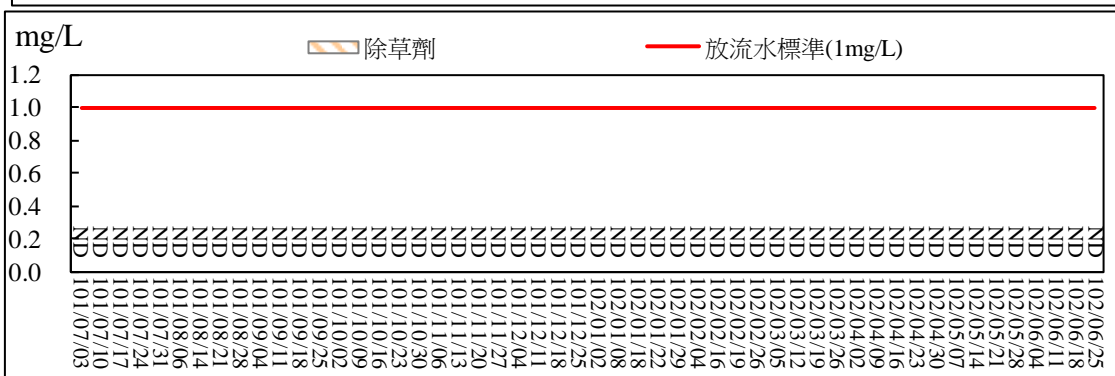
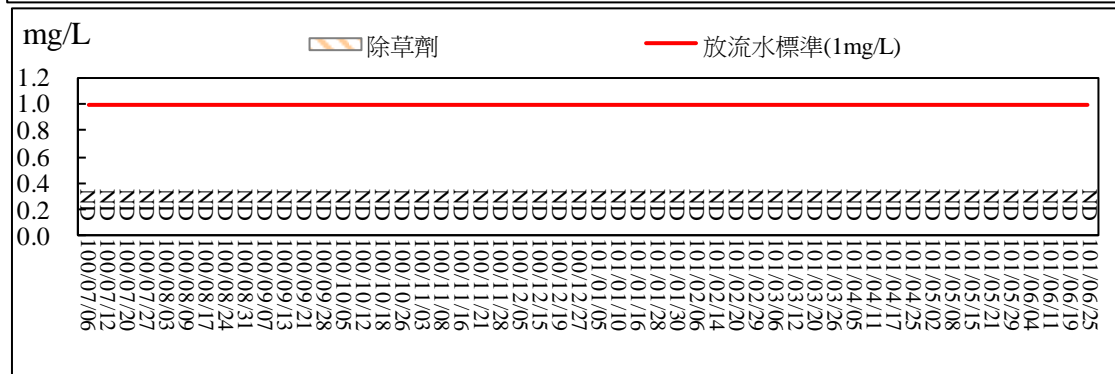
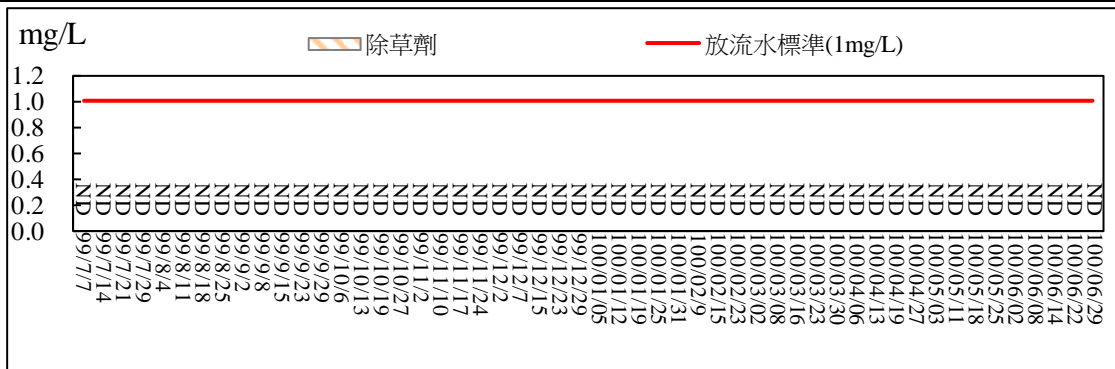




圖 2.55 污水處理廠放流口放流水質監測結果比較圖(安特靈)





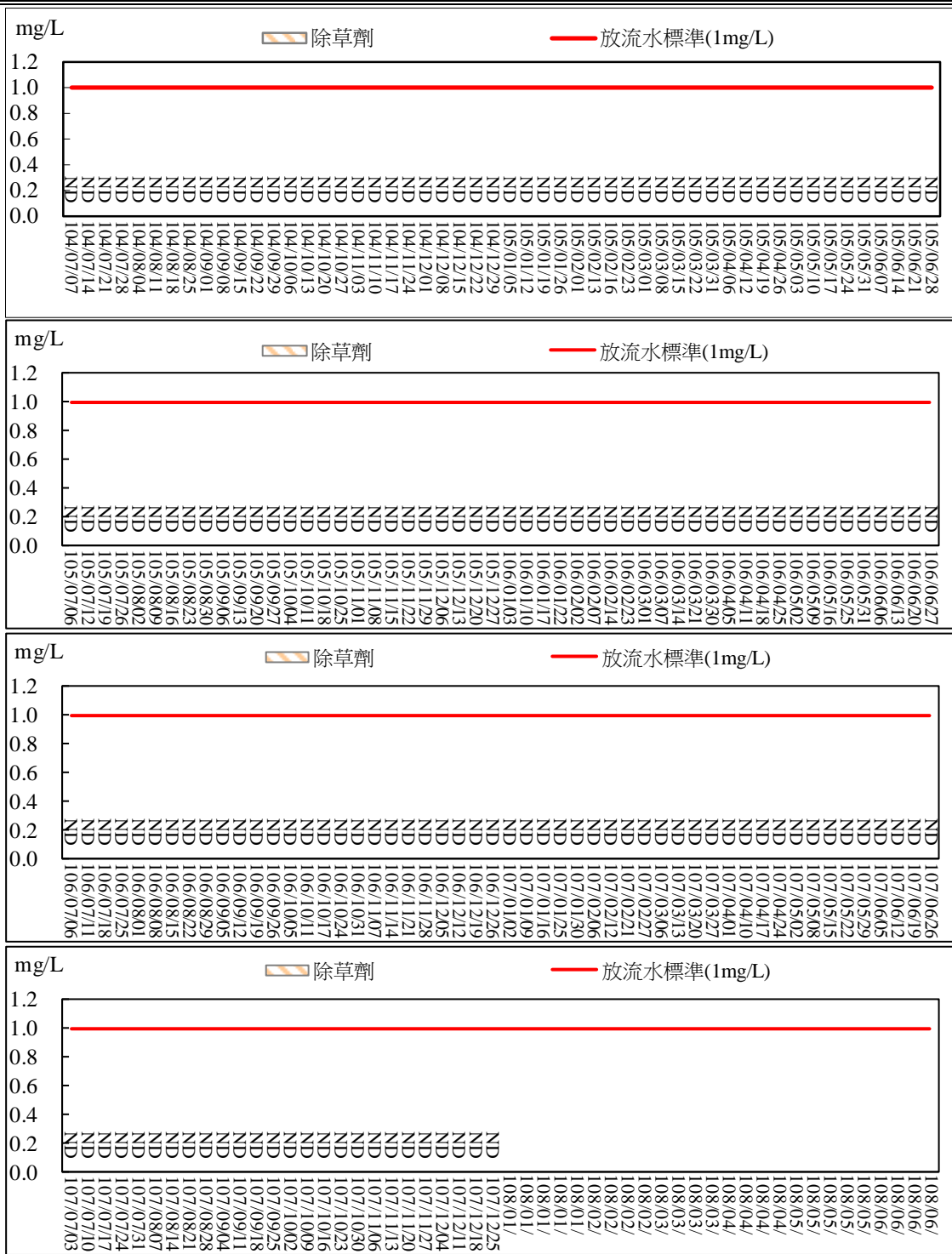
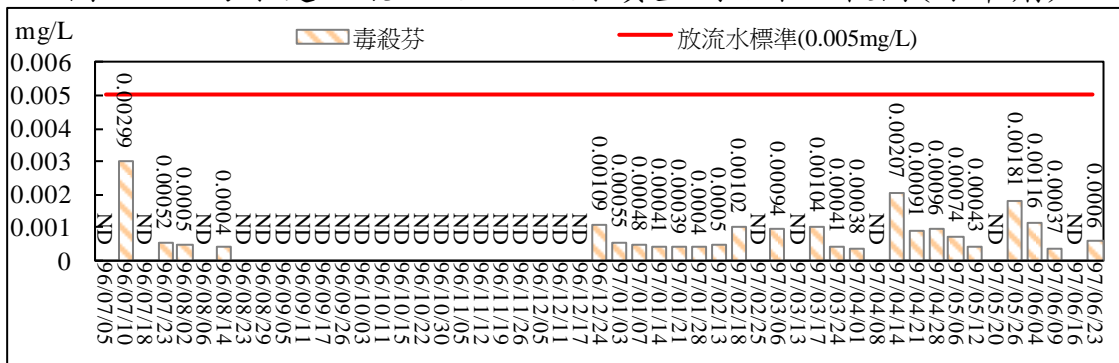
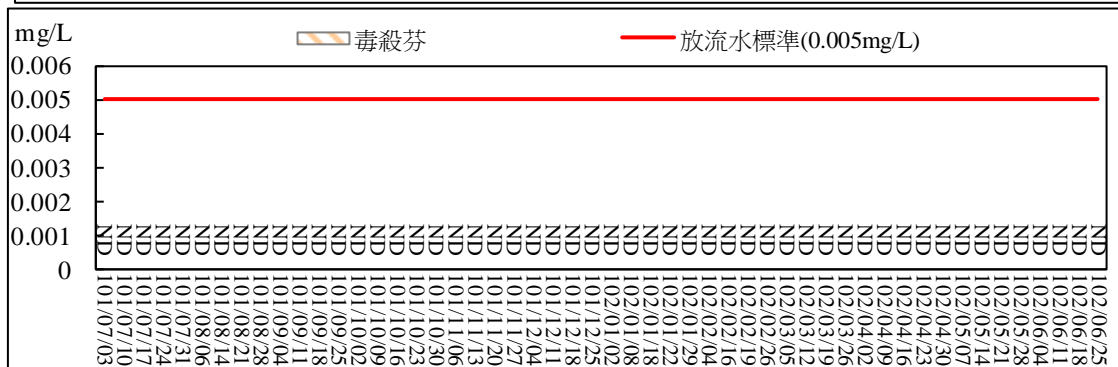
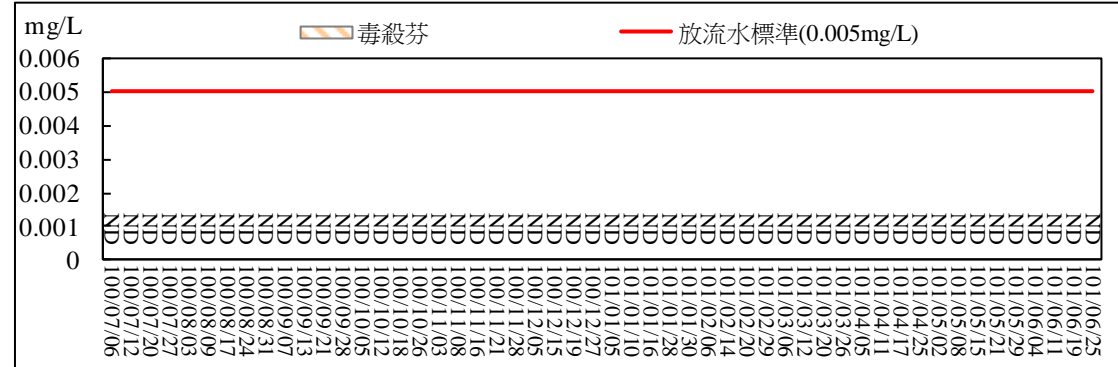
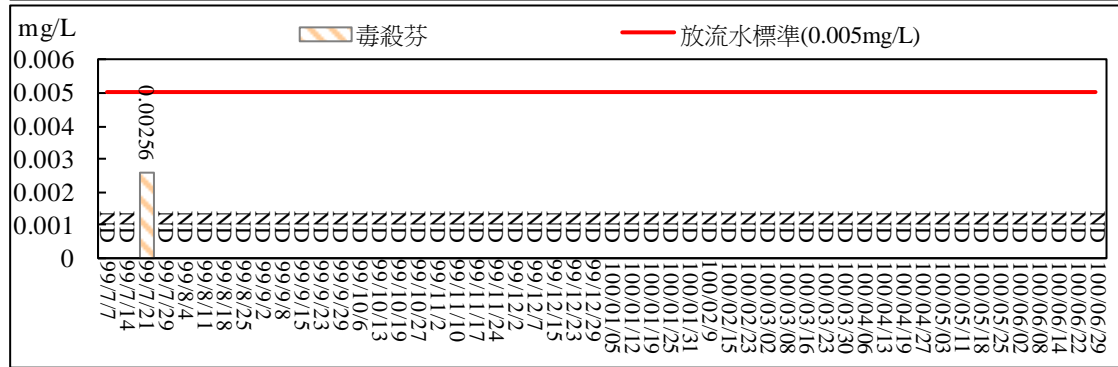
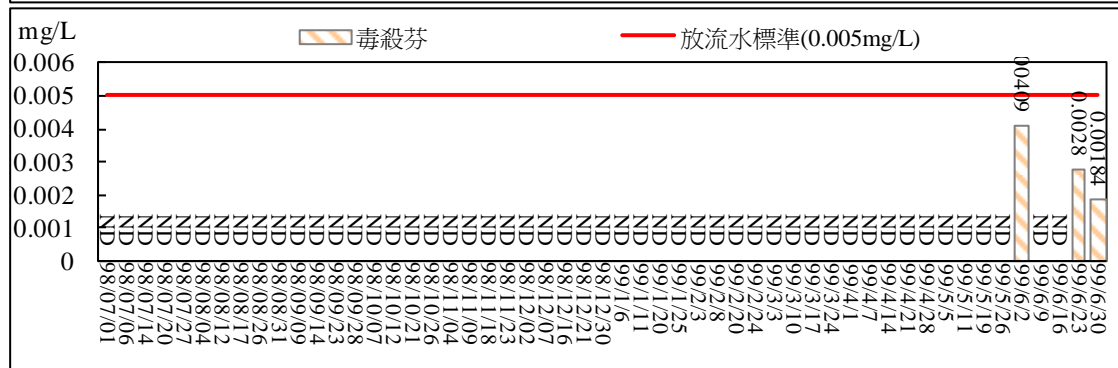
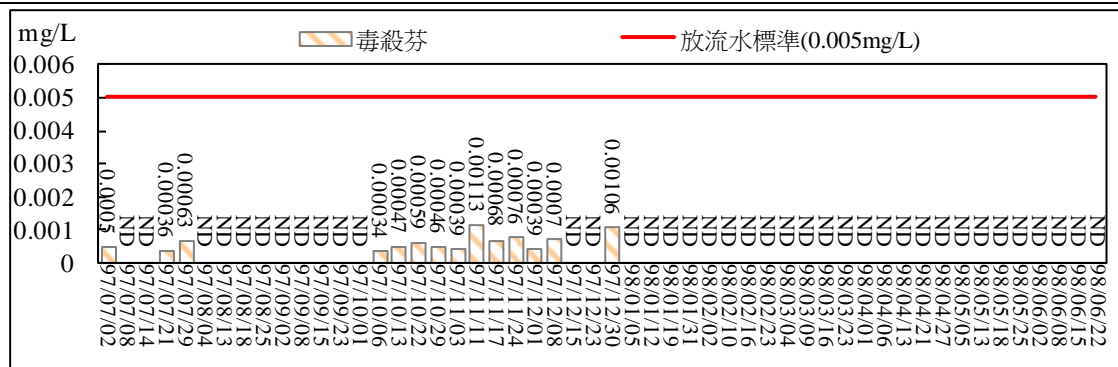


圖 2.56 污水處理廠放流口放流水質監測結果比較圖(除草劑)





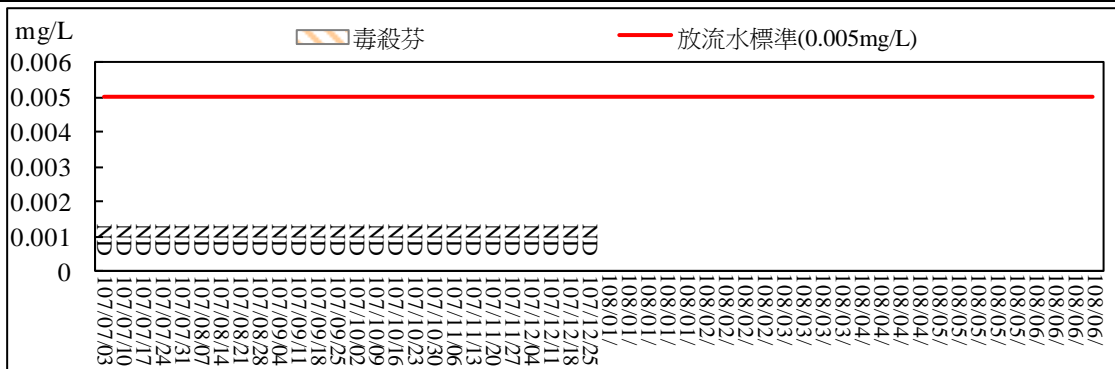
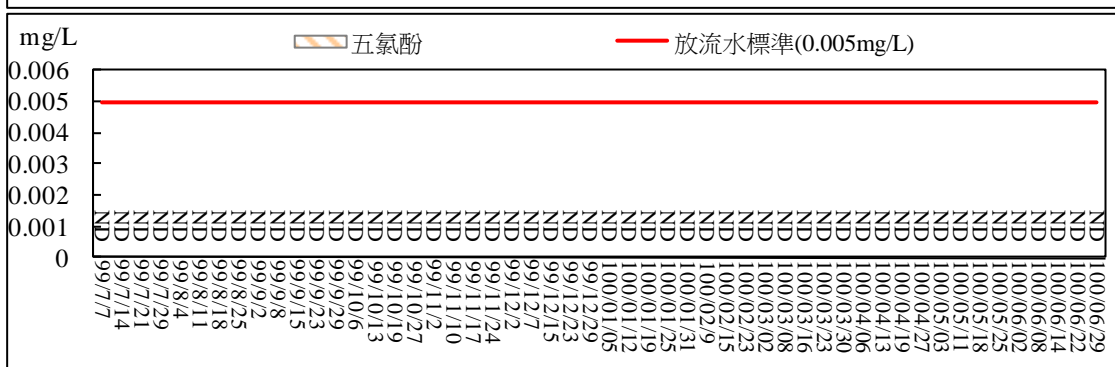
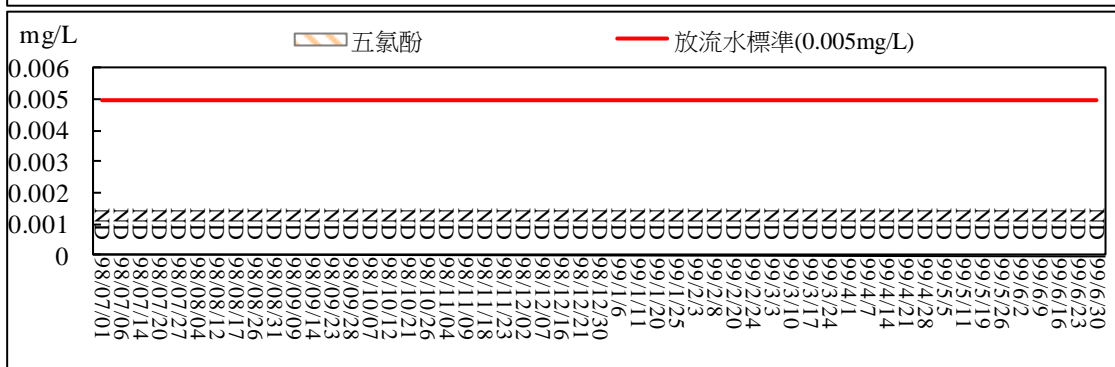
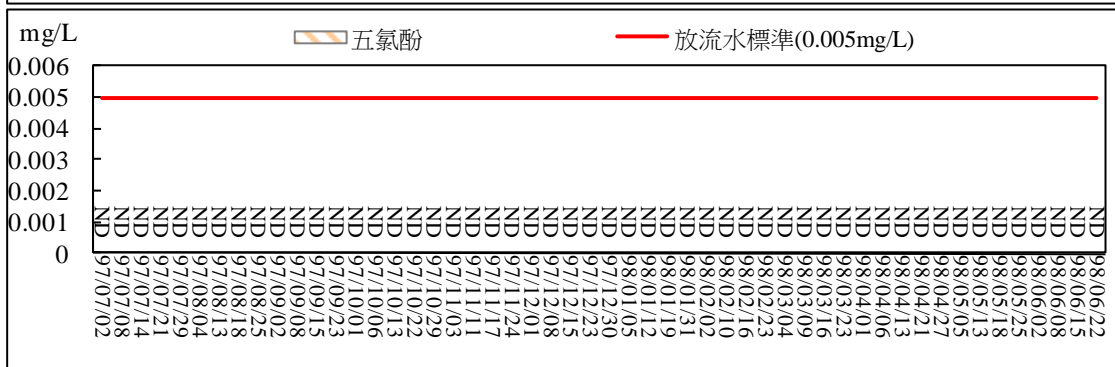
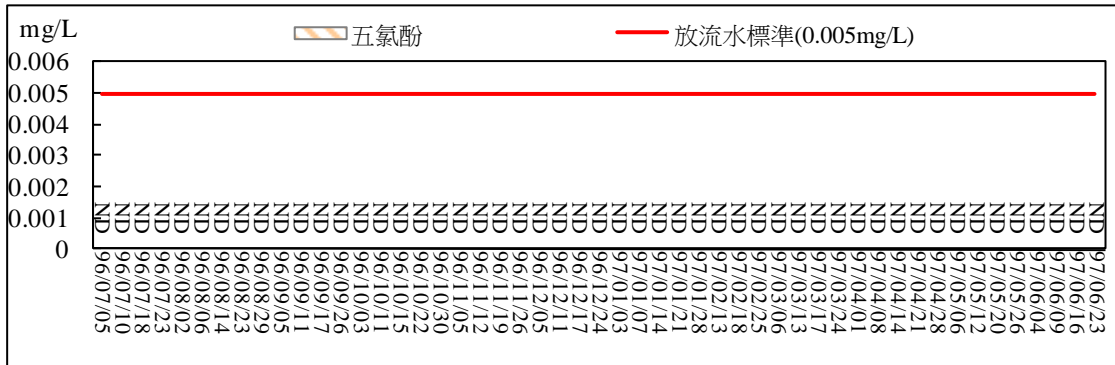
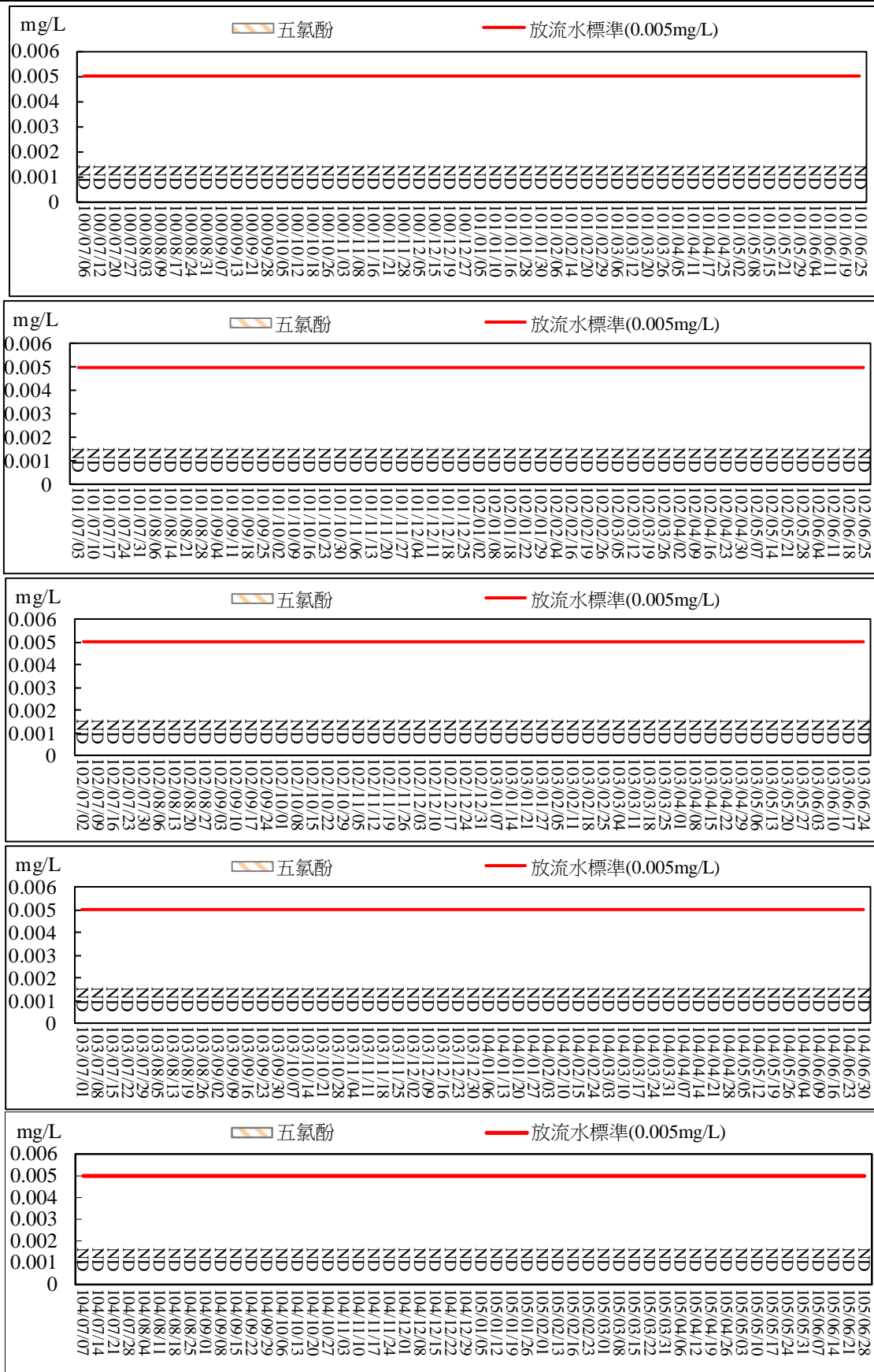
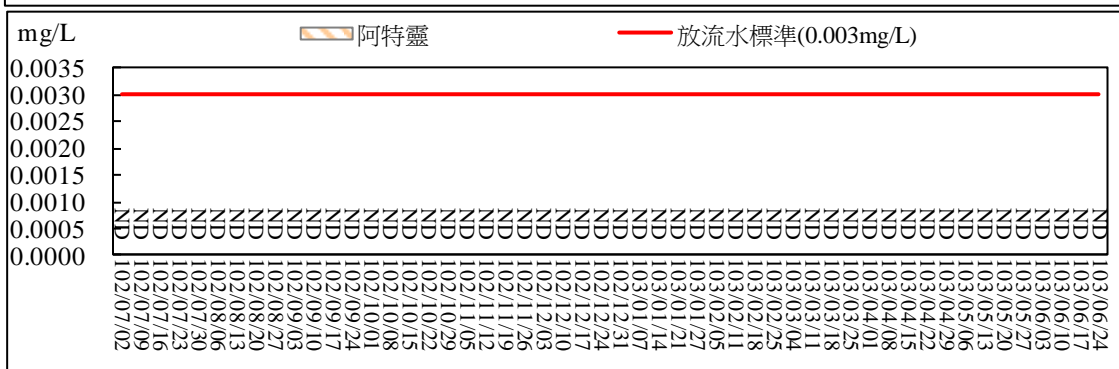
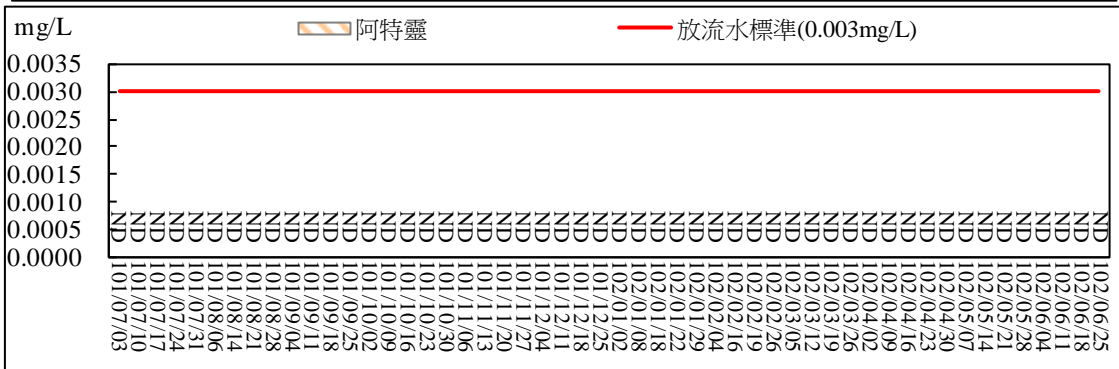
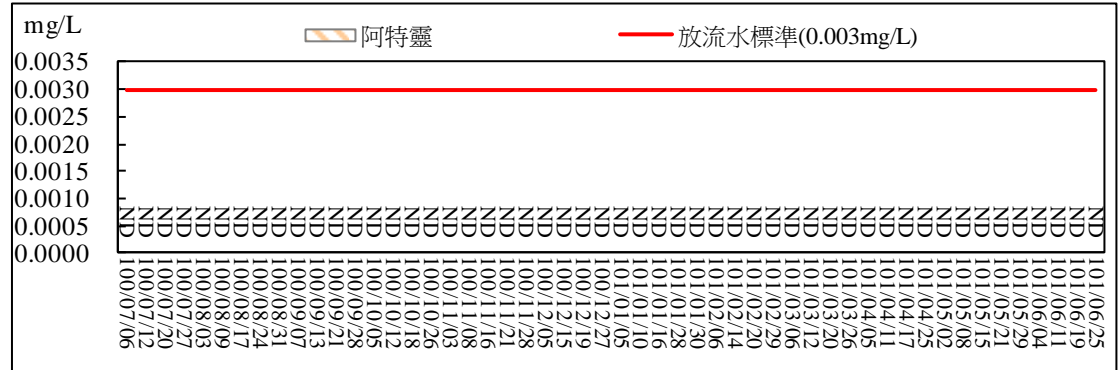
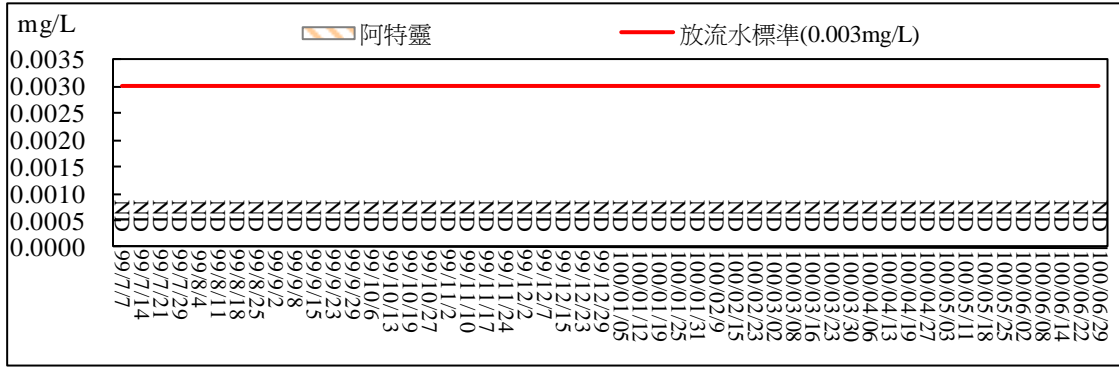
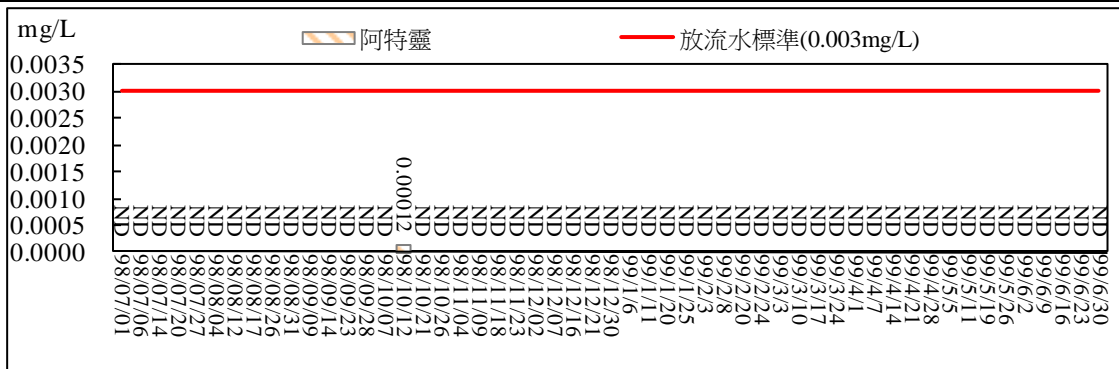


圖 2.57 污水處理廠放流口放流水質監測結果比較圖(毒殺芬)







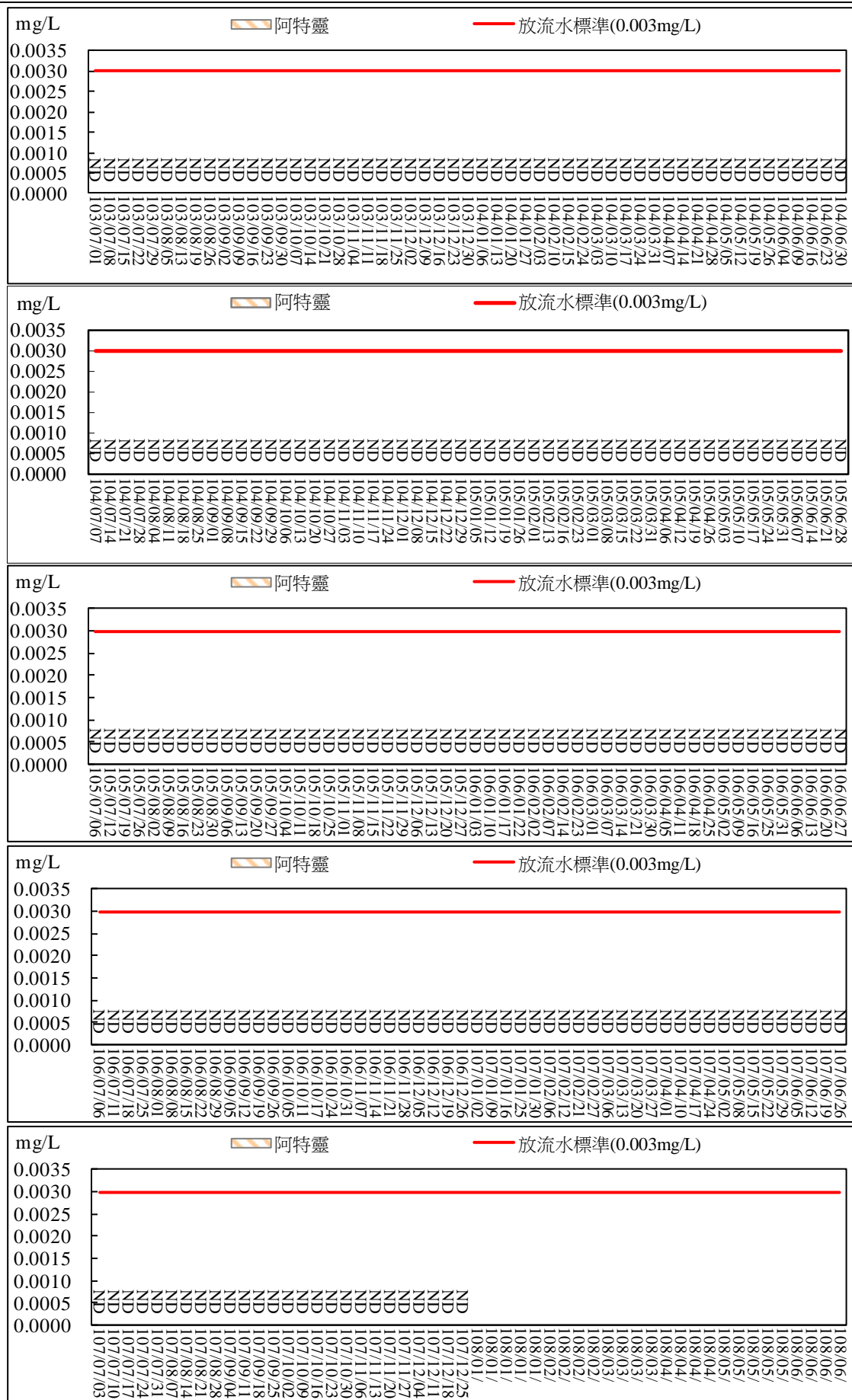
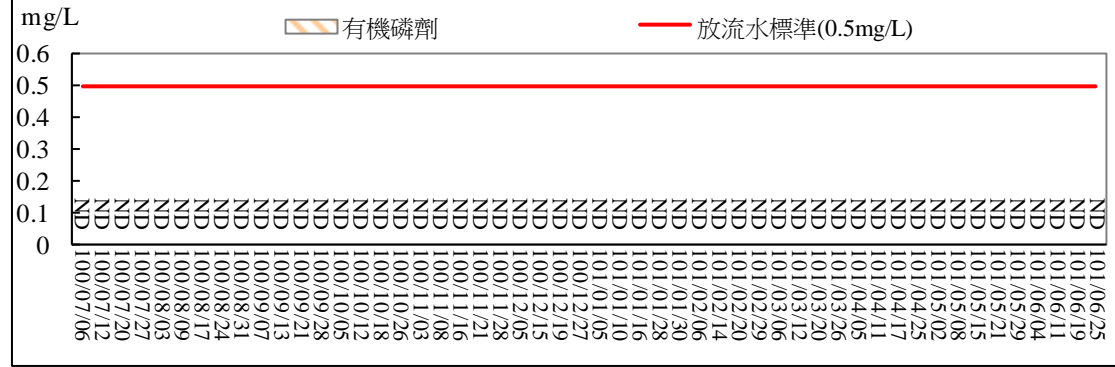
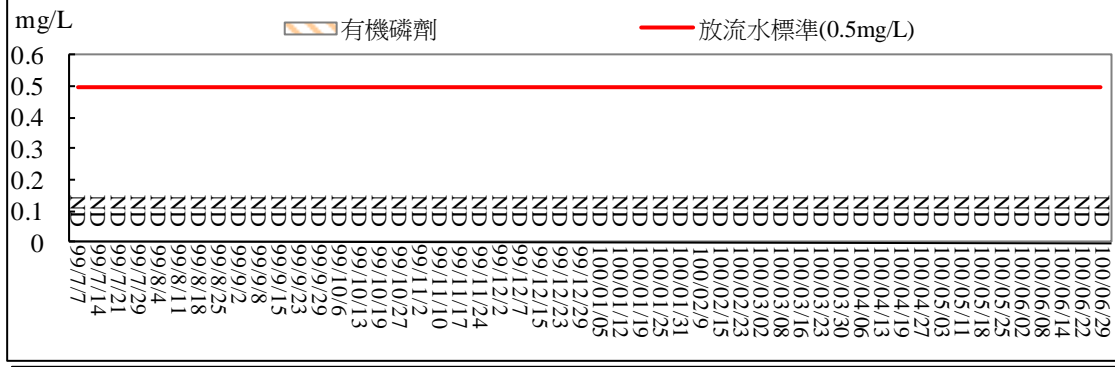
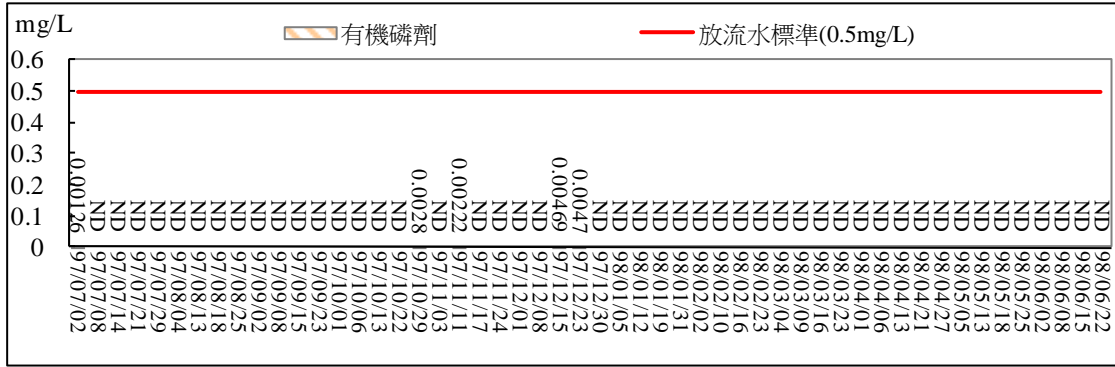
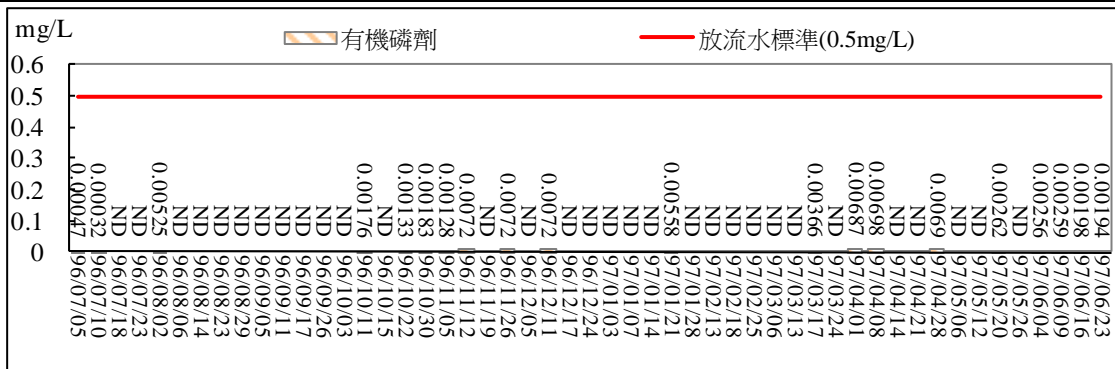


圖 2.59 污水處理廠放流口放流水質監測結果比較圖(阿特靈)



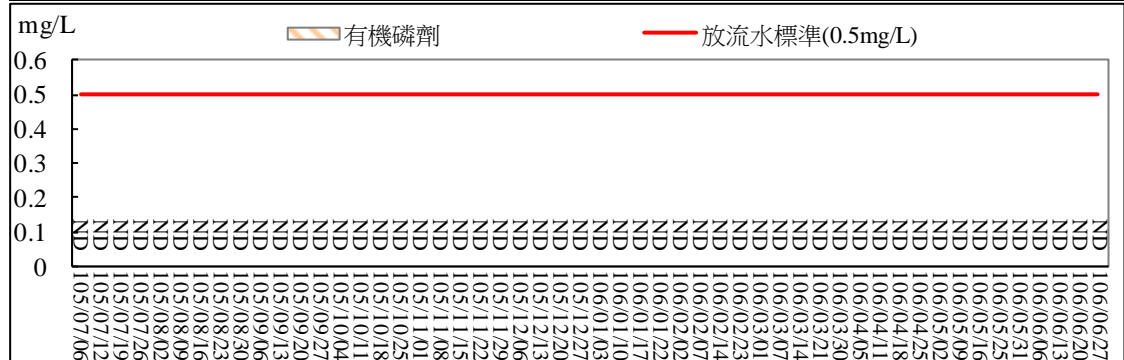
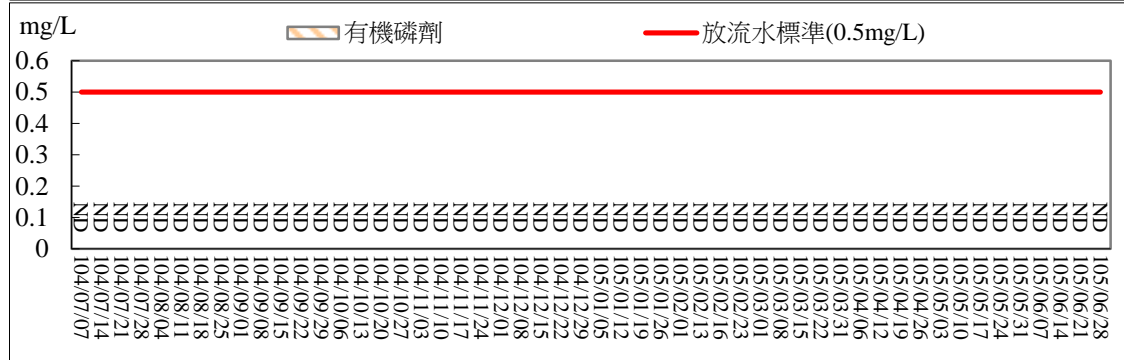
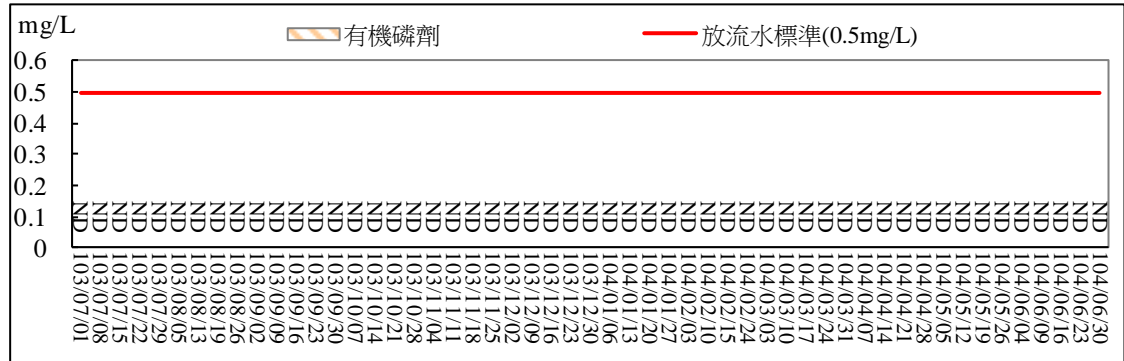
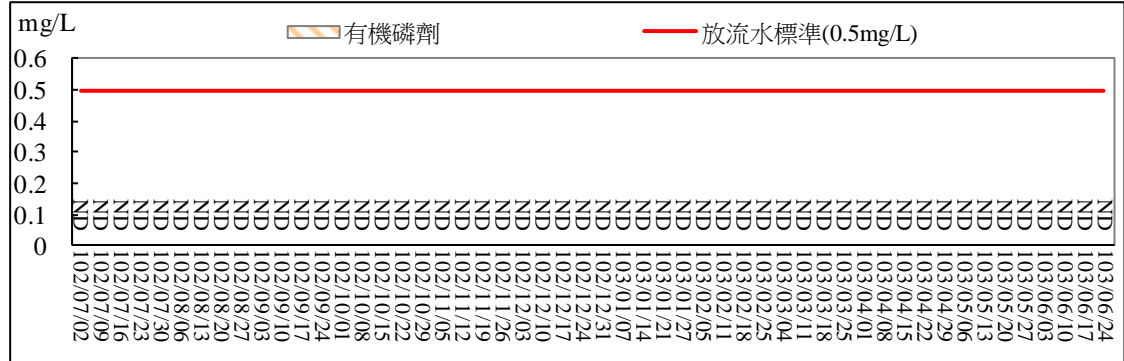
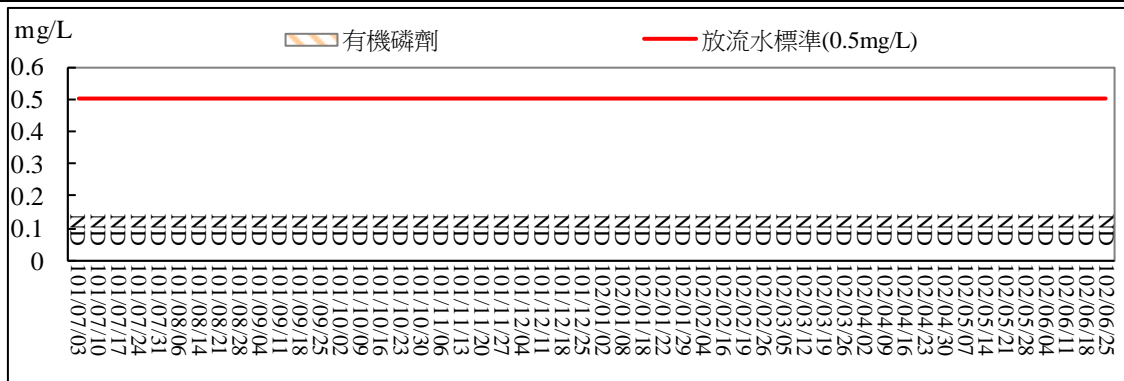




圖 2.60 污水處理廠放流口放流水質監測結果比較圖(有機磷劑)

表 3-1 本季監測結果 (續 6)

監測項目		法規標準	107 年第 4 季	監測結果檢討	
水質	河川水	生化需氧量	—	5.0~7.6	本季地面水質測項鹽水溪排水三號橋錳外，其餘均符合丁類陸域地面水體環境基準，惟對照歷次監測數據顯示，鹽水溪排水三號橋之錳測值多次偏高且超過標準，未來將持續進行監測，追蹤比較測值變化情形。請參閱地表水監測結果比較圖。
		磷酸鹽	—	1.70~1.81	
		懸浮固體	100 mg/L	9.9~72.7	
		總有機碳	—	5.2~8.6	
		氨氮	—	0.20~1.61	
		化學需氧量	—	29.6~20.0	
		大腸桿菌群	—	$1.7 \times 10^3 \sim 6.1 \times 10^4$	
		氟化物	—	2.74~2.98	
		水溫	—	26.2~27.2	
		pH 值	—	7.3~7.8	
		導電度	—	2530~2880 $\mu\text{mho/cm at } 25^\circ\text{C}$	
		溶氧量	3 mg/L	6.3~6.6	
		流量	—	$<5.947 \sim 43.3 \text{ m}^3/\text{min}$	
		凱氏氮	—	0.42~2.41	
		總氮	—	0.97~4.92	
		總磷	—	1.70~1.81	
		六價鉻	—	ND<0.0062	
		鋅	0.5 mg/L	0.06	
		鎘	0.01 mg/L	ND<0.0016	
		鉛	0.1 mg/L	ND<0.024	
		錳	0.05 mg/L	0.04~0.16	
		銅	0.03 mg/L	0.011	
		汞	0.002 mg/L	ND<0.00022	
		砷	0.05 mg/L	0.0024~0.0096	
		硒	0.05 mg/L	ND<0.0048	
		銀	0.05 mg/L	ND<0.0030	
		靈丹	0.004 mg/L	ND<0.00003	
		安殺番 I	0.03 mg/L	ND<0.00004	
		安殺番 II	0.03 mg/L	ND<0.00004	
		飛佈達	0.001 mg/L	ND<0.00004	
		環氧飛佈達	0.001 mg/L	ND<0.00004	
		2,4'-滴滴涕	0.001 mg/L	ND<0.00004	
4,4'-滴滴涕	0.001 mg/L	ND<0.00004			
安特靈	0.0002 mg/L	ND<0.00004			
除草劑	1 mg/L	ND<0.00024			
五氯酚	0.005 mg/L	ND<0.00093			
阿特靈	0.003 mg/L	ND<0.00004			
有機磷劑	0.5 mg/L	ND<0.00180			

備註：地面水，99 年第三季起，增加看西排水上游測站，測項加測氨氮、總氮及總磷，另看西排水及鹽水溪排水三號橋，測項加測總氮及總磷。

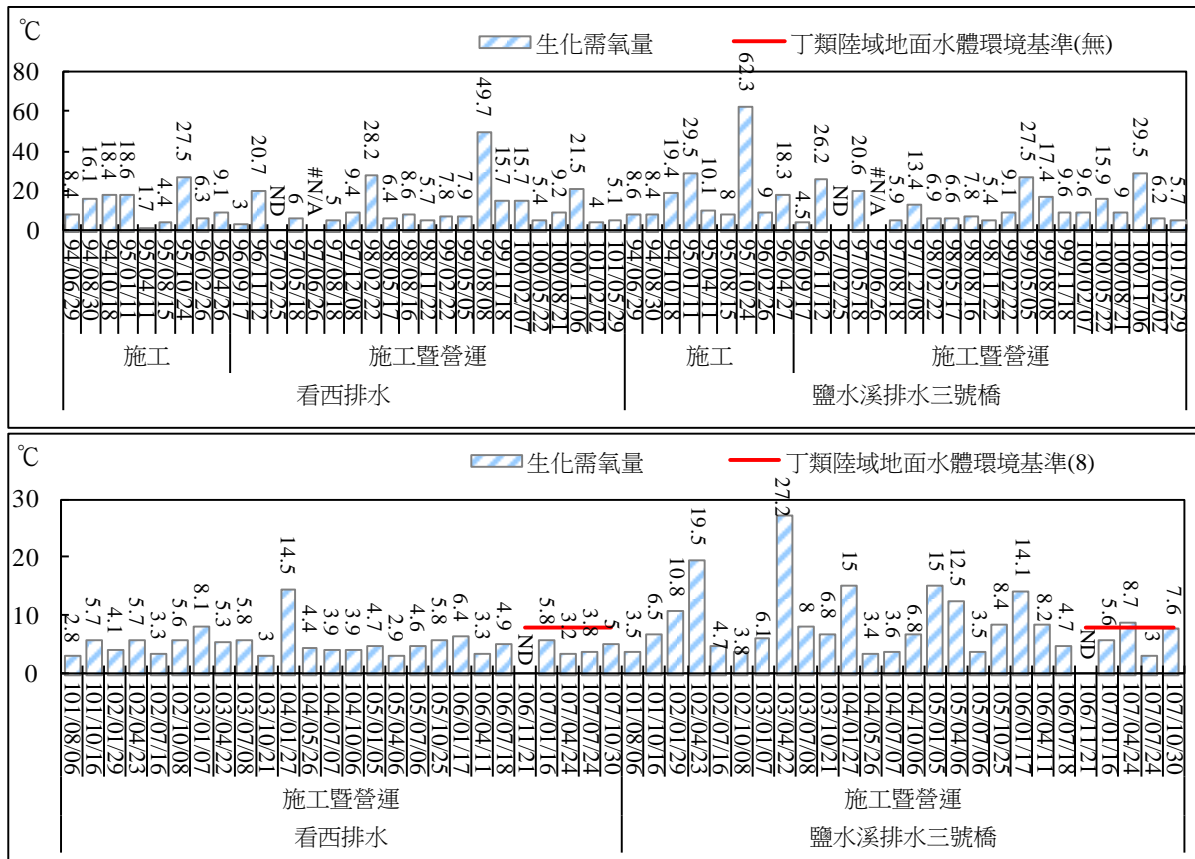


圖 2.61 地面水質監測結果比較圖(生化需氧量)

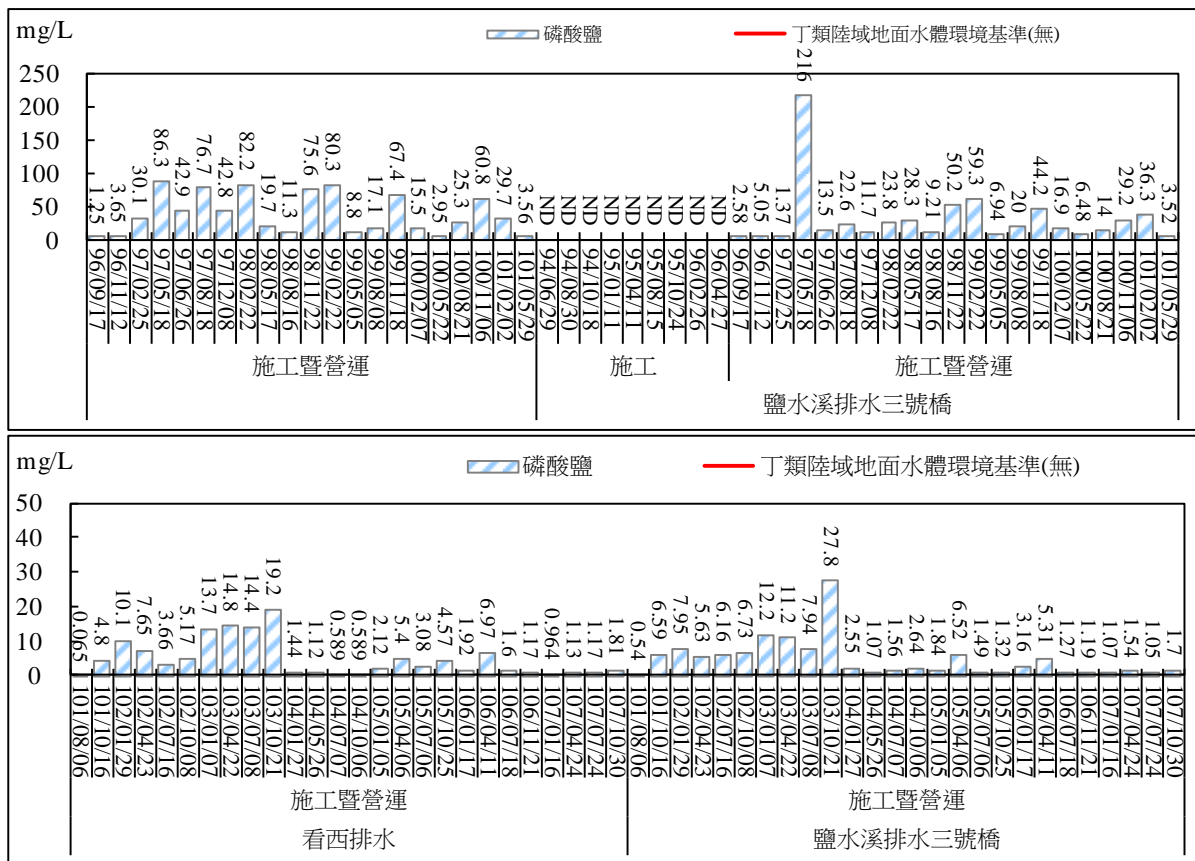


圖 2.62 地面水質監測結果比較圖(磷酸鹽)

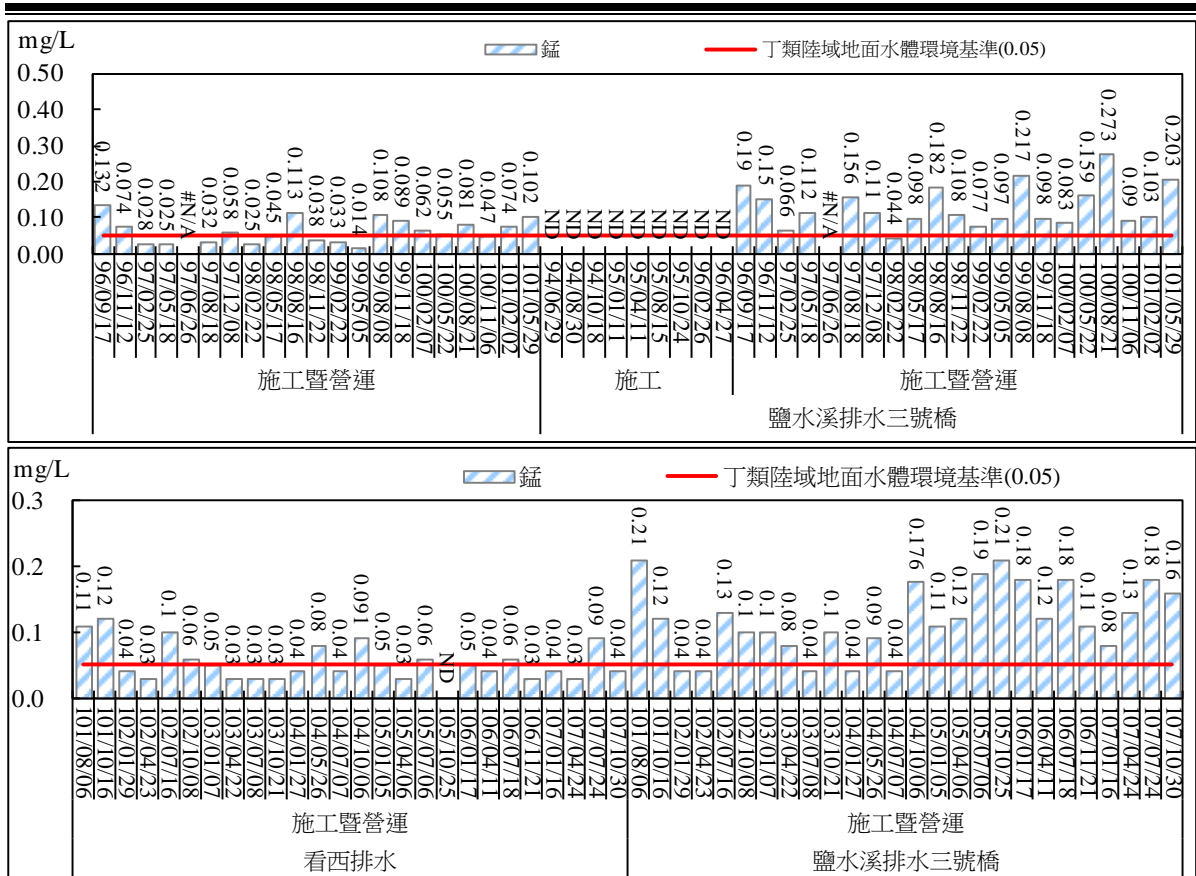


圖 2.63 地面水質監測結果比較圖(錳)

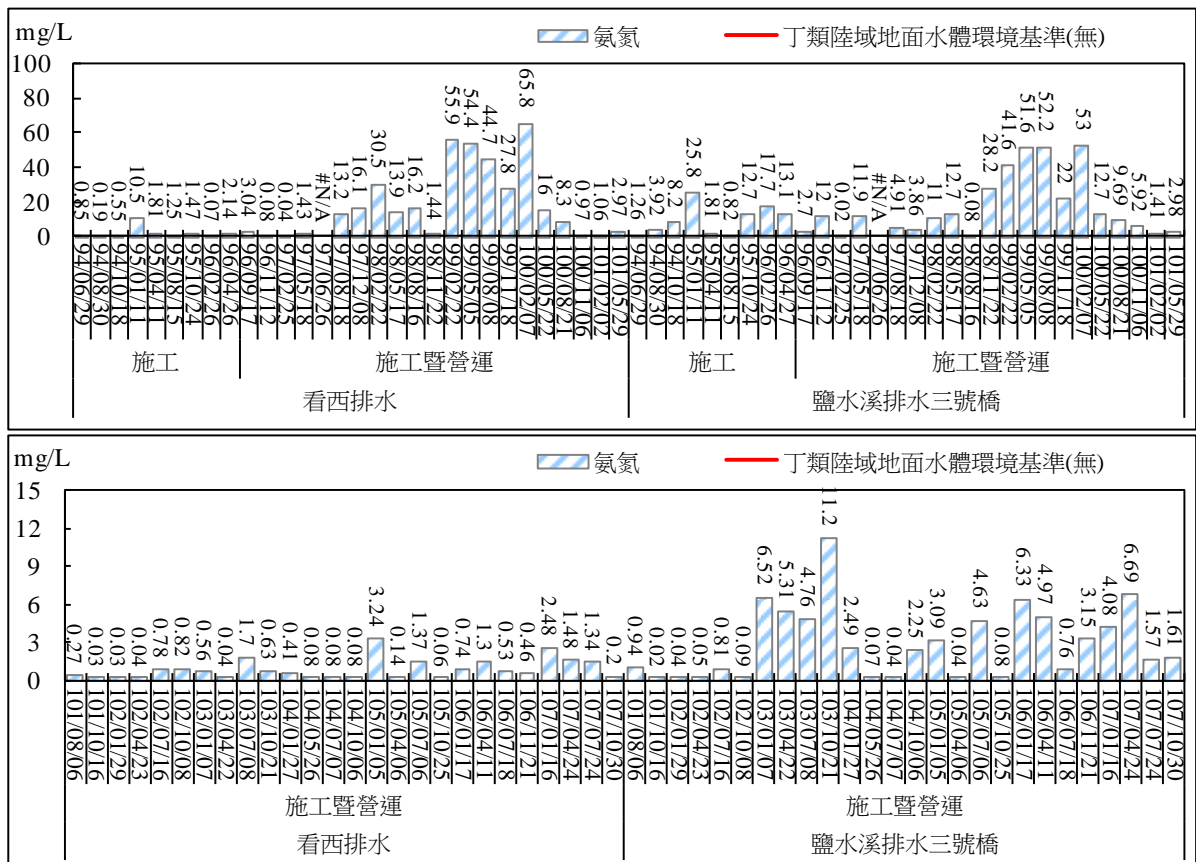


圖 2.64 地面水質監測結果比較圖(氨氮)

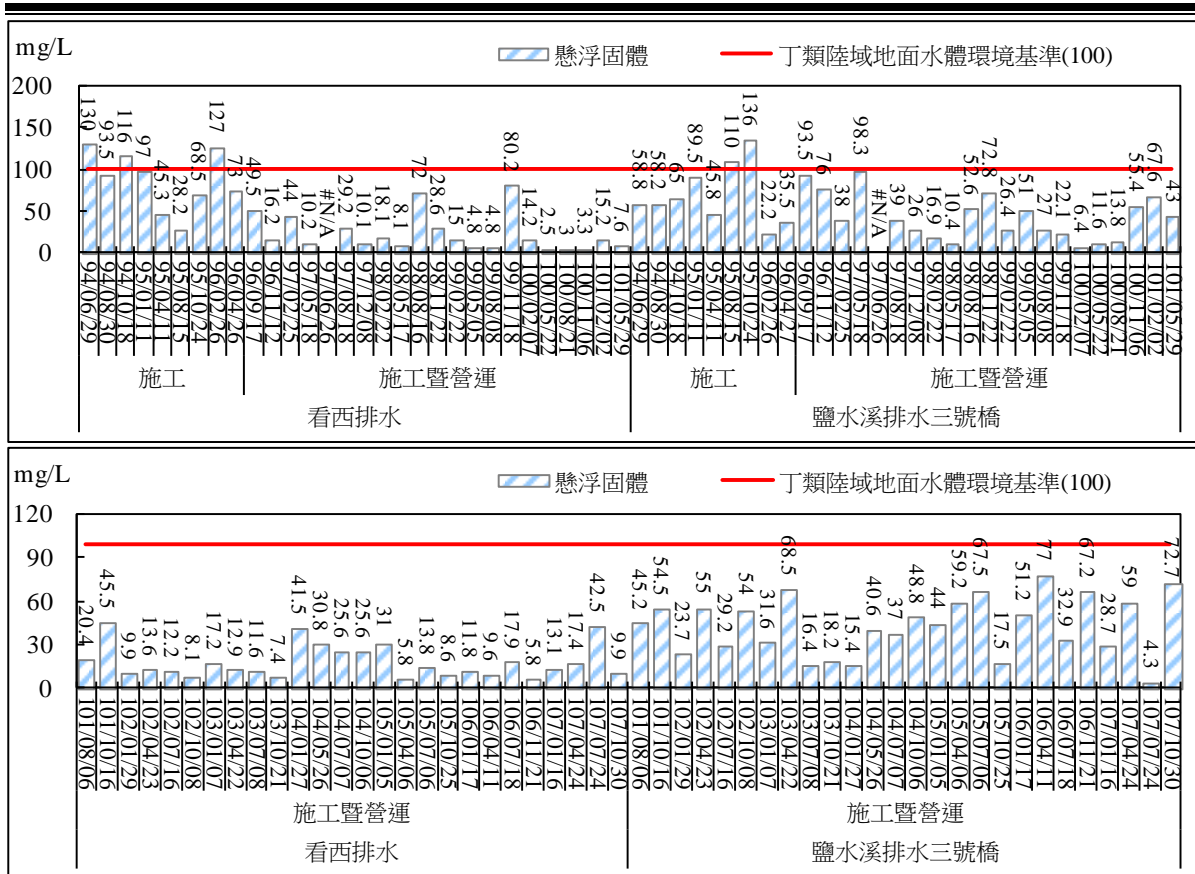


圖 2.65 地面水質監測結果比較圖(懸浮固體)

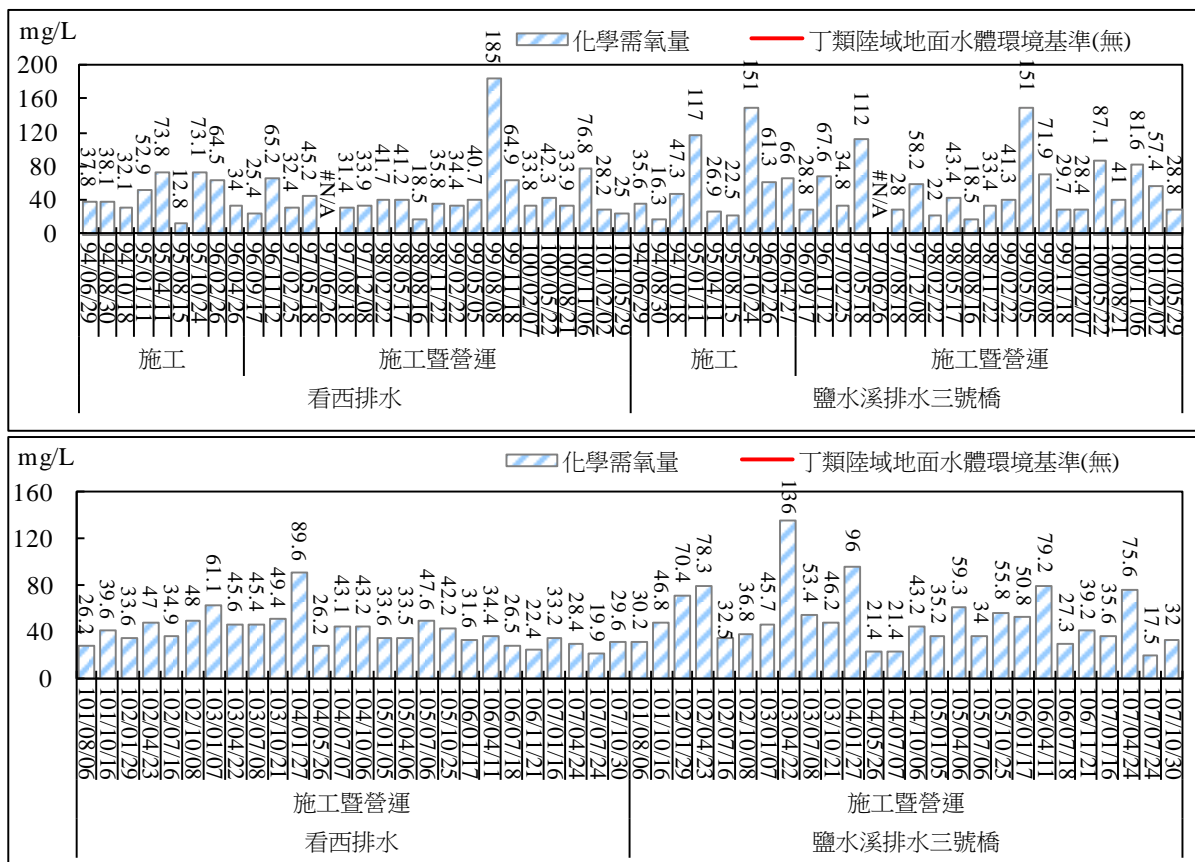


圖 2.66 地面水質監測結果比較圖(化學需氧量)

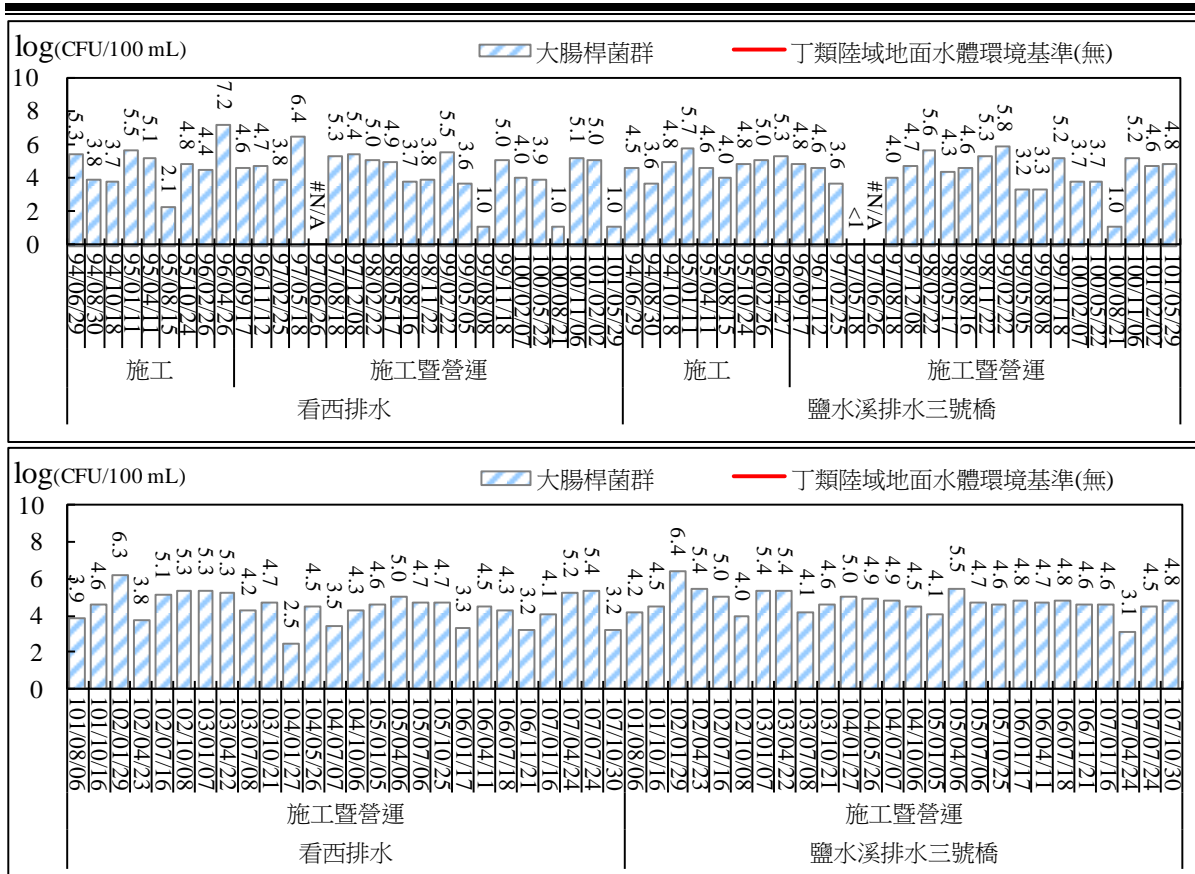


圖 2.67 地面水質監測結果比較圖(大腸桿菌群)

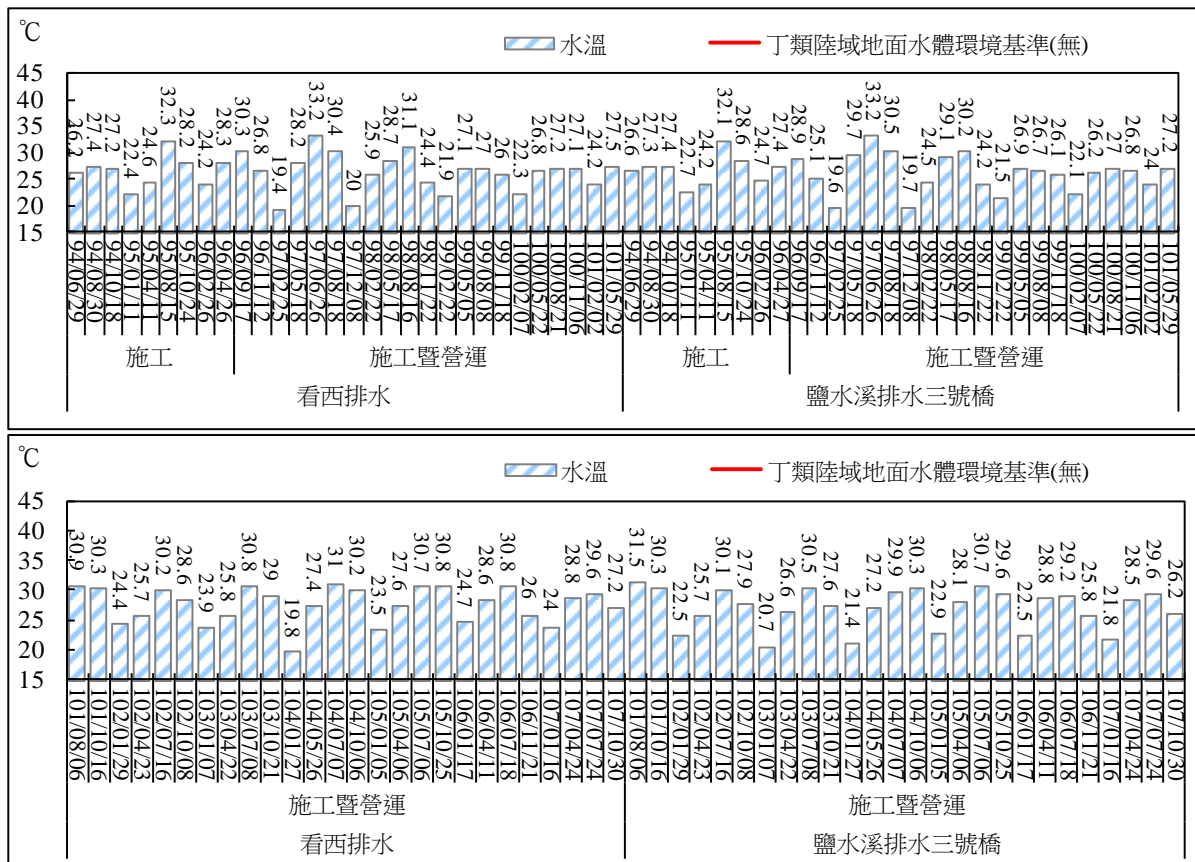


圖 2.68 地面水質監測結果比較圖(水溫)

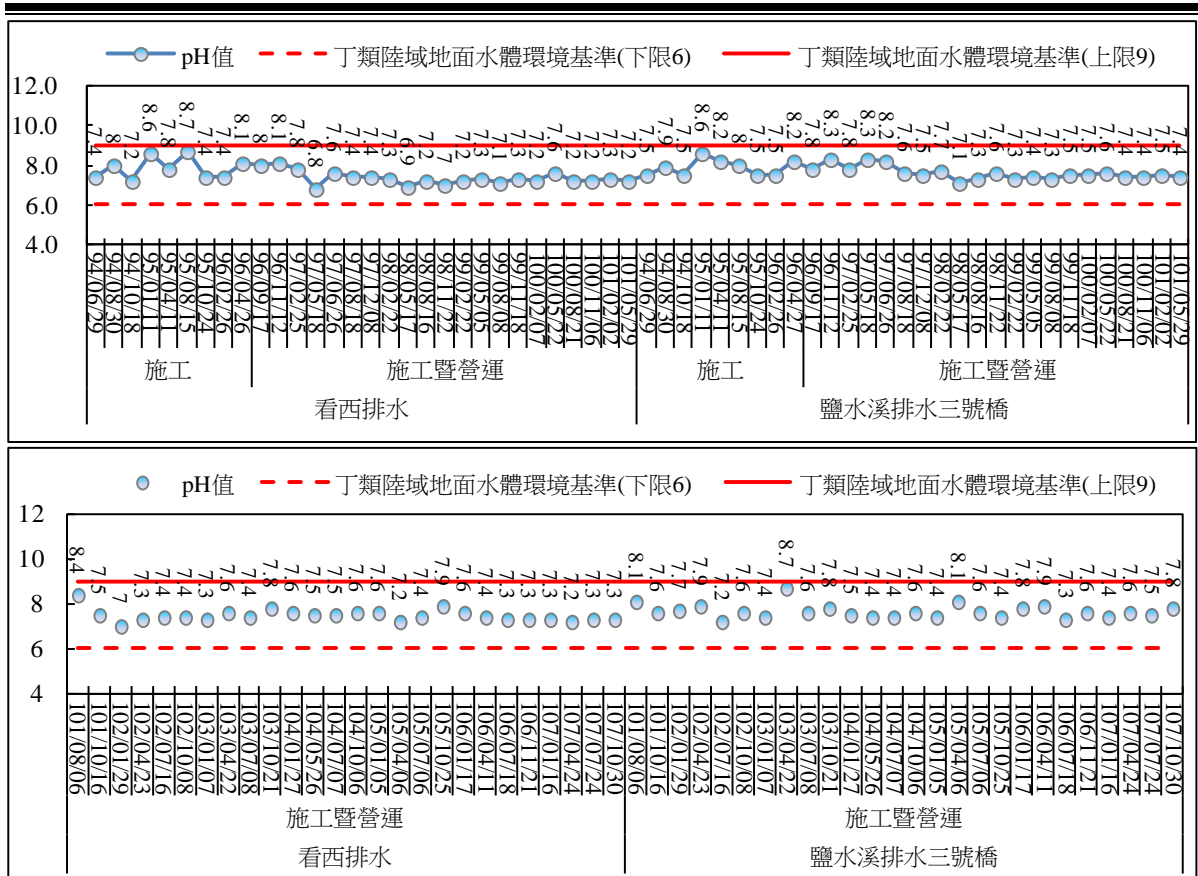


圖 2.69 地面水質監測結果比較圖(pH 值)

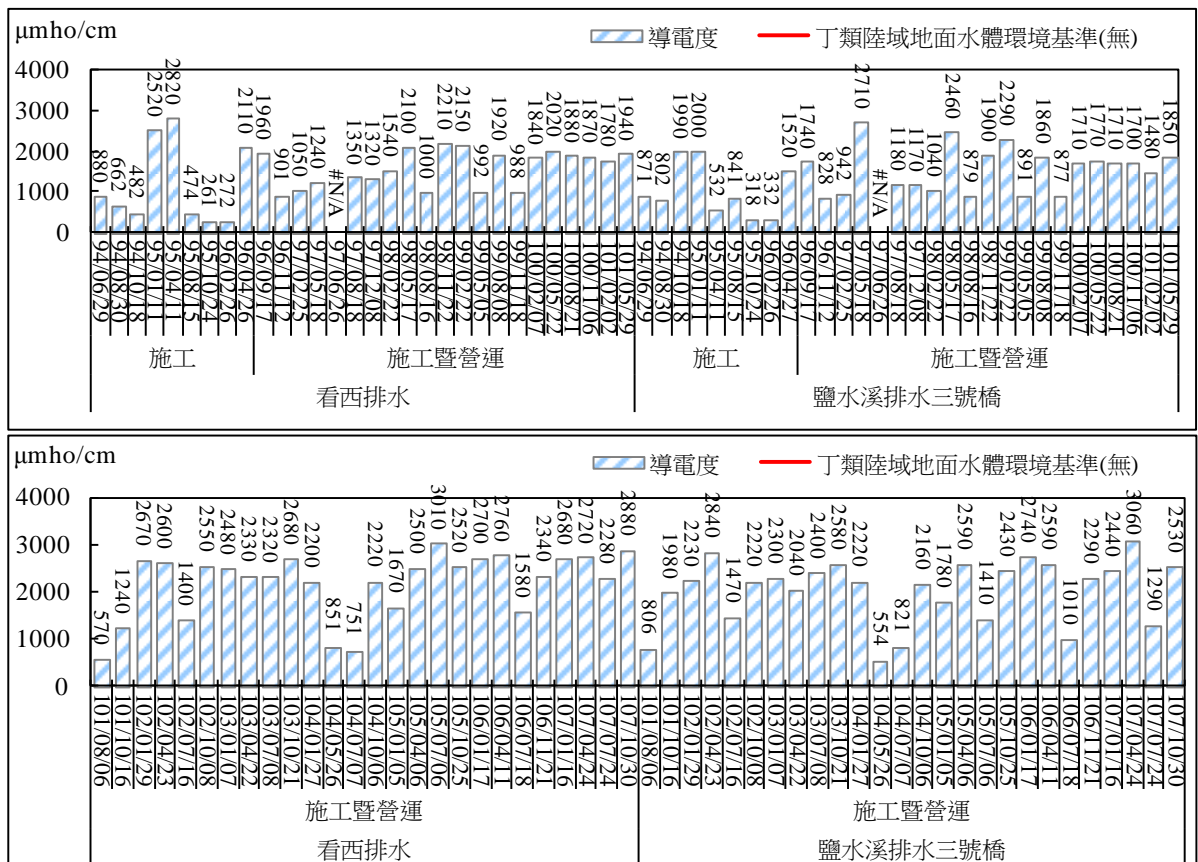


圖 2.70 地面水質監測結果比較圖(導電度)

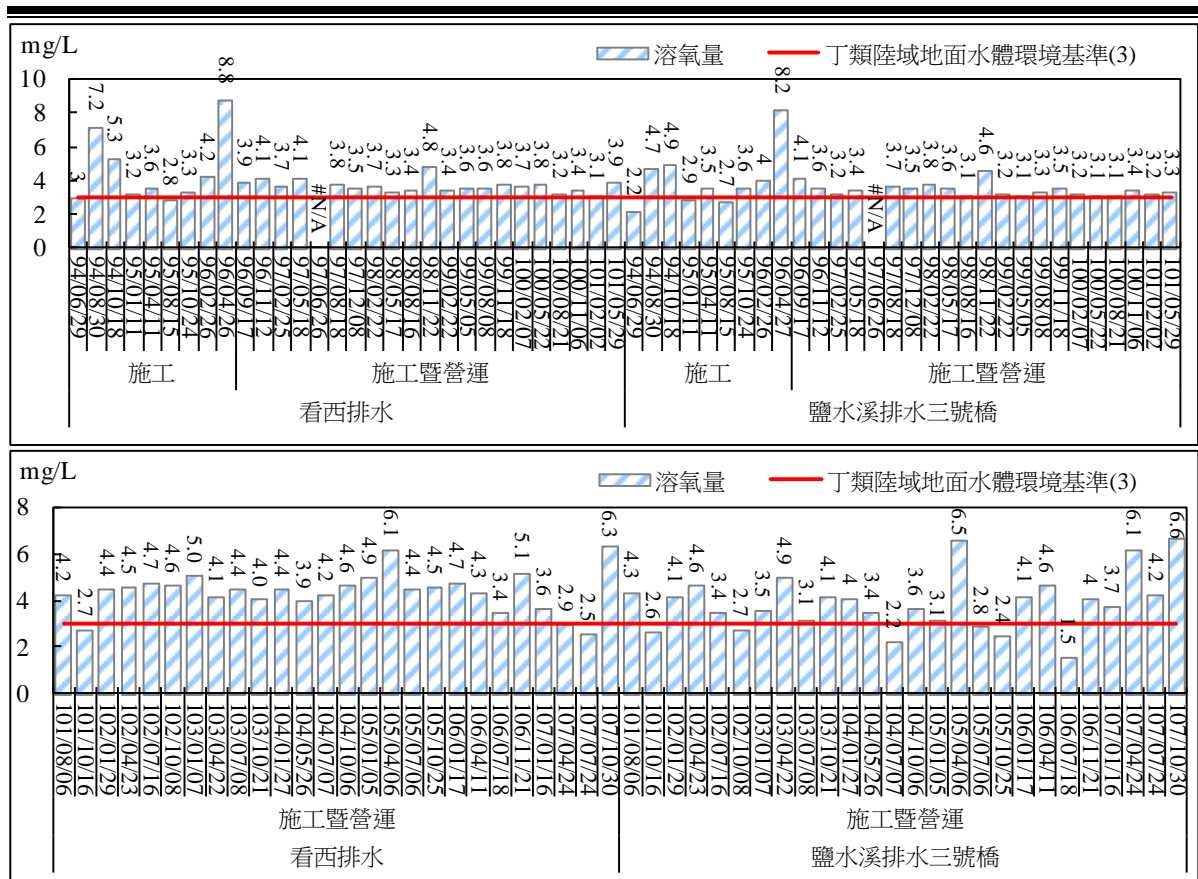
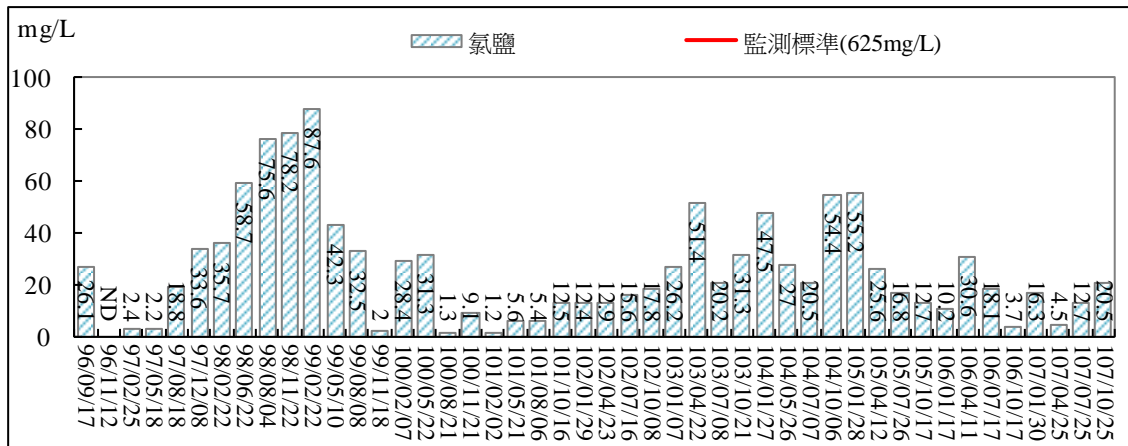
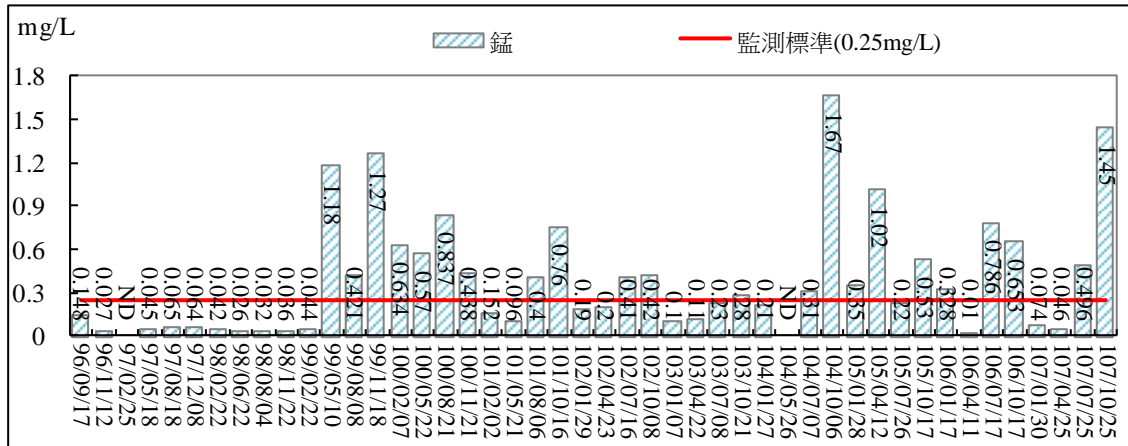
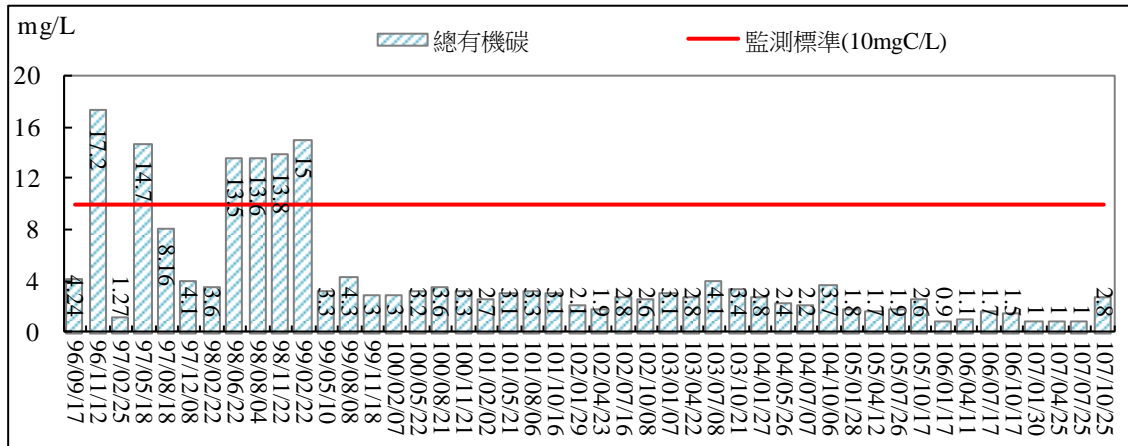
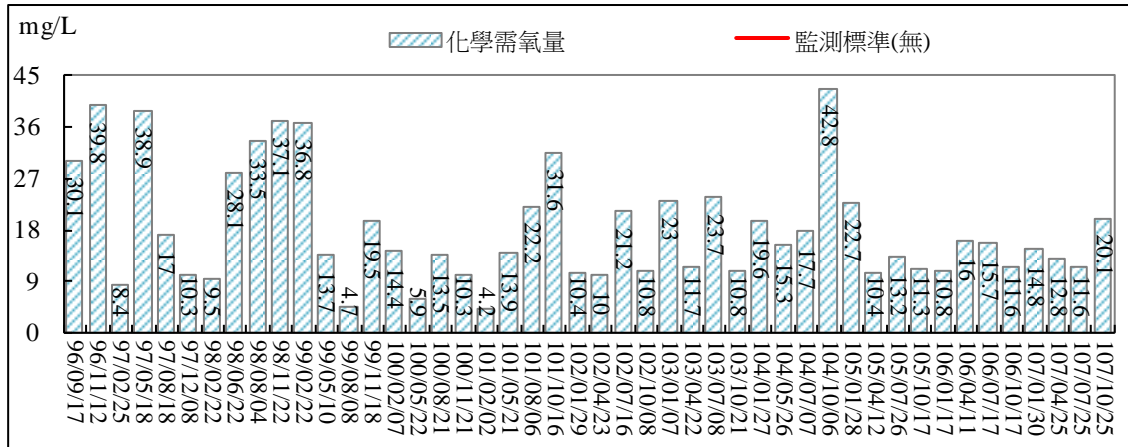


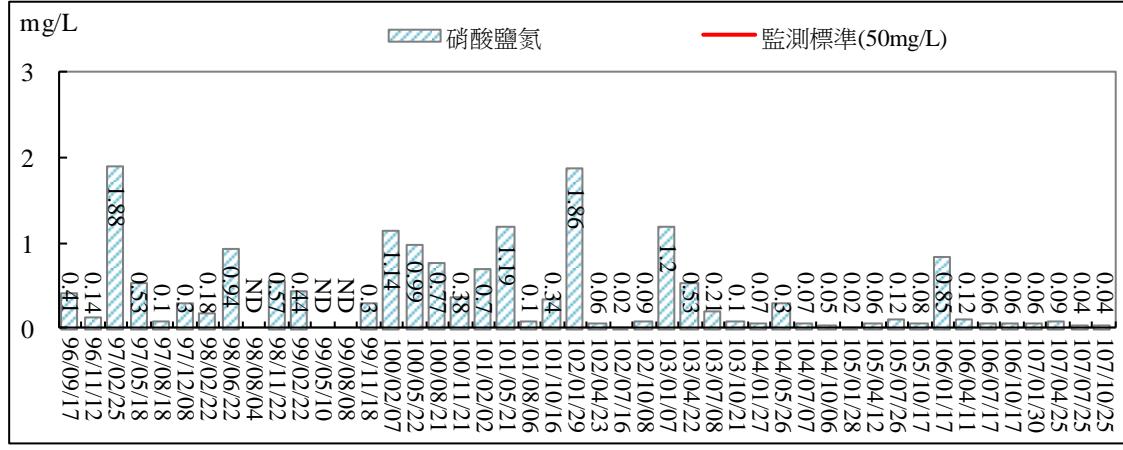
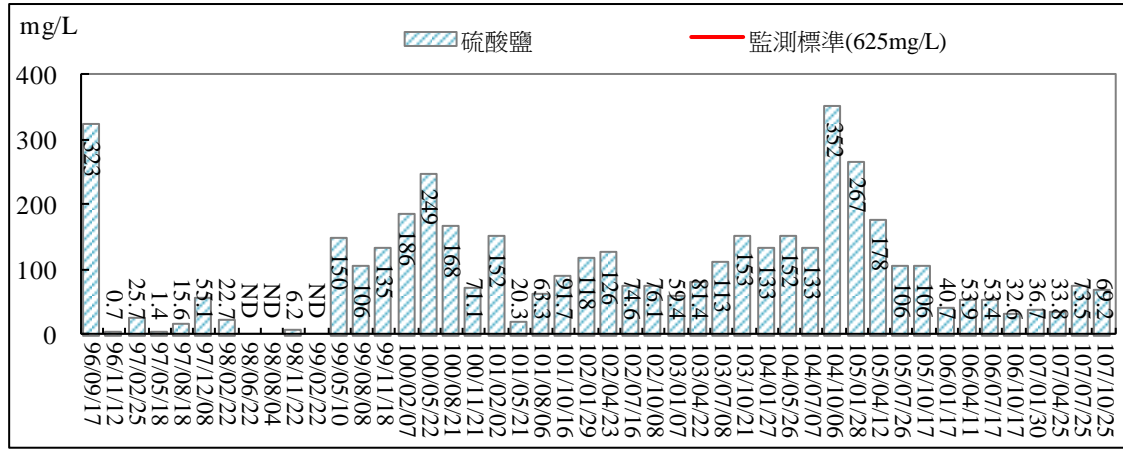
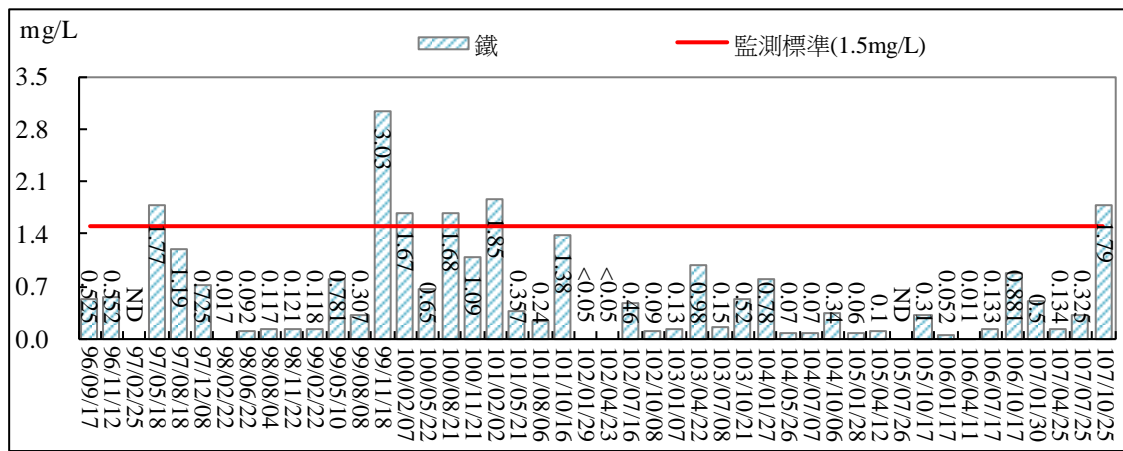
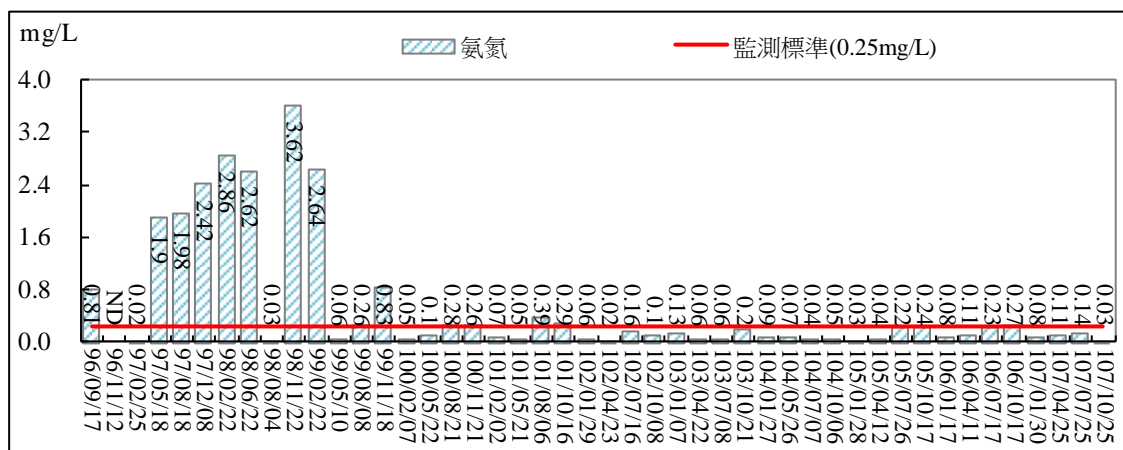
圖 2.71 地面水質監測結果比較圖(溶氧量)

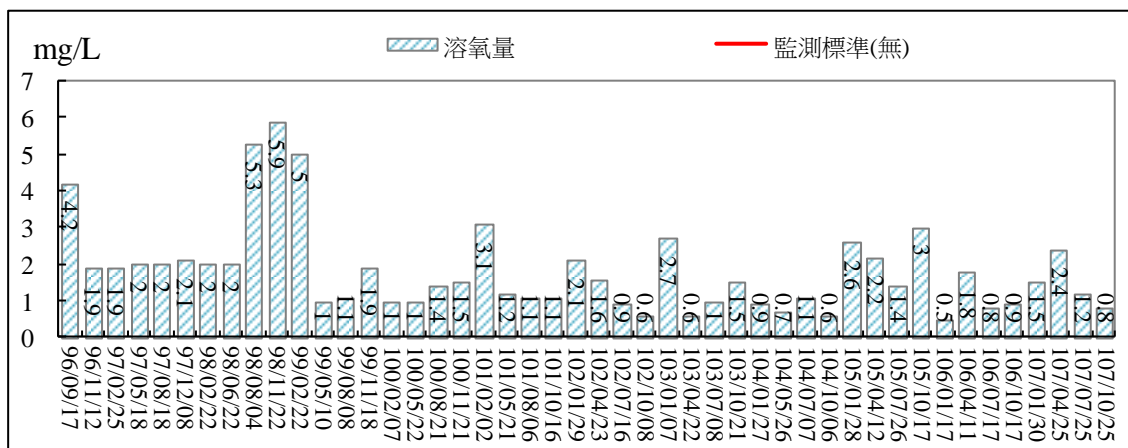
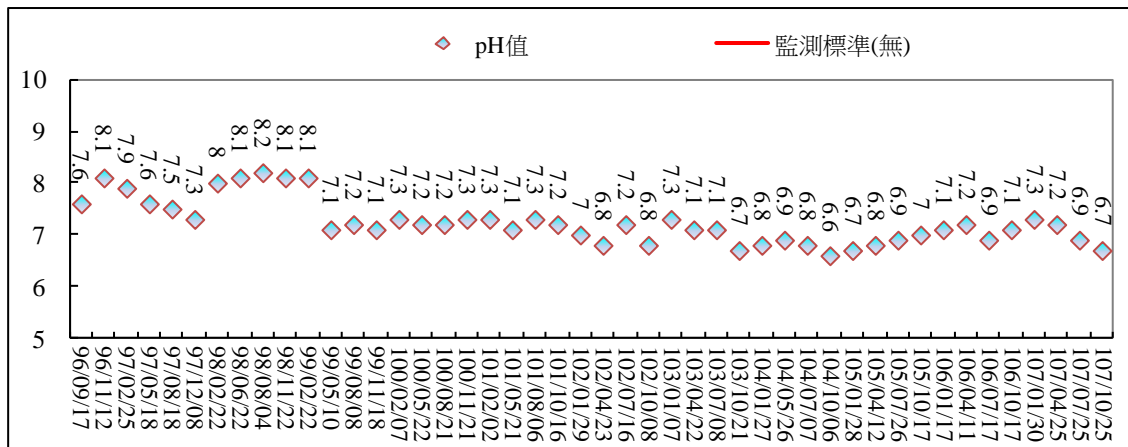
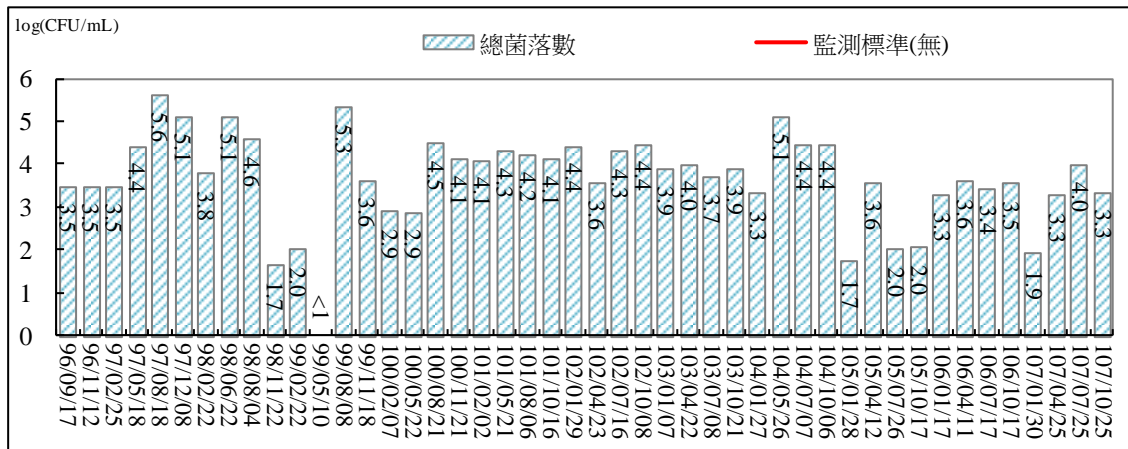
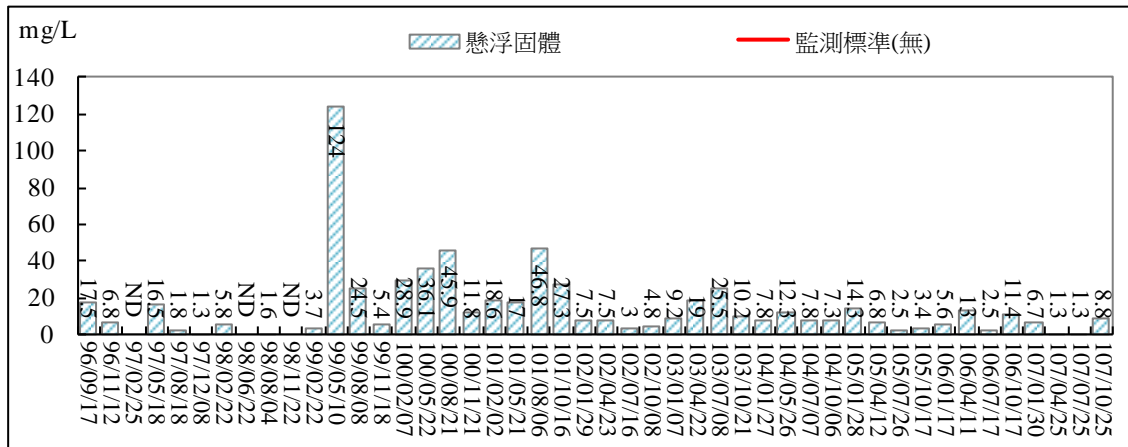
表 3-1 本季監測結果 (續 7)

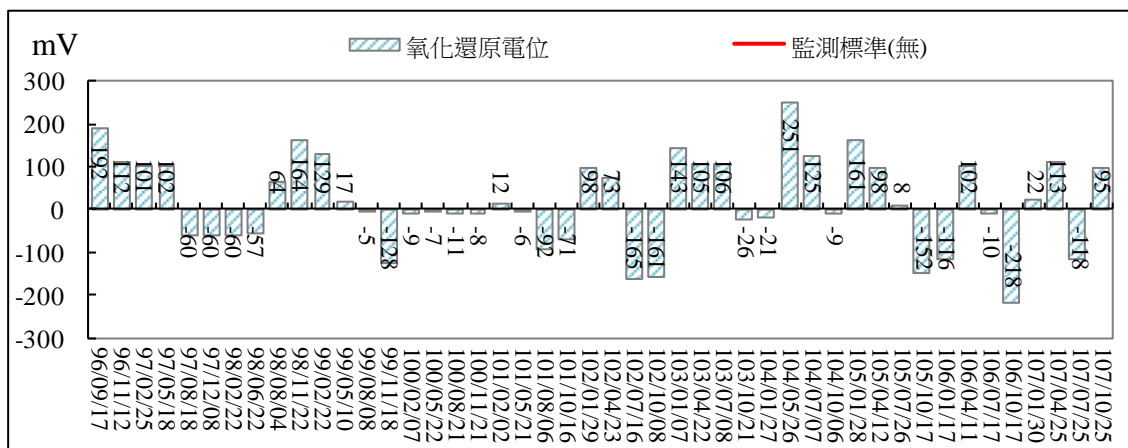
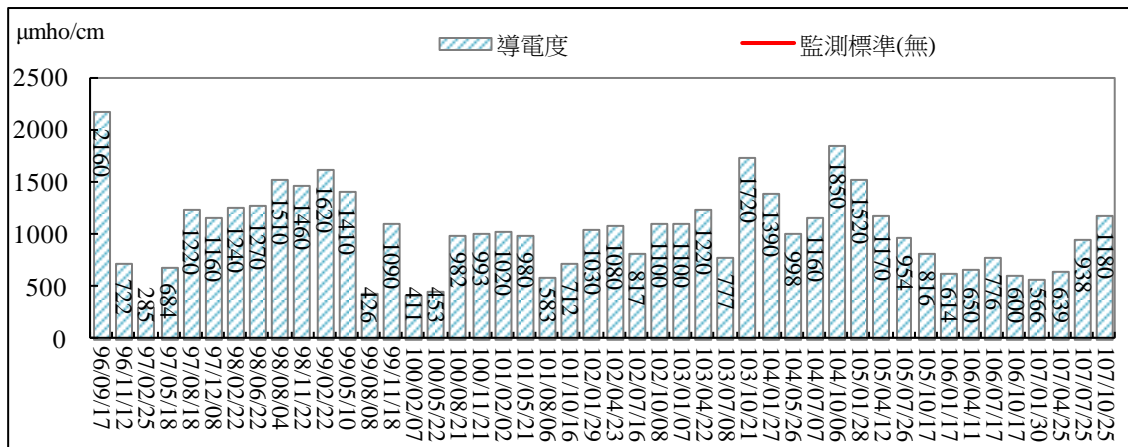
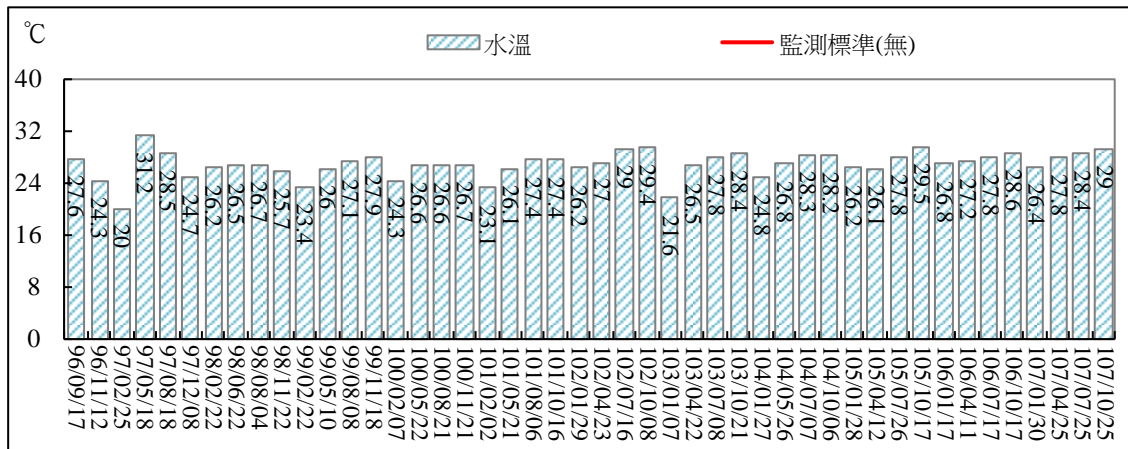
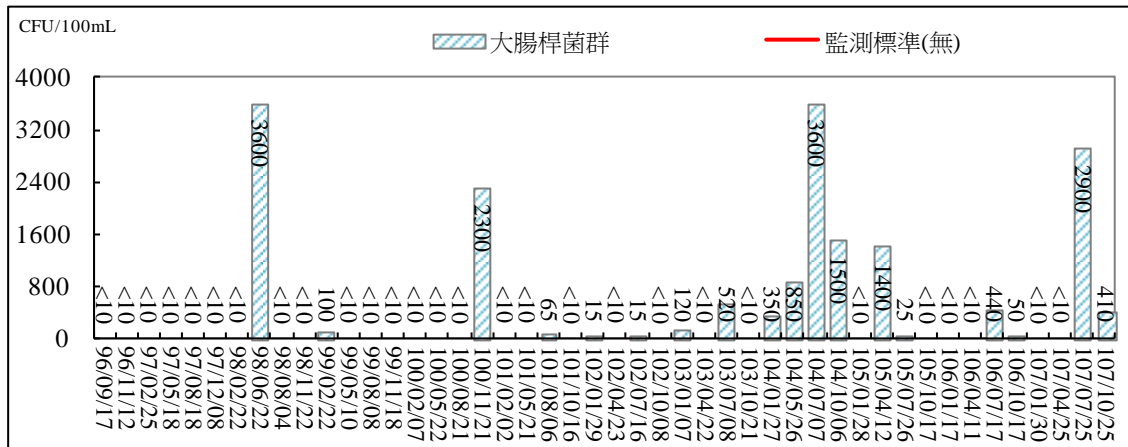
監測項目		地下水污染 監測標準/ 管制標準	107 年第 4 季	監測結果檢討	
水質	地下水	化學需氧量	—	20.1	本季地下水測值除了鐵及錳外,其餘均均符合相關管制標準,建議持續進行地下水之監測及調查,並追蹤比較測值變化情形。請參閱地下水監測結果比較圖。
		氨氮	0.25 mg/L	0.03	
		總有機碳	10 mg/L	2.8	
		鐵	1.5 mg/L	1.79	
		錳	0.25 mg/L	1.45	
		硫酸鹽	625 mg/L	69.2	
		氯鹽	625 mg/L	20.5	
		硝酸鹽氮	25 mg/L	0.04	
		懸浮固體	—	8.8	
		大腸桿菌群	—	4.1×10^2	
		總菌落數	—	2.2×10^3	
		水溫	—	29.0°C	
		pH 值	—	6.7	
		導電度	—	1180 µmho/cm at 25°C	
		溶氧量	—	0.8	
		氧化還原電位	—	95	
		苯	0.05 mg/L	ND<0.00024	
		甲苯	10 mg/L	ND<0.00024	
		萘	0.4 mg/L	ND<0.00019	
		總酚	0.14 mg/L	<0.0020	
		氯甲烷	0.3 mg/L	ND<0.00031	
		氯乙烯	0.02 mg/L	ND<0.00005	
		1,1-二氯乙烯	0.07 mg/L	ND<0.00029	
		反-1,2-二氯乙烯	1 mg/L	ND<0.00023	
		1,1-二氯乙烷	0.05 mg/L	ND<0.00027	
		順-1,2-二氯乙烯	0.7 mg/L	ND<0.00023	
		氯仿	1 mg/L	ND<0.00033	
		四氯化碳	0.05 mg/L	ND<0.00034	
		1,2-二氯乙烷	0.05 mg/L	ND<0.00031	
		三氯乙烯	0.05 mg/L	ND<0.00029	
		四氯乙烯	0.05 mg/L	ND<0.00027	
		氯苯	1 mg/L	ND<0.00022	
		1,4-二氯苯	0.75 mg/L	ND<0.00022	

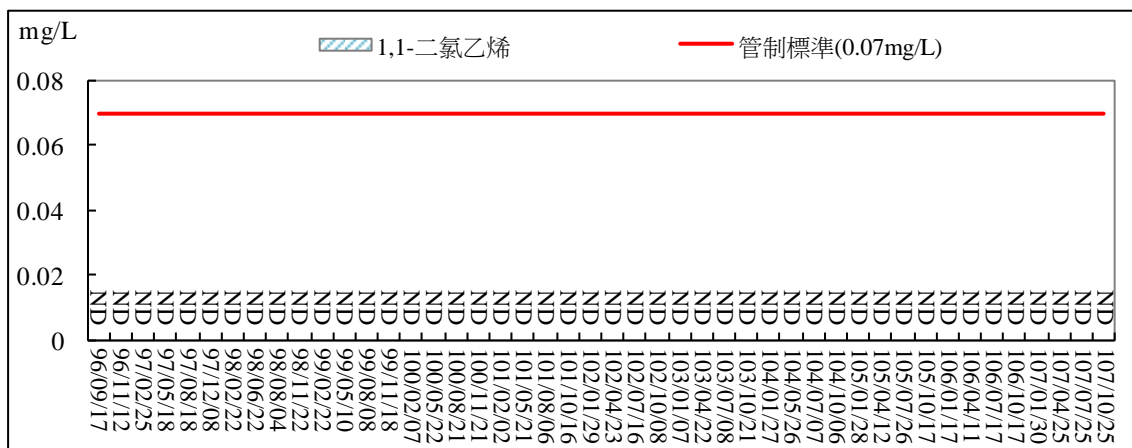
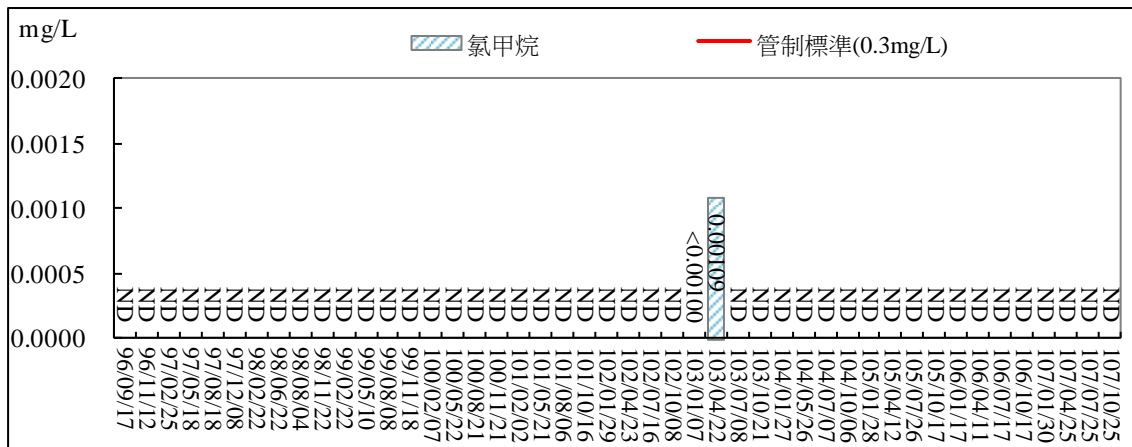
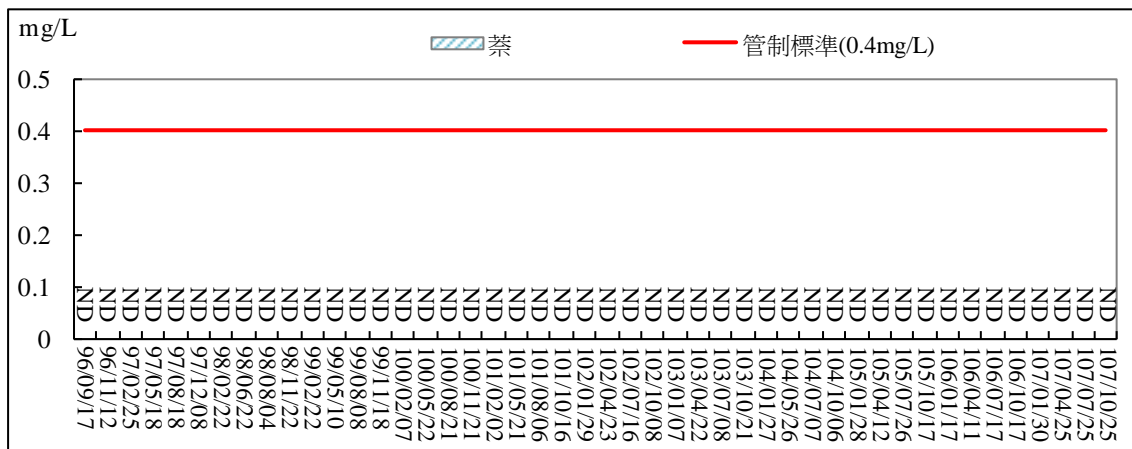
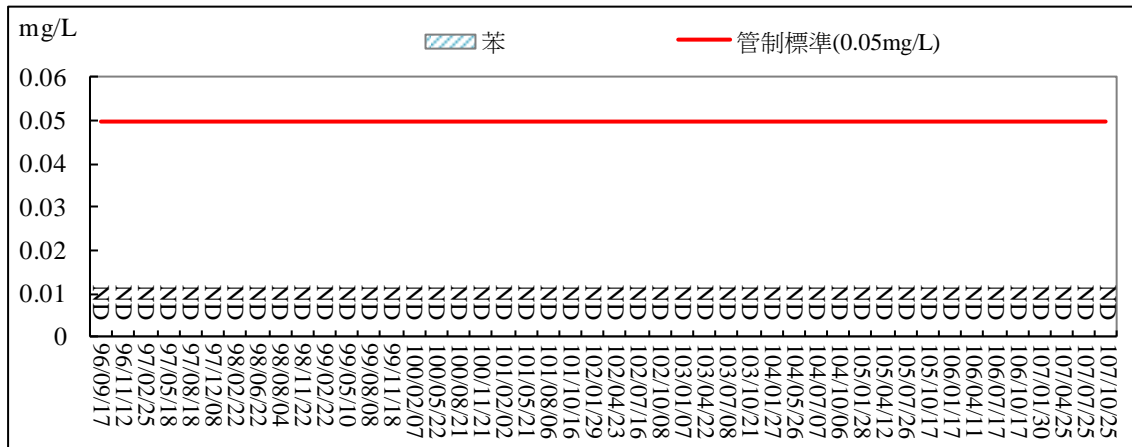
備註：氨氮、總有機碳、鐵、錳、硫酸鹽及氯鹽適用於地下水污染監測標準，其餘測項適用地下水污染管制標準。

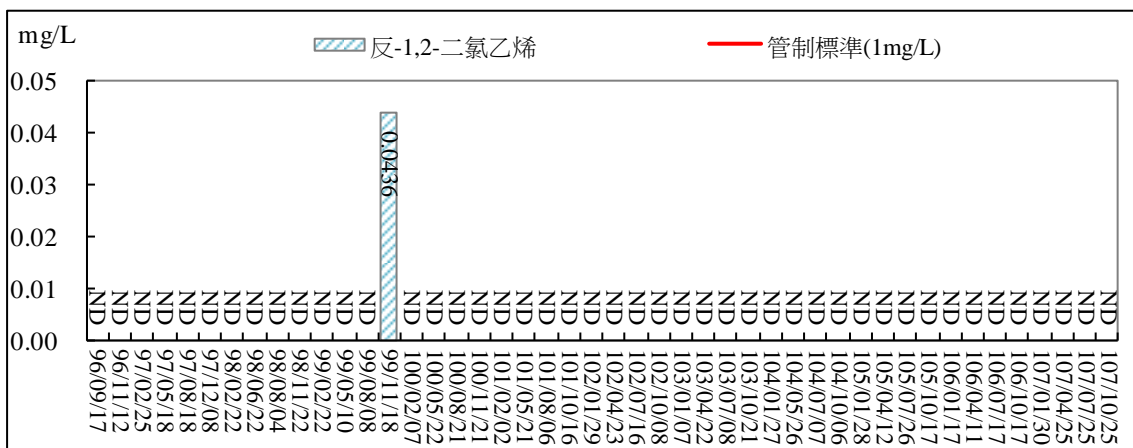
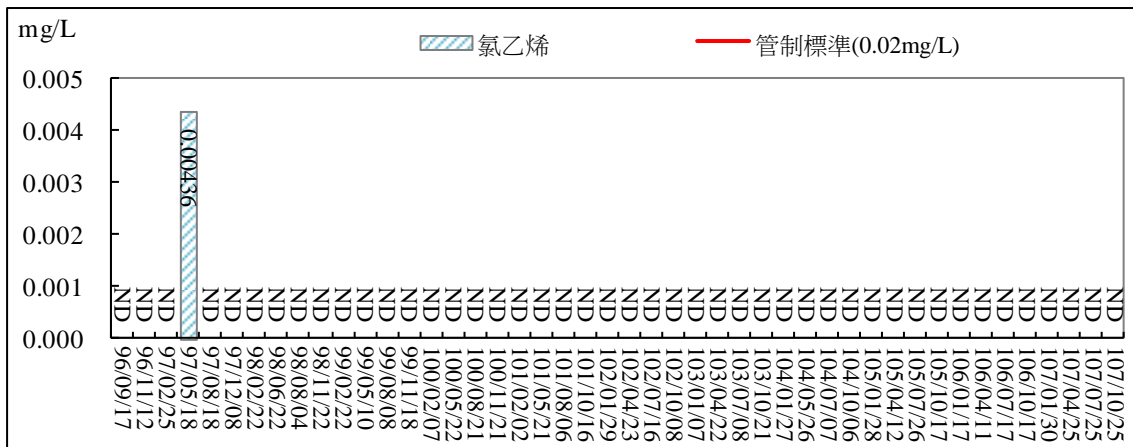
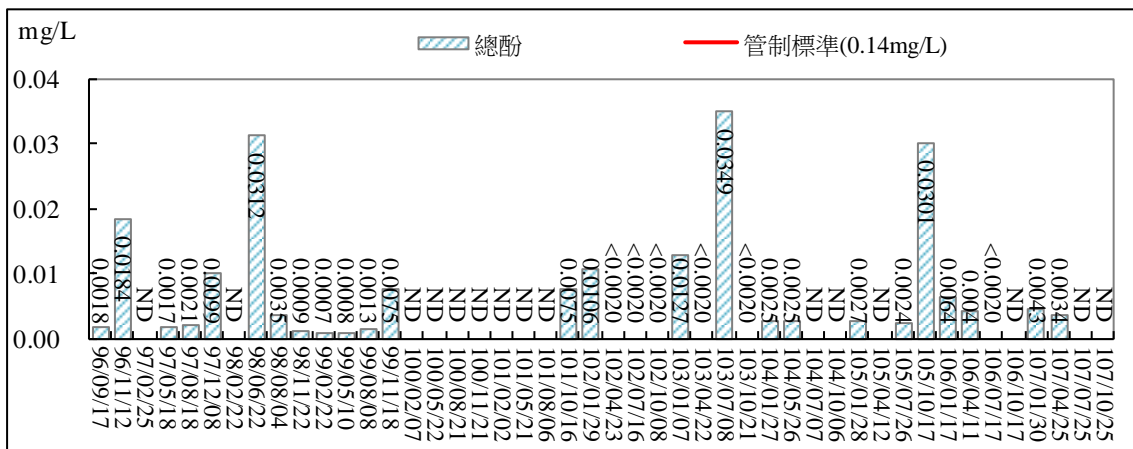
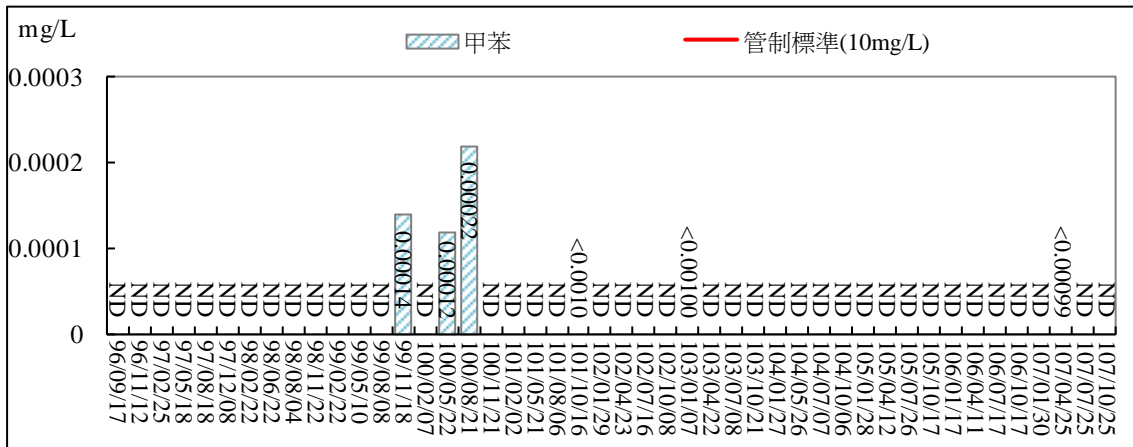


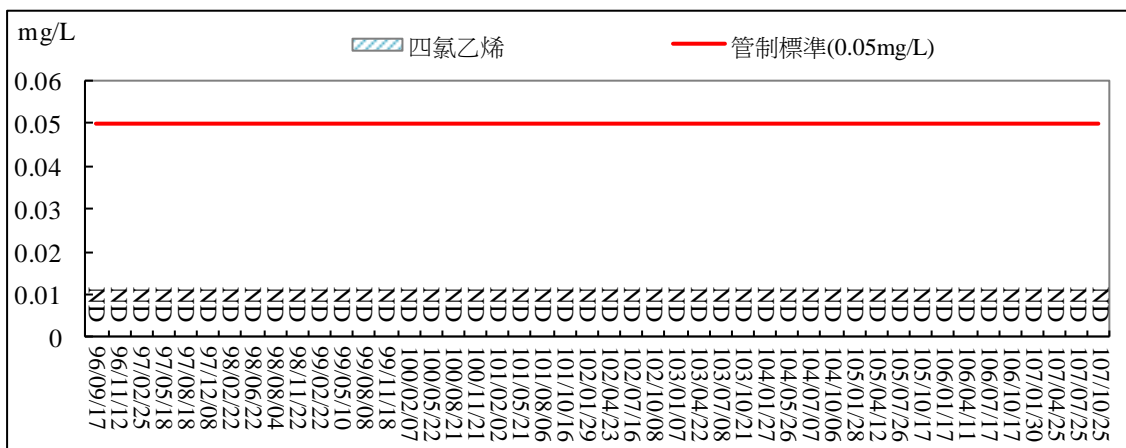
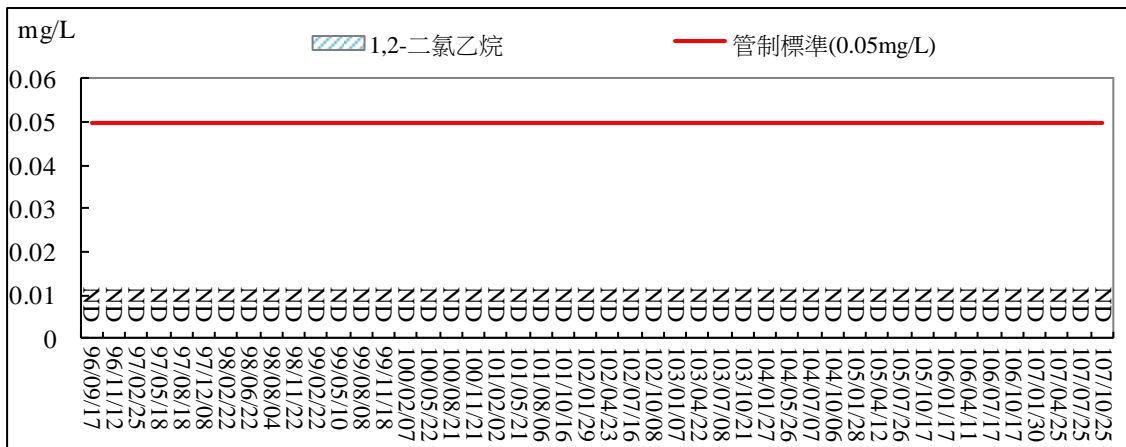
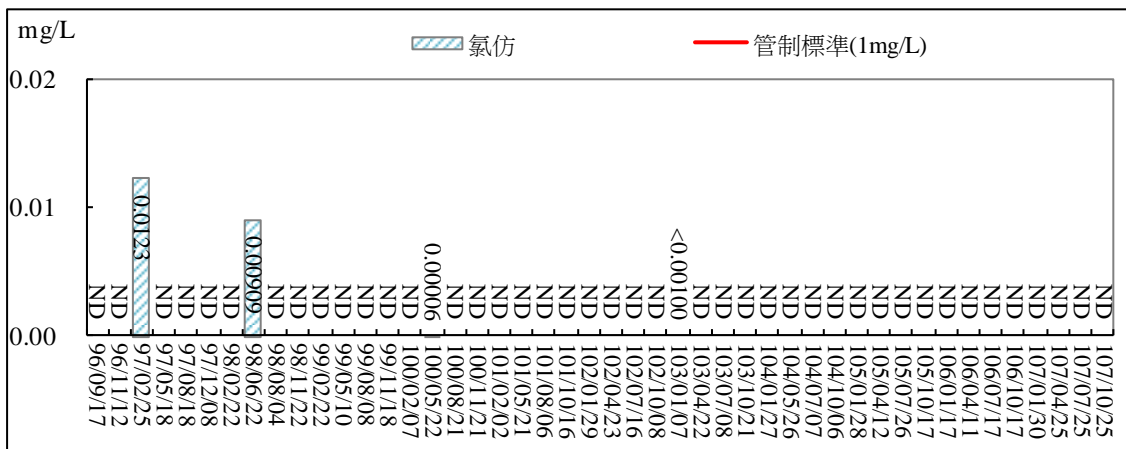
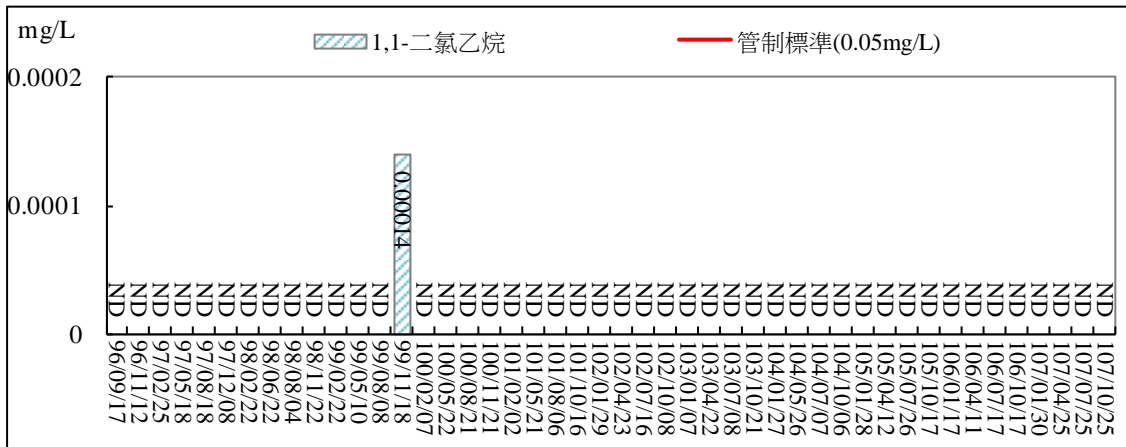


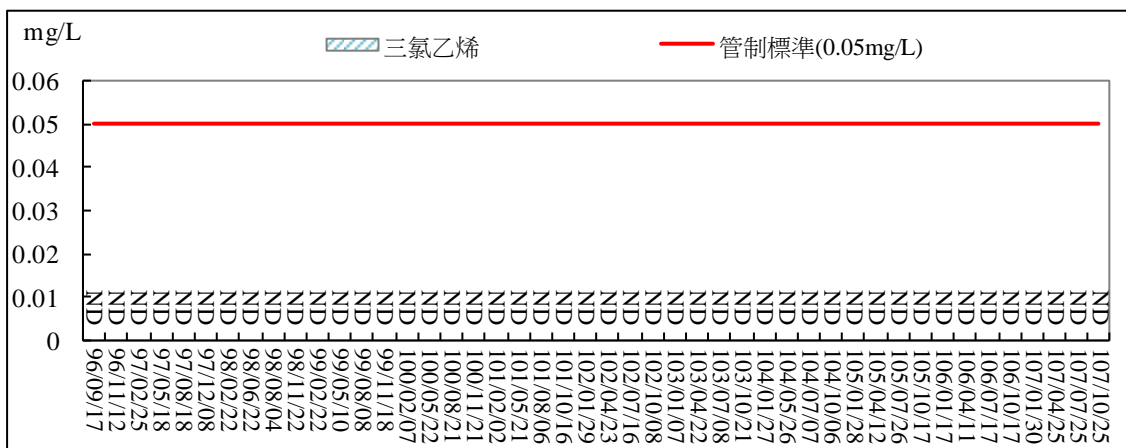
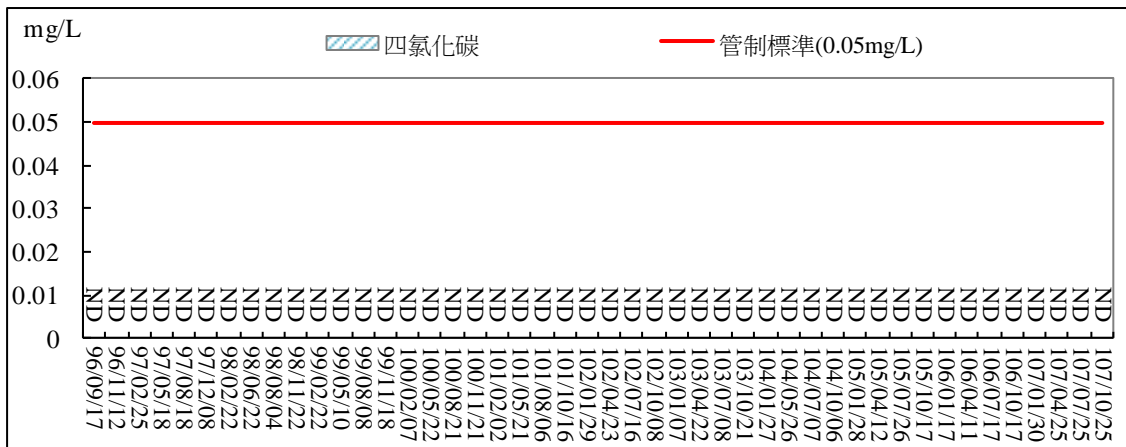
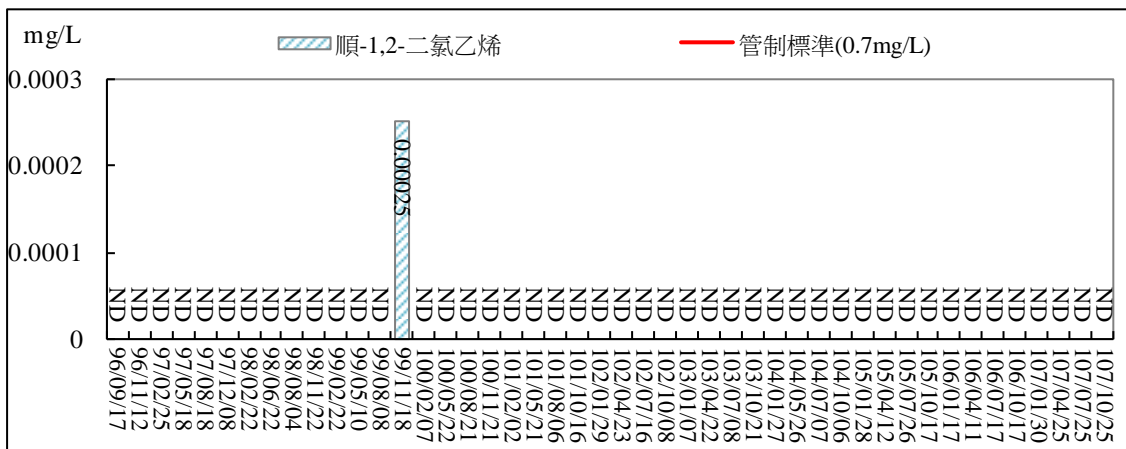
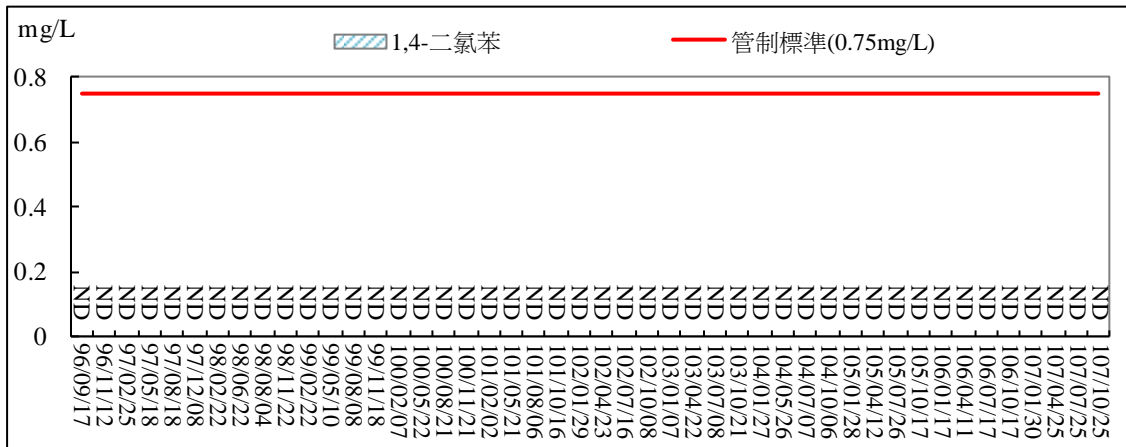












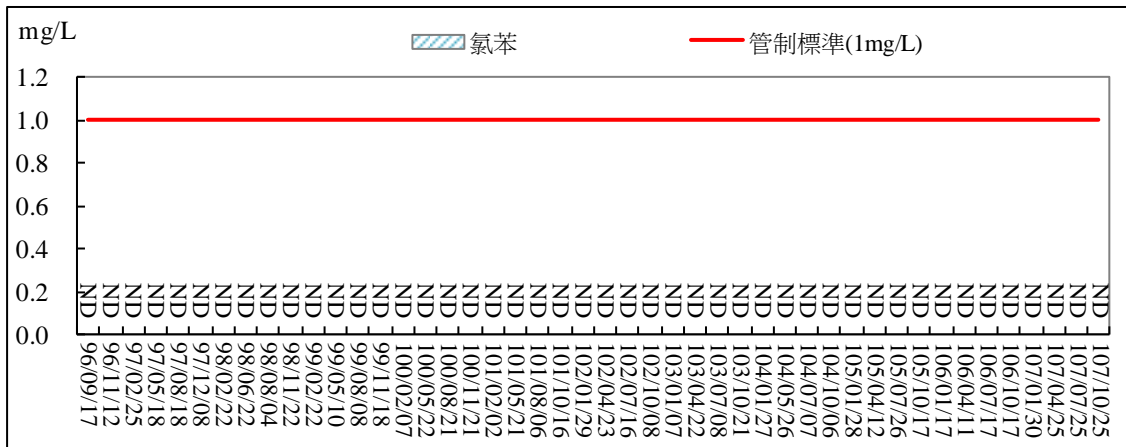


圖 2.72 地下水水質監測結果比較圖

表 3-1 本季監測結果 (續 8)

監測項目		法規標準	107年第4季	監測結果檢討
噪音 (工區外)	L 日	74 dB(A)	65.0~67.4	本季各時段均能音量測值均符合標準，現場未發現異常情況。請參閱噪音監測結果比較圖。
	L 晚	70 dB(A)	59.6~60.7	
	L 夜	67 dB(A)	59.7~60.1	
噪音 (工區內)	L 日	76 dB(A)	69.1~71.3	
	L 晚	75 dB(A)	66.0~68.9	
	L 夜	73 dB(A)	60.8~63.7	
振動 (工區外)	L 日	65 dB	32.4~35.4	國內目前尚未訂定振動管制標準，本次監測未發現異常現象，且測值皆低於日本振動規制法施行細則之標準。請參閱振動監測結果比較圖。
	L 夜	60 dB	30.0	
振動 (工區內)	L 日	70 dB	32.8~37.0	
	L 夜	65 dB	30.0~30.7	

備註：噪音振動(工區外)為南 133 縣道與 60 m 道路(樹谷大道)路口
 噪音振動(工區內)為堤塘聚落及看西聚落

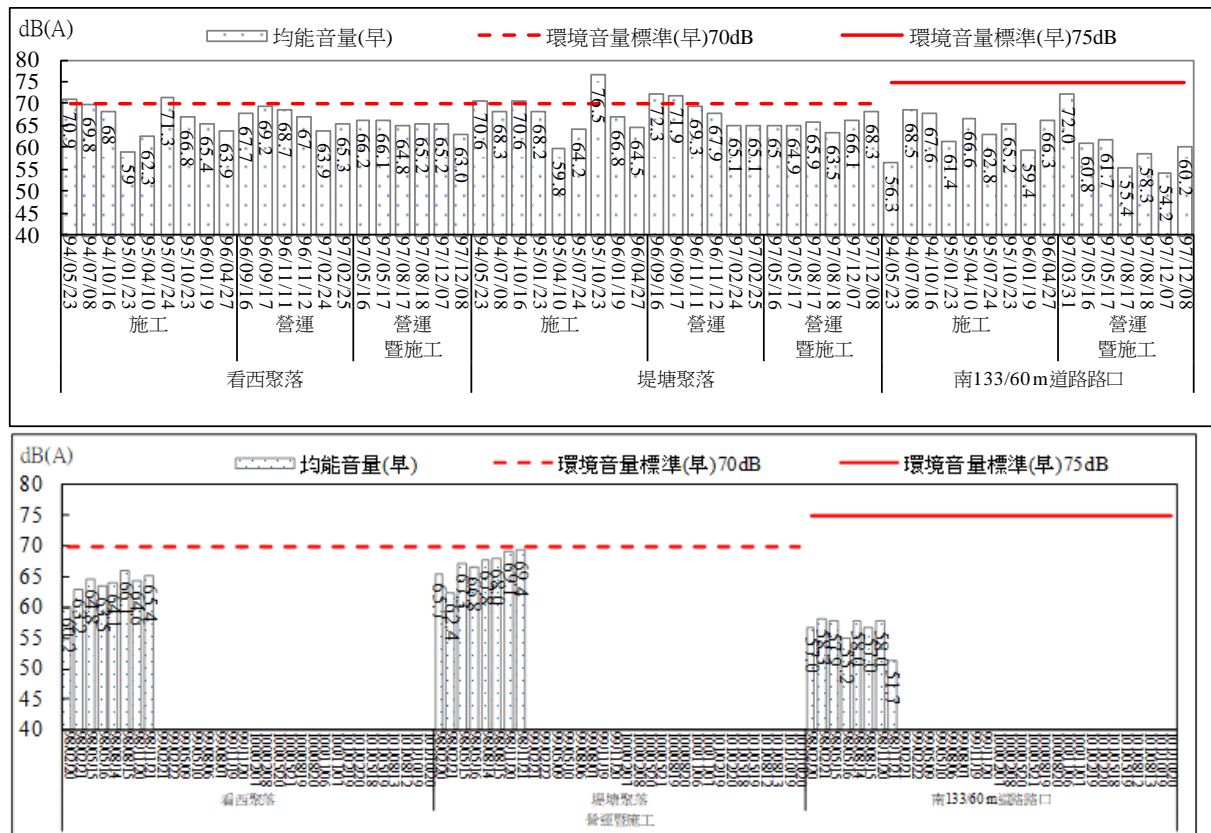


圖 2.73 環境噪音監測結果比較圖(早間)

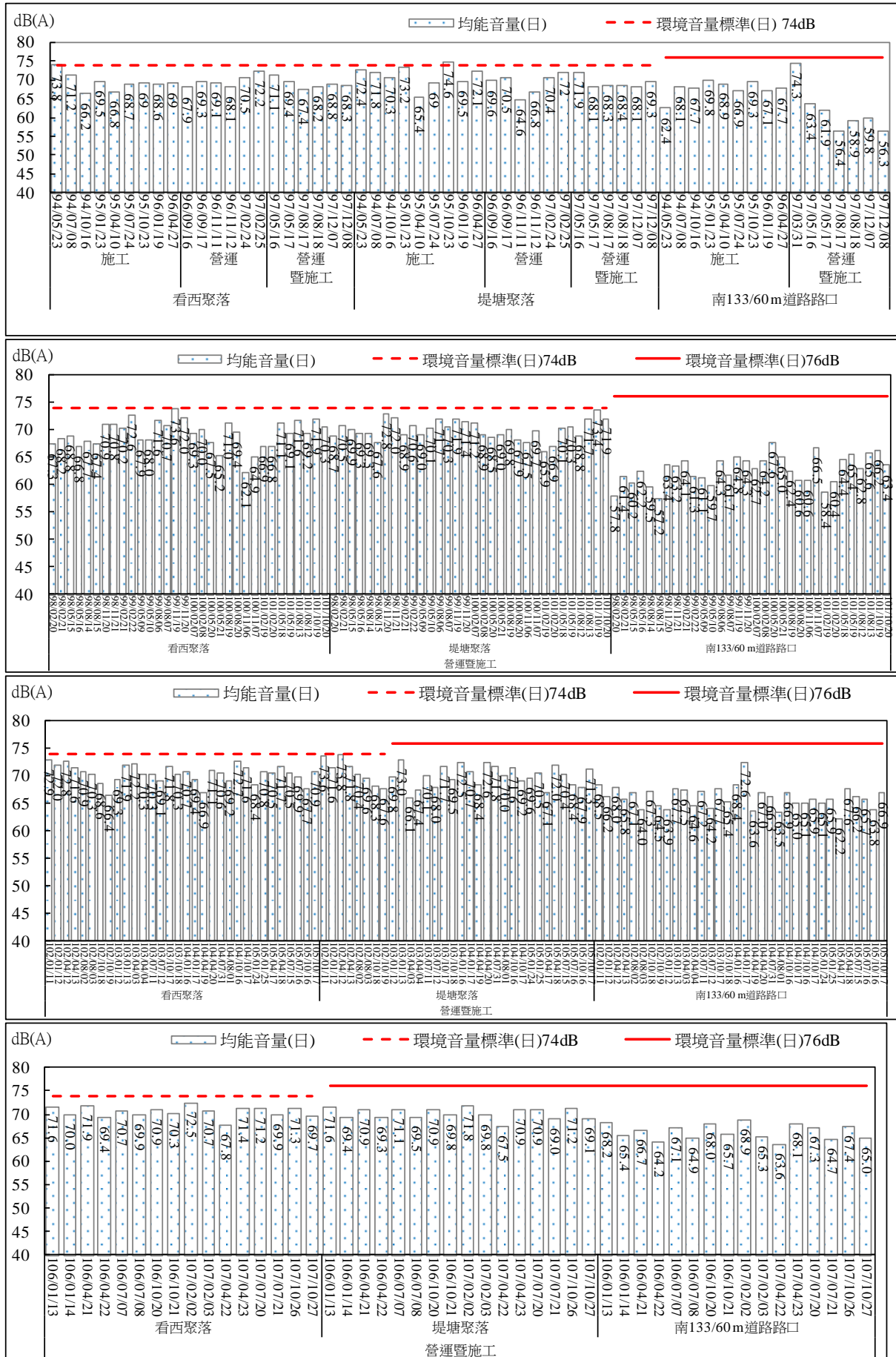


圖 2.74 環境噪音監測結果比較圖(日間)

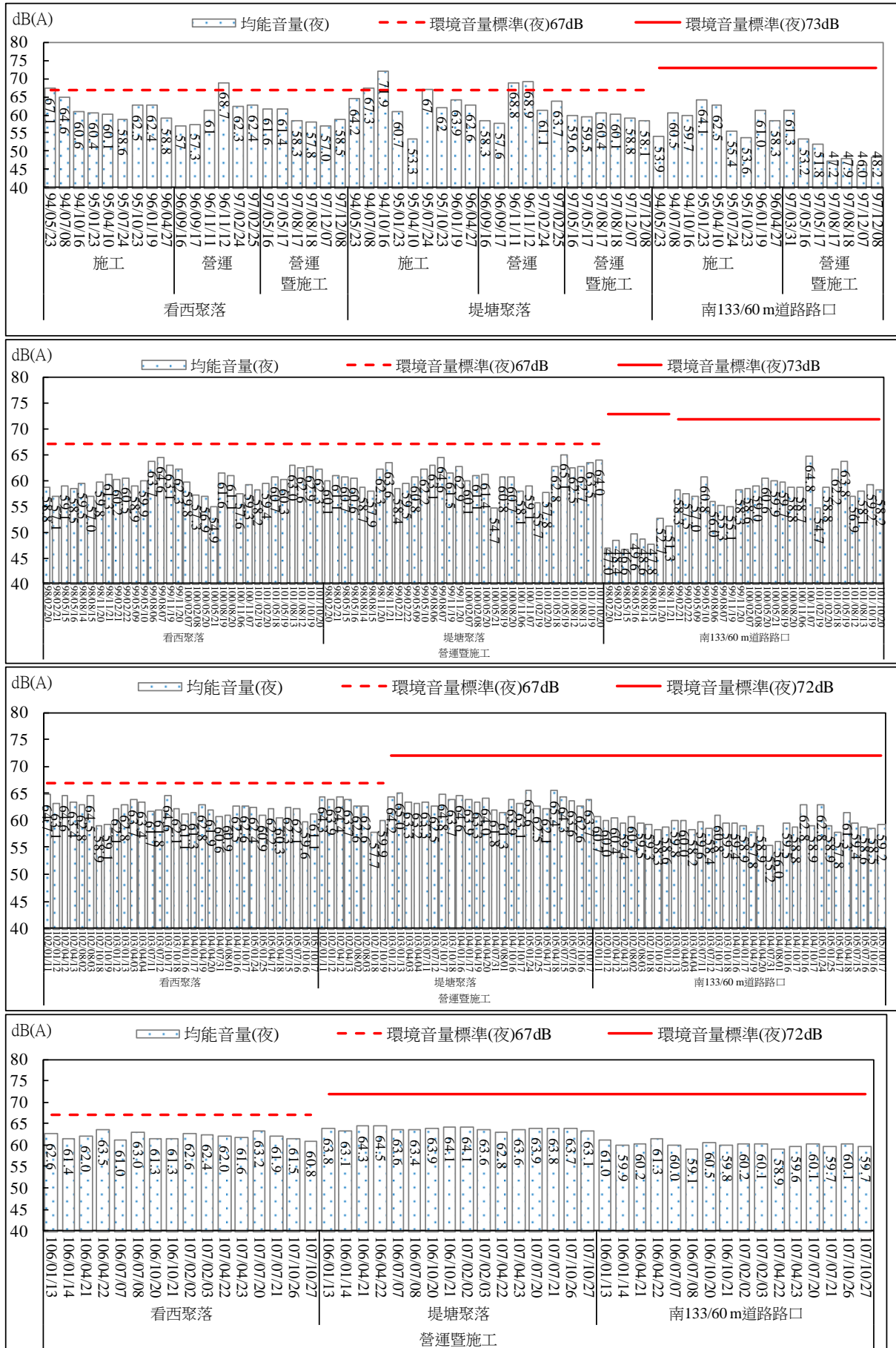


圖 2.76 環境噪音監測結果比較圖(夜間)

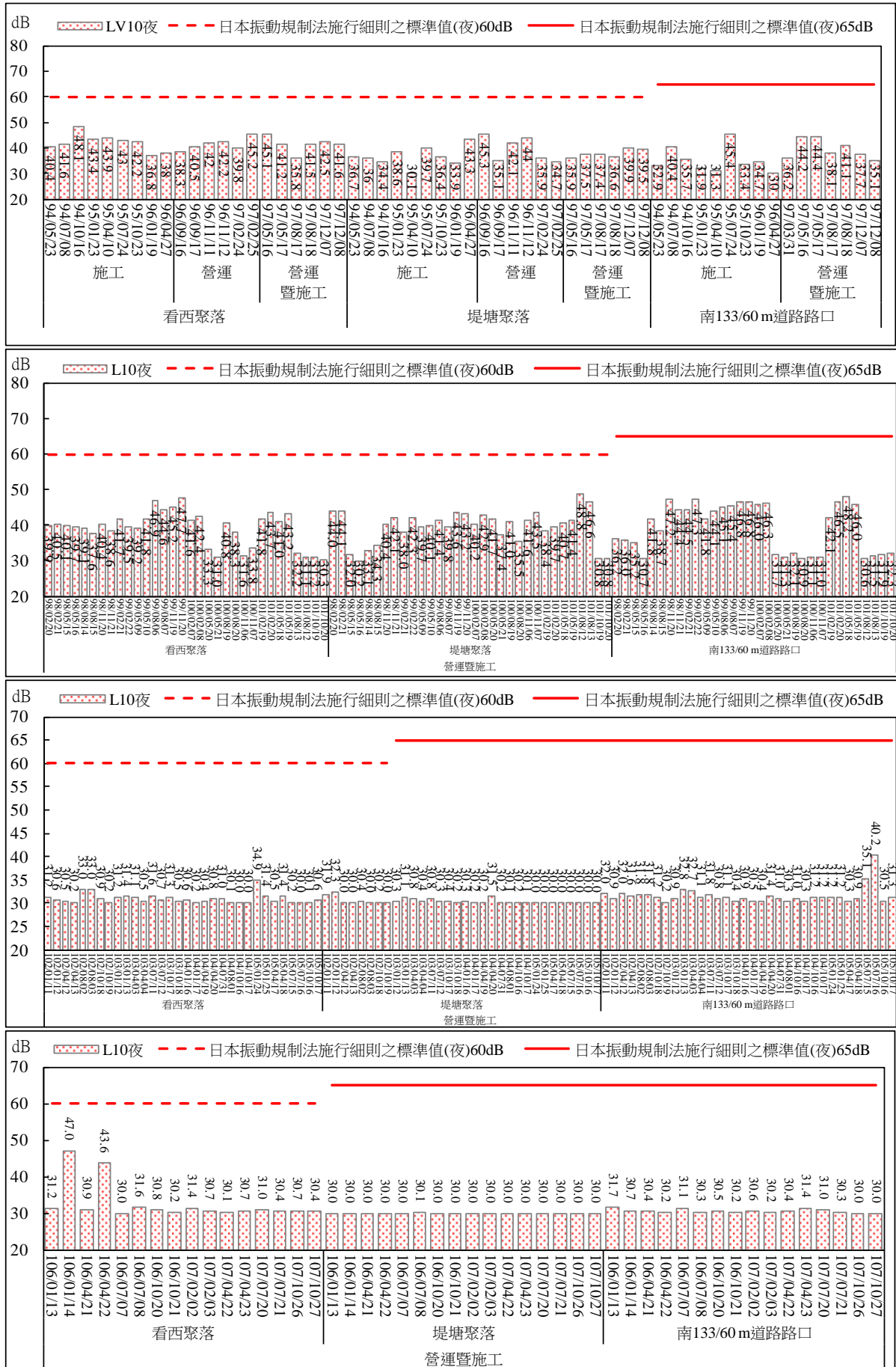
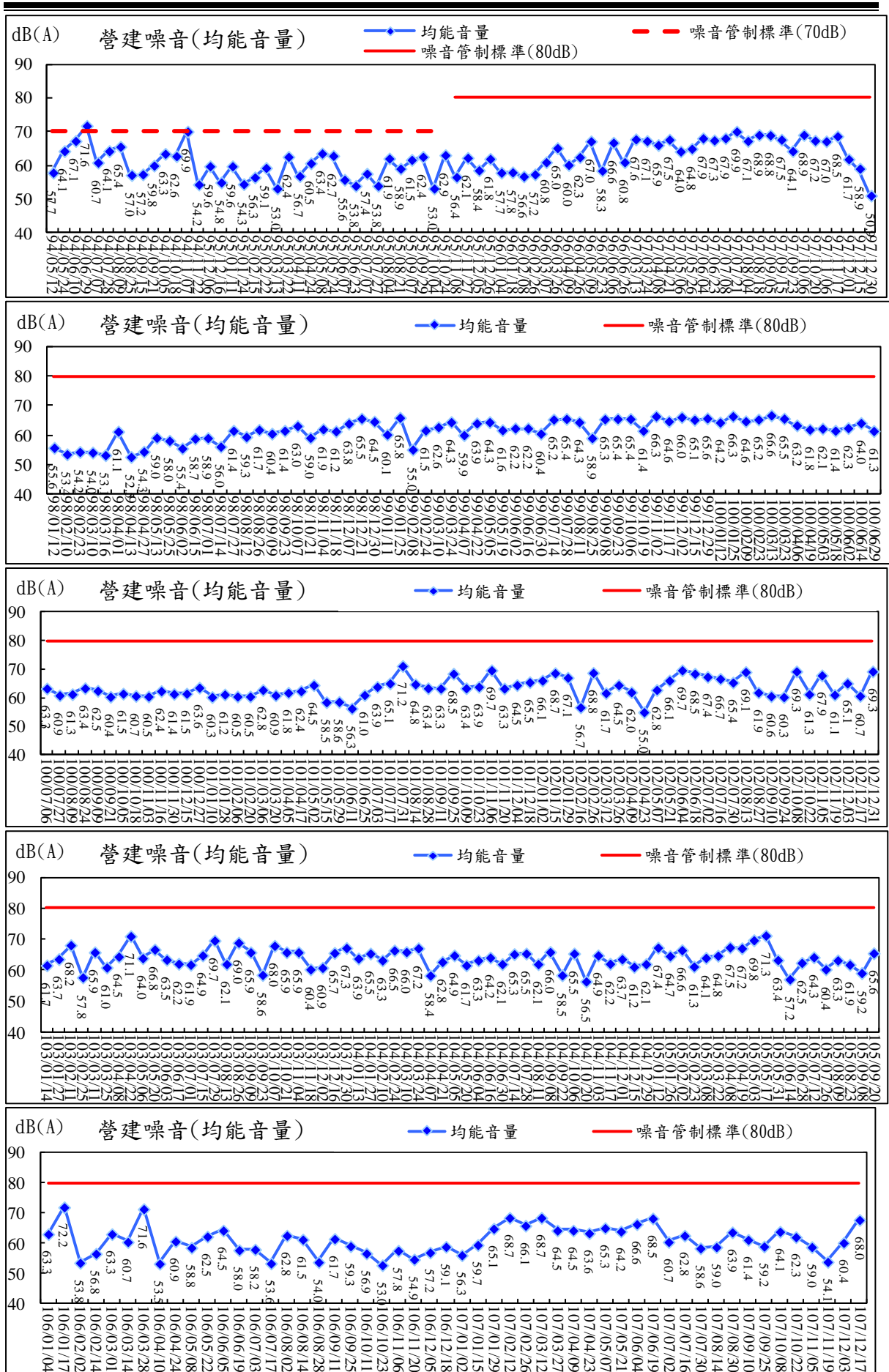


表 3-1 本季監測結果 (續 9)

監測項目		法規標準	107年第3季	監測結果檢討
營建 噪音	L _{max}	100 dB(A)	70.8~78.6	各營建噪音測值均符合日間第四類噪音管制區之營建工程噪音管制標準(20Hz至20k Hz)，現場未發現異常情況。請參閱營建噪音監測結果比較圖。
	L _{eq}	80 dB(A)	54.1~68.0	



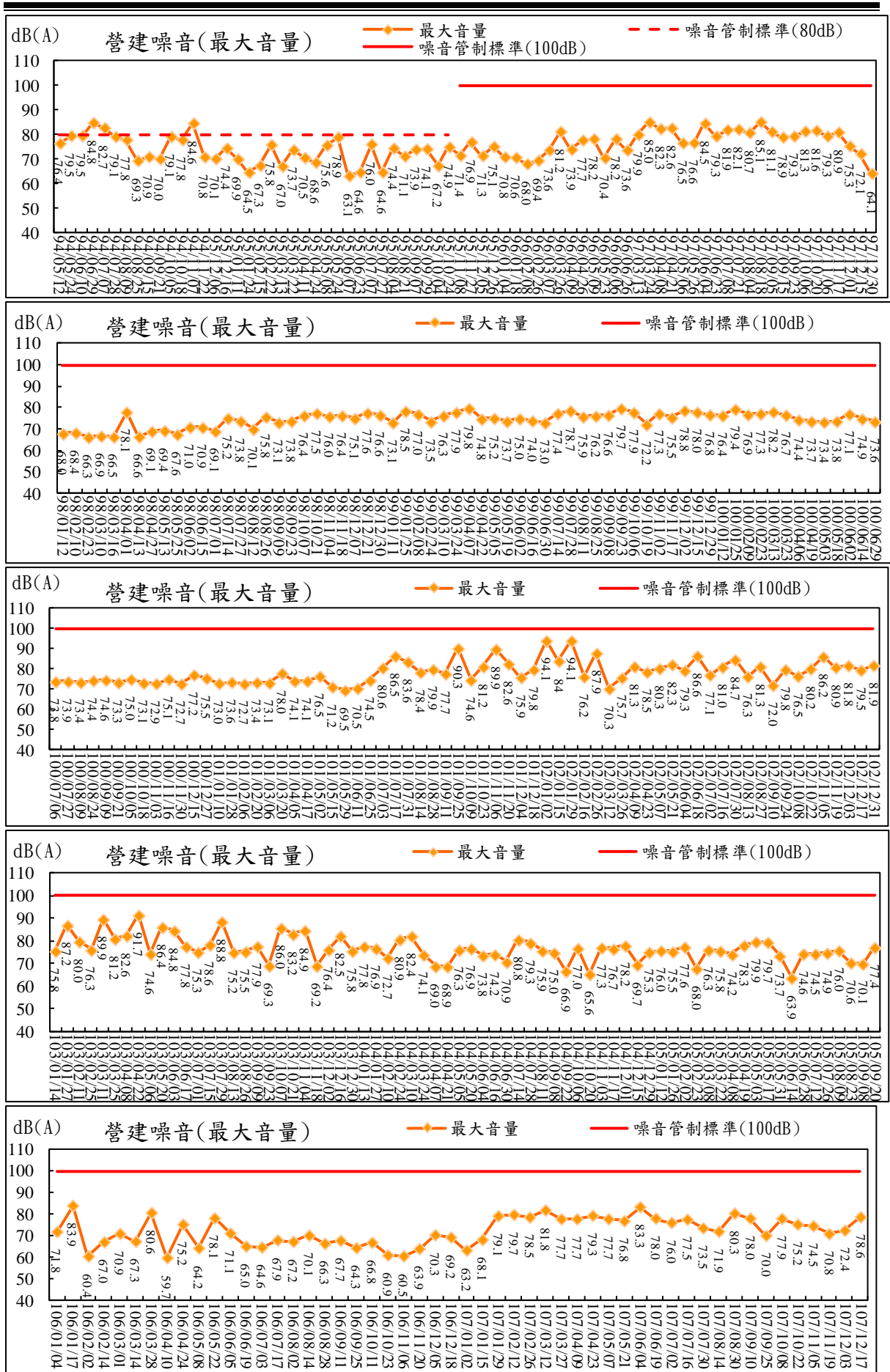


表 3-1 本季監測結果 (續 10)

監測項目		法規標準	107年第4季	監測結果檢討
放流水質 (工區)	生化需氧量	30 mg/L	3.4~5.1	本季工區放流水皆符合法規標準。請參閱工區放流口放流水監測結果比較圖。自105年8月後園區內無列管工區，105年9月起暫停工區放流水監測。106年2月起開始監測。
	化學需氧量	100 mg/L	20.4~42.2	
	懸浮固體	30 mg/L	13.0~27.0	
	油脂	10.0 mg/L	ND<0.5~1.2	
	真色色度	550	<25	
	溫度	1.攝氏三十八度以下(適用於五月至九月)。 2.攝氏三十五度以下(適用於十月至翌年四月)。	24.0~27.6	
	pH 值	6.0~9.0	7.3~7.5	

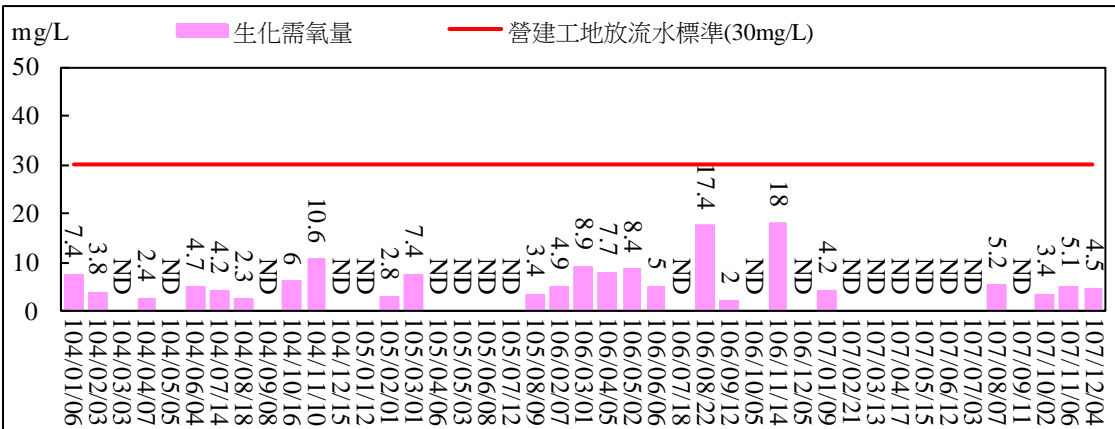
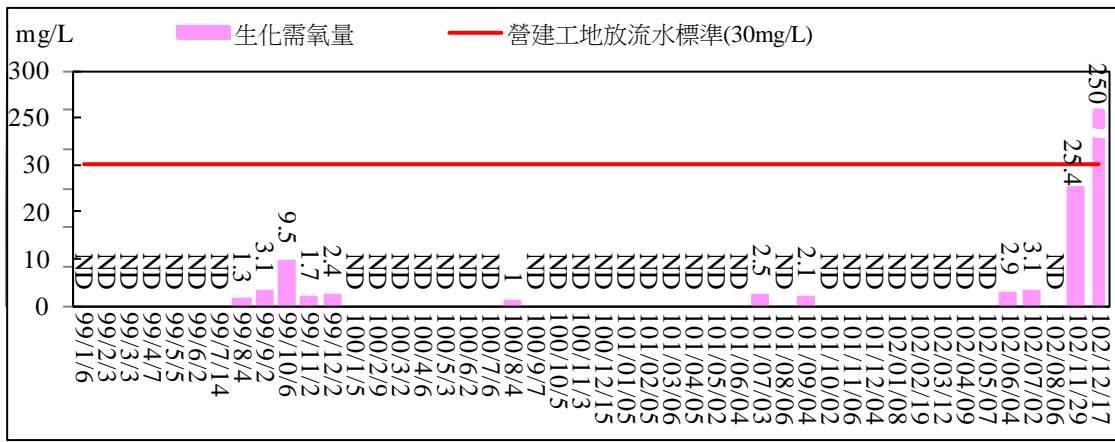
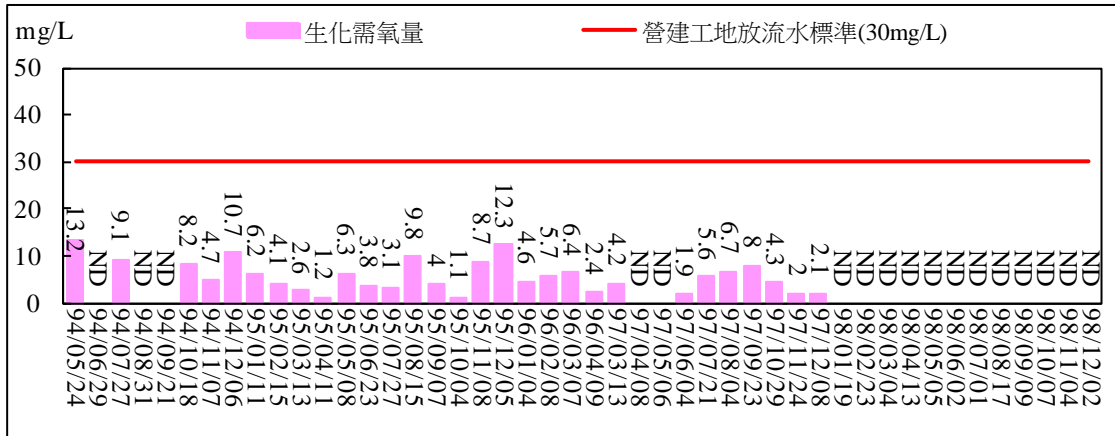


圖 2.81 工區放流口放流水質監測結果比較圖(生化需氧量)

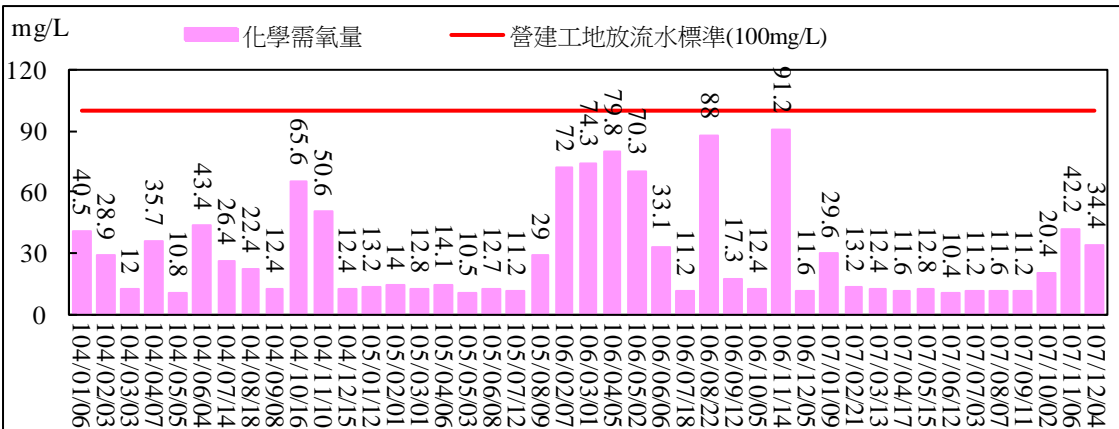
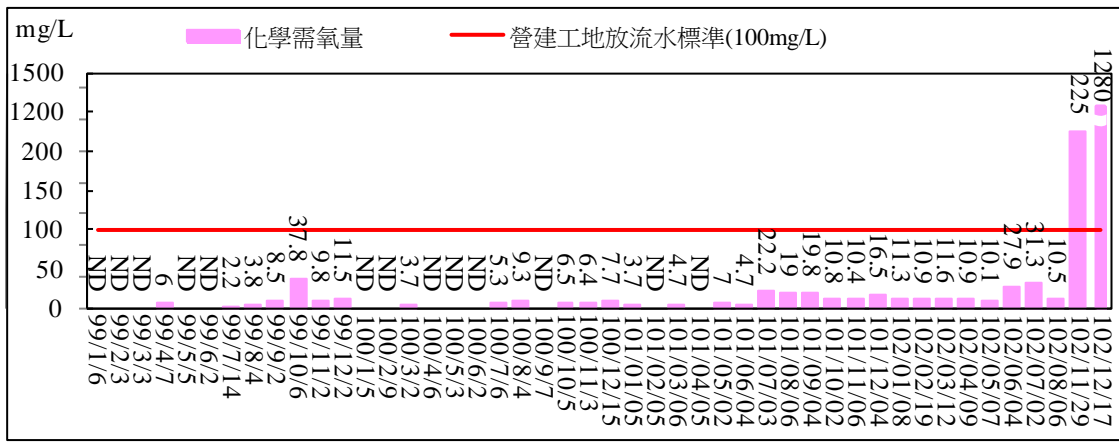
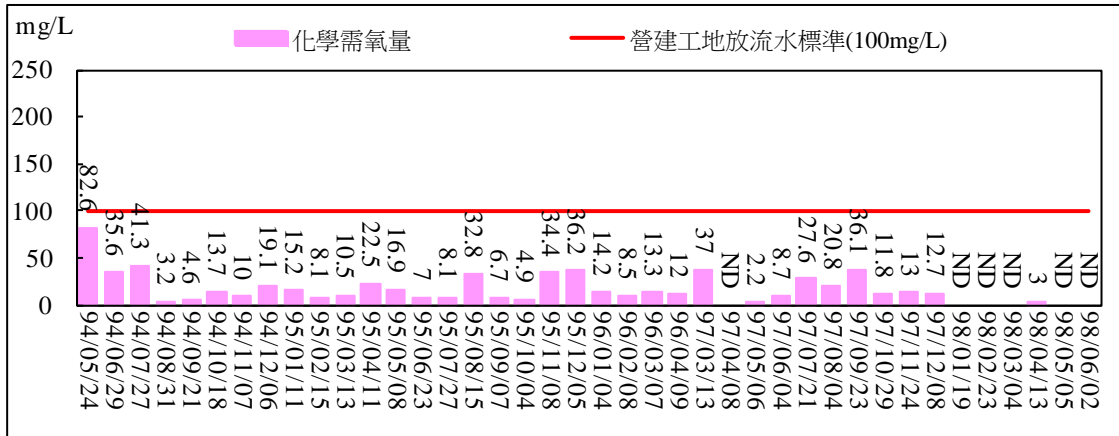


圖 2.82 工區放流口放流水質監測結果比較圖(化學需氧量)

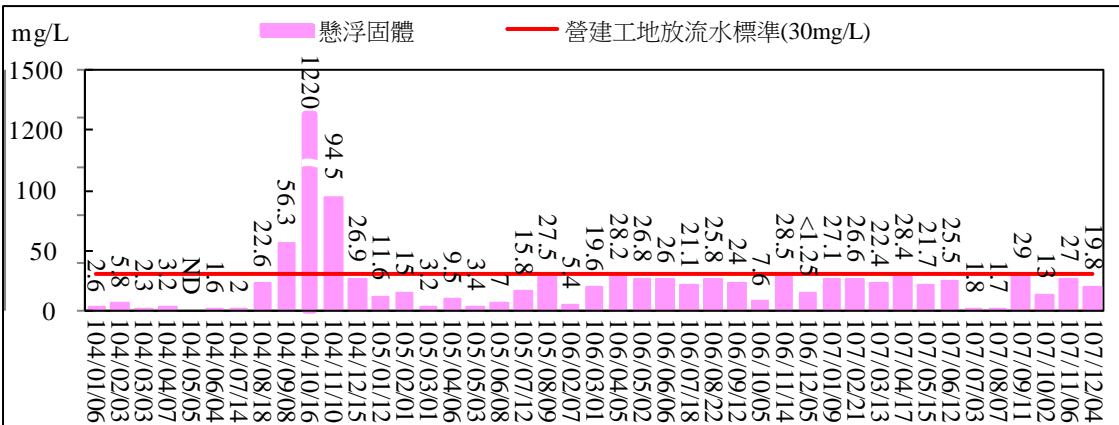
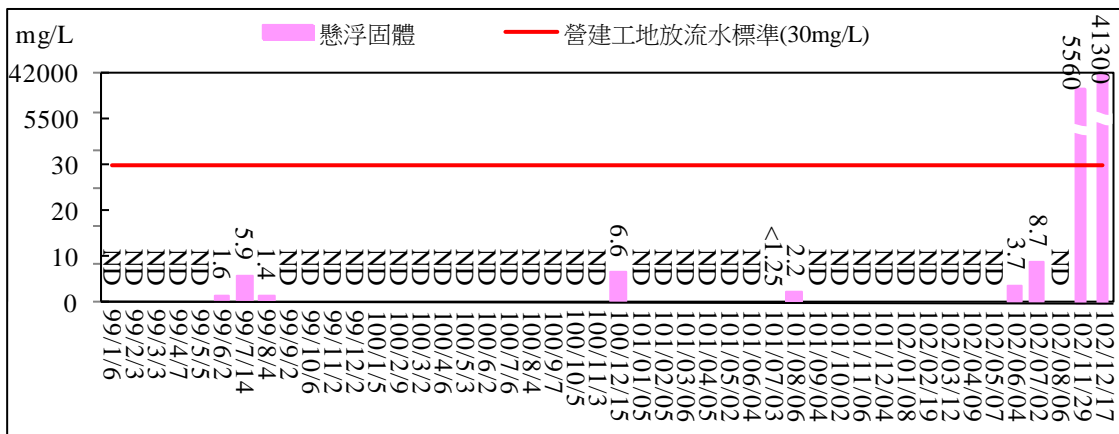
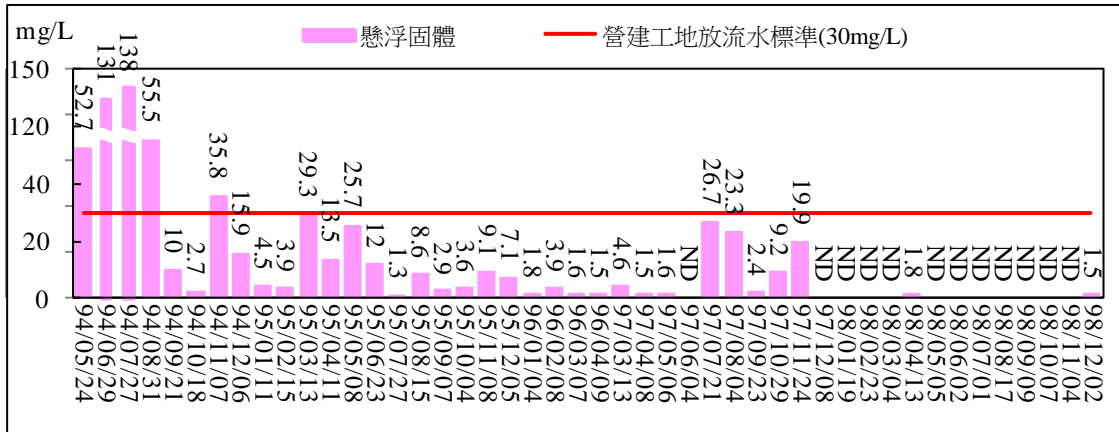


圖 2.83 工區放流口放流水質監測結果比較圖(懸浮固體)

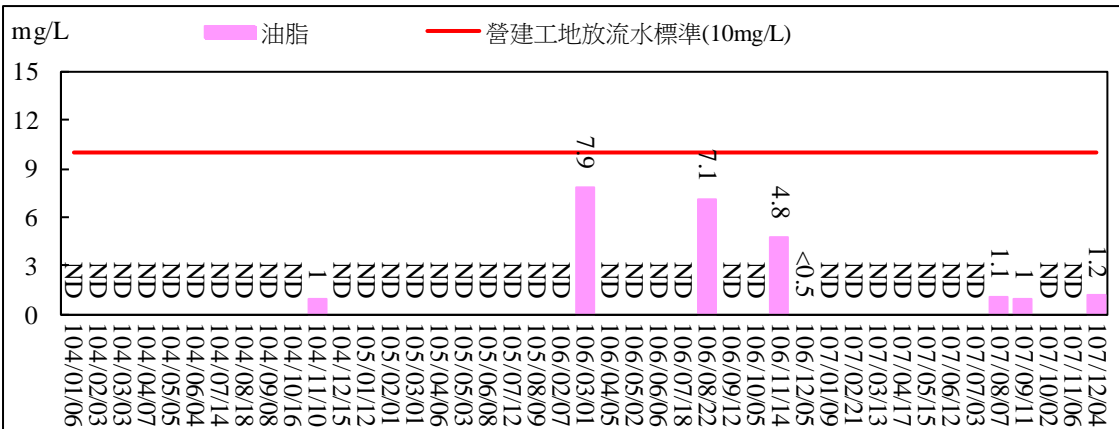
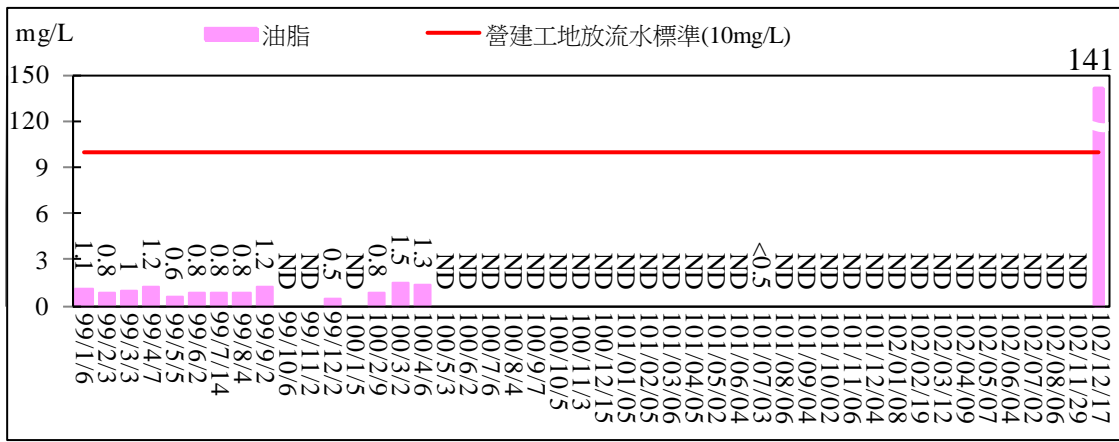
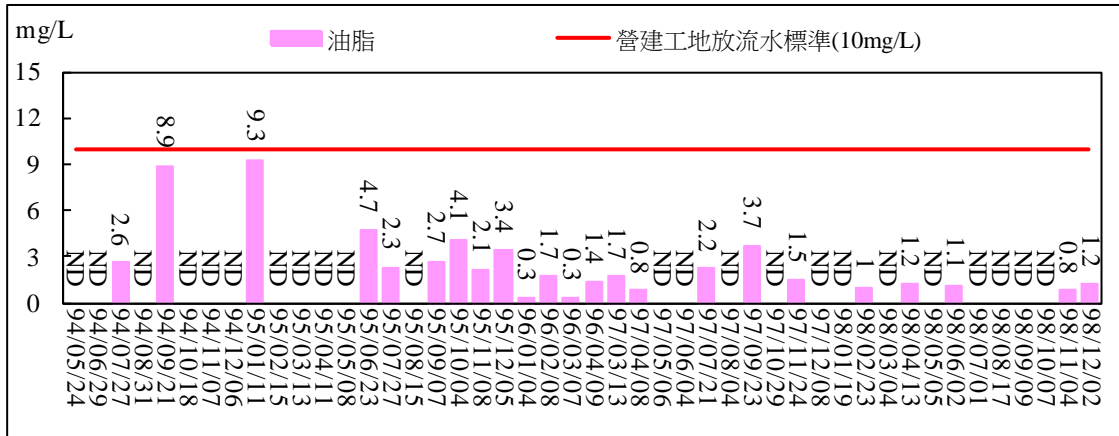


圖 2.84 工區放流口放流水質監測結果比較圖(油脂)

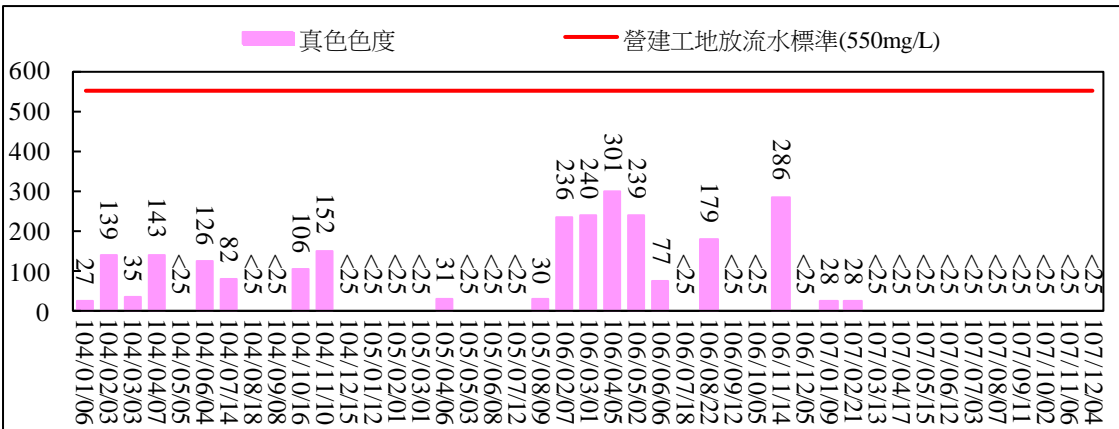
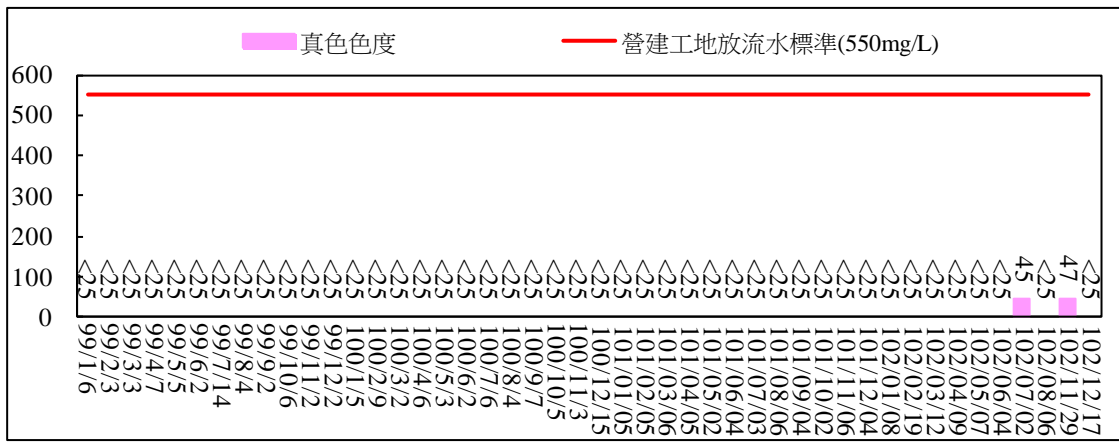
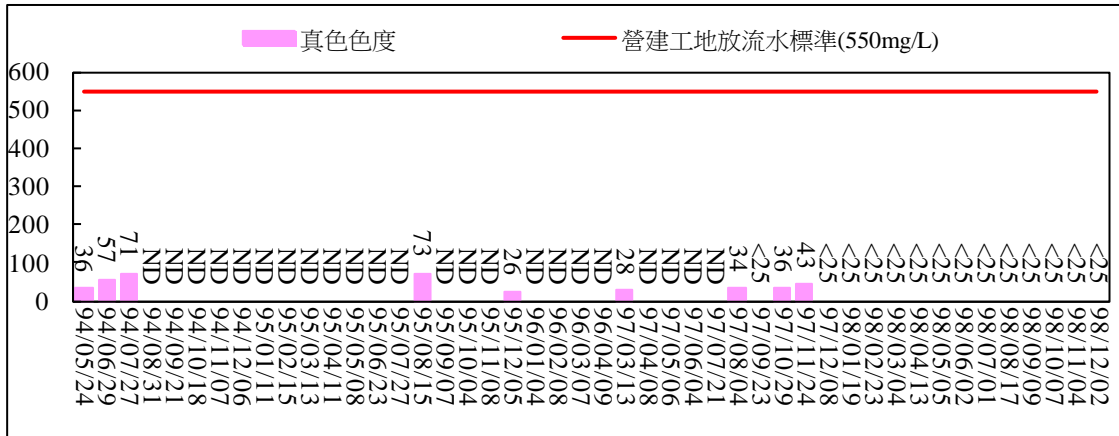


圖 2.85 工區放流口放流水質監測結果比較圖(真色色度)

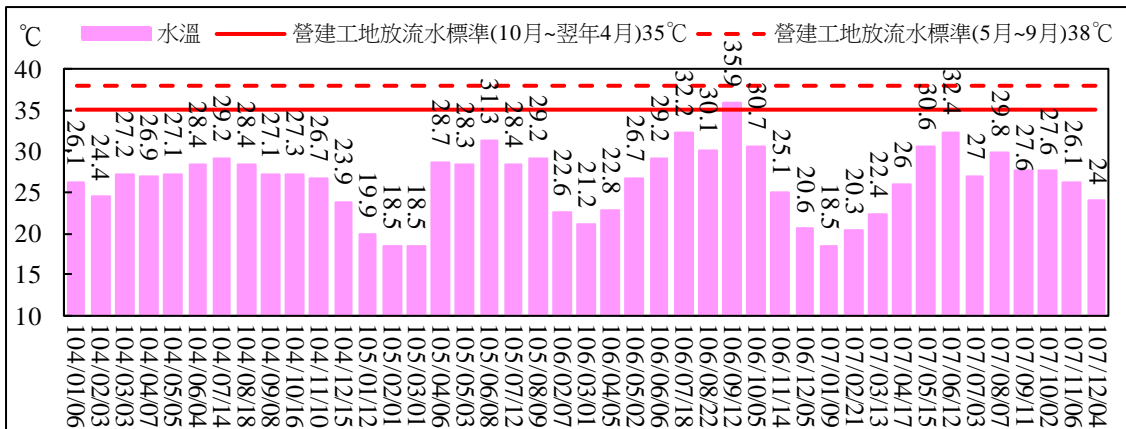
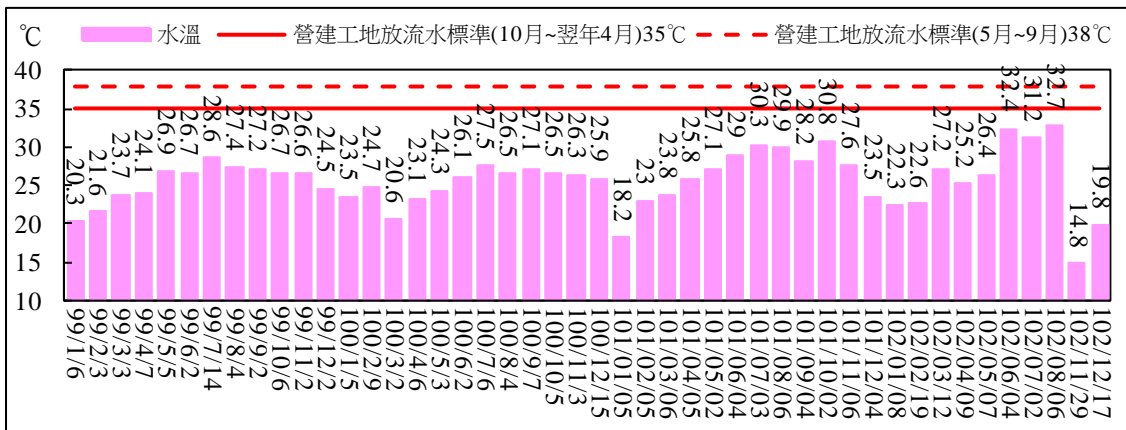
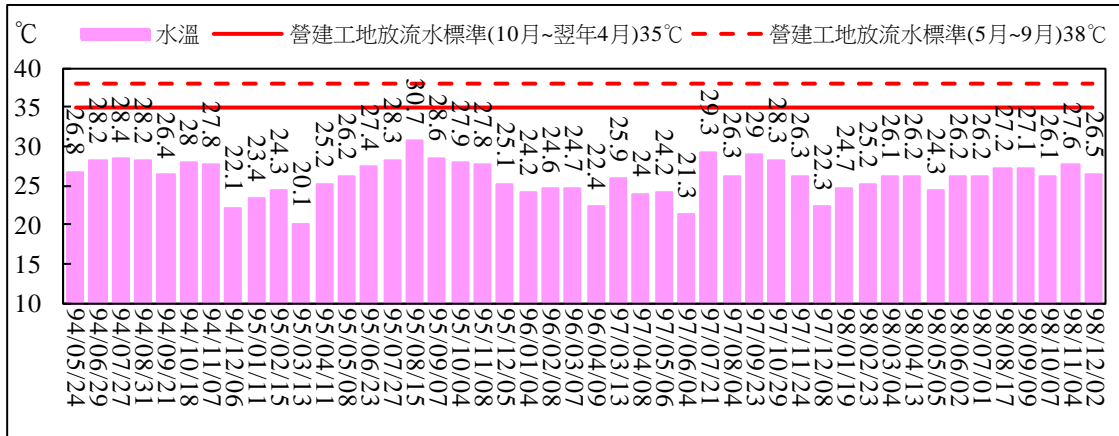


圖 2.86 工區放流口放流水質監測結果比較圖(水溫)

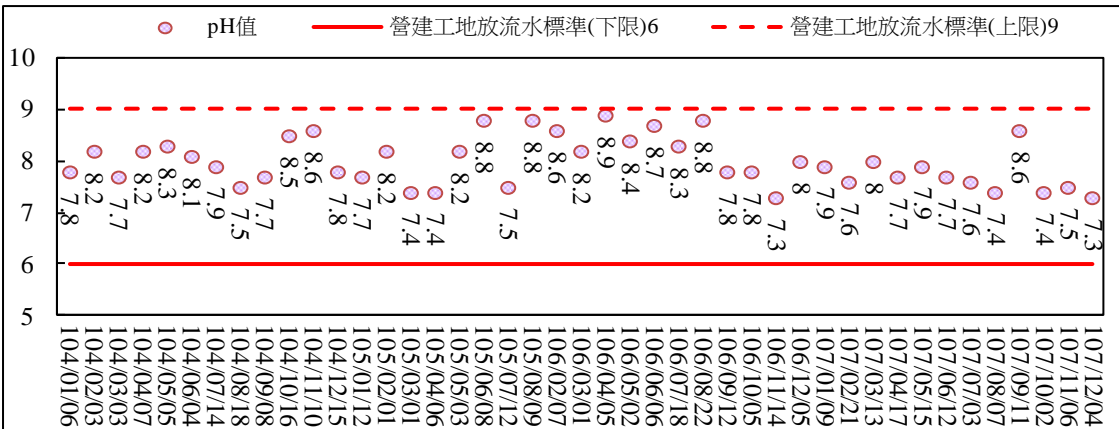
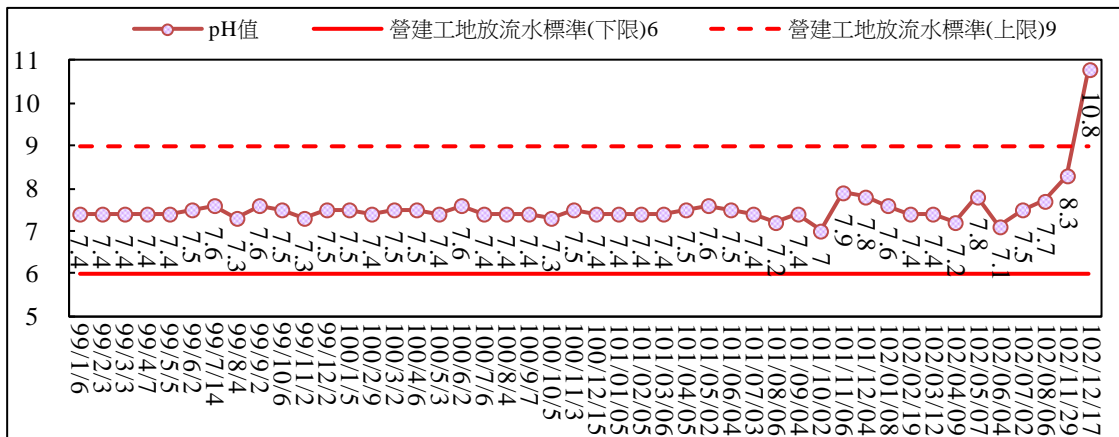
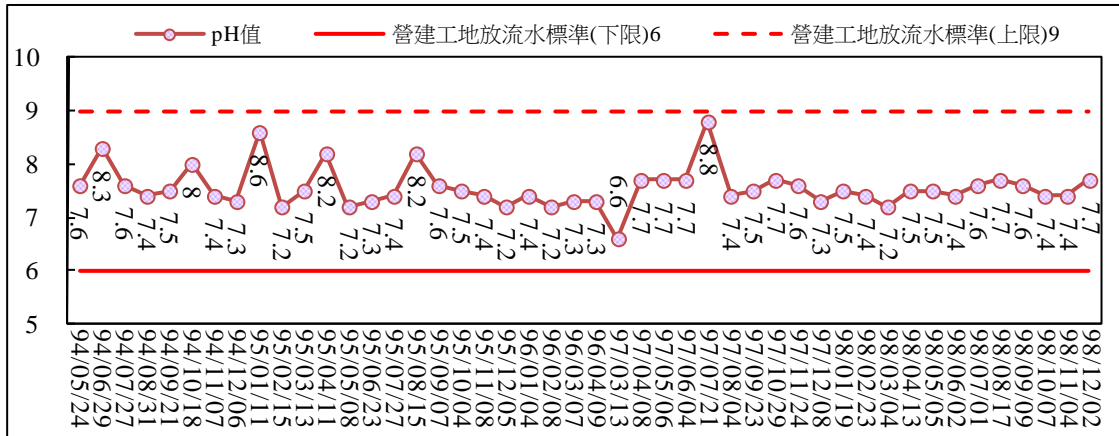


圖 2.87 工區放流口放流水質監測結果比較圖(pH 值)

四、以上監測結果報告書正本存放服務中心以備查用，如需查閱請洽服務中心
環保組窗口林育勳 (06)5889955#65163。