

**MORFA HAZARDOUS
LANDFILL
PORT TALBOT**

PERMIT BW2692IM

**2014 Annual Review of
Environmental
Monitoring Results**

Report Number 1393r1v1d0215

Commissioned by

Tata Steel UK Limited
Port Talbot Works
Margam
Port Talbot
SA13 2NG

Prepared by

Geotechnology Ltd
Ty Coed
Cefn yr Allt
Aberdulais
SA10 8HE

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Executive Summary

Tata Steel UK Limited (Tata) has operated Morfa Hazardous Landfill in accordance with an Environmental Permit since December 2004.

The landfill contains waste that is currently producing a leachate with low mineralised content meaning that it contains few pollutants. Containment of this leachate within the lining systems is being achieved. Monitoring of the surrounding groundwater quality does, however, reveal that it is impacted by leachate from other unlined areas where waste is exposed to leaching.

As the landfill accepts asbestos, routine monitoring is coordinated by the landfill operator. This monitoring has failed to detect any asbestos fibres in ambient air.

1 INTRODUCTION

Tata Steel UK Limited (Tata) operates the Morfa Hazardous Landfill (MHL) in accordance with Permit BW2692IM. The Permit was issued by the Environment Agency (the EA) on 17 December 2004. The Permit recently underwent a Variation lead by Natural Resources Wales (Variation notice number EPR/BW2692IM/V003) to allow the emergency placement of fire waste from Fforestfach.

The Permit only applies to part of the original waste management site, with approximately 40% being closed upon the commencement of adjacent Morfa Non Hazardous Landfill (MNHL) and MHL. The closed part of the site is referred to as Morfa Closed Landfill (MCL). The location of Morfa Landfill and the relevant position of MHL, MNHL and MCL is shown on Figures 1 and 2.

Tata submit a report to NRW on a three monthly basis, which compares the monitoring results for leachate, surface and groundwater and air quality monitoring against the relevant Permit criteria. Additionally, a summary review of all monitoring data is required on an annual basis. This report is the summary annual monitoring report for MHL for the period January – December 2014 and is intended to discharge Part (a) of Permit condition 4.2.1. In accordance with Permit condition 3.6.3, this report also presents a topographic plan of the current landfill and an assessment of remaining void space which has been compiled following the annual survey. This report has been independently compiled and completed by Geotechnology Ltd (Geotechnology).

Previous annual monitoring reports have also been prepared by Geotechnology and are listed below:

- 528.1/0/0307. Annual Review of Landfill Monitoring Results for Morfa Non-Hazardous and Hazardous Landfills. March 2007.
- 621.1/0/0108. Annual Review of Landfill Monitoring Results for Morfa Hazardous Landfill. January 2008.
- 765r1v1d0209. 2008 Annual Review of Landfill Monitoring Results for Morfa Hazardous Landfill. February 2009.
- 908r1v1d0310. 2009 Annual Review of Landfill Monitoring Results for Morfa Hazardous Landfill. March 2010.
- 1046r1v1d0211. 2010 Annual Review of Landfill Monitoring Results for Morfa Hazardous Landfill. February 2011.
- 1129r1v1d0412. 2011 Annual Review of Landfill Monitoring Results for Morfa Hazardous Landfill. April 2012.
- 1210r1v1d0313 2012 Annual Review of Landfill Monitoring Results for Morfa Hazardous Landfill. March 2013
- 1292r1v1d0314 2013 Annual Review of Landfill Monitoring Results for Morfa Hazardous Landfill. March 2014

Separate annual monitoring reports describe the monitoring undertaken at MNHL and MCL.

A four year review of the initial Hydrogeological Risk Assessment (HRA) was undertaken in 2008 by Geotechnology (see Geotechnology report 712r1v1d0908). A further review was undertaken in 2012 (see Geotechnology report 1178r1v1d0712) as reviews were required every subsequent fourth year, after the fourth anniversary of the granting of the permit. NRW has, however, recently changed this requirement (for all landfills) to every six years, so

the next HRA will need to be completed 9 to 6 months prior to the 14th anniversary of the Permit which is in 2018.

2 REGULATORY FRAMEWORK

2.1 Background

The Permit defines the regulatory emission limits that must be met at MHL. These include leachate limit levels, emission limits to air for particulates and landfill gas, emission limits for surface water and Trigger Levels for emissions into groundwater. Collectively, these limits are referred to as Assessment Criteria in this report.

Subsequent to the issue of the PPC Permit, Geotechnology presented a revised set of Assessment Criteria for groundwater, surface water and leachate in accordance with the Permit Improvement Conditions. These revised Assessment Criteria were initially presented by Geotechnology following a review of the Hydrogeological Risk Assessment (HRA) (see Geotechnology report 403.1/1/1006 Review of Hydrogeological Risk Assessment) after commencement of landfilling. These criteria were further updated following feedback from the EA (see Geotechnology letter 403/reviewHRA/lt1/BR/kp dated 17 January 2007 to the EA) and also in the previous annual monitoring report (see Geotechnology report 528.1/0/0307).

The new Compliance levels for groundwater were incorporated into the Permit Variation Notice (No SP3633MK) which was issued by the EA in May 2007. The Variation Notice wholly superseded the original PPC Permit. The Assessment Criteria for leachate and surface water are not presented in the Variation Notice but are within the reports referenced above.

On 11 June 2008, Tata requested several additional minor changes to the Permit. These were agreed by the EA on 30 July 2008.

During 2008 and 2009, copper (Cu) was detected at several positions which prompted Tata to implement several contingency actions and notifications. The occurrence of Cu was not considered to be related to seepage from MHL and the concentration levels were significantly below the concentration level of the freshwater EQS (0.028 microg/l based on average annual hardness of ~250 mg/l CaCO₃). As a consequence, Geotechnology suggested in the 2008 annual monitoring report that the Cu trigger and control levels should be increased. Following submission of the 2008 annual monitoring report to the EA in March 2009, review comments were received in August 2009 (see compliance Assessment Report CAR 2627). In their review comments, the EA requested that the investigation to establish whether the laboratory is the cause of the previously observed elevated levels of Cu should be completed before the trigger levels are increased. The findings of this investigation were reported in the 2009 annual report and concluded that the lab or any other aspect of the monitoring was not the source of the Cu. In response to these findings, the EA accepted the proposed trigger and control levels in CAR 03354 (dated 28 April 2010).

More recently, as part of the 2012 HRA review, new assessment levels were presented for leachate, groundwater and surface water (see Geotechnology report 1178r1v1d0712). These were also consolidated in a letter to the EA from Tata on 4 February 2013. Given the acceptance of these new levels towards the end of 2012, Tata only started implementing the use of these new control and compliance levels in January 2013.

The following sections summarise the currently accepted assessment criteria that have been used since January 2013.

2.2 Applicable Assessment Criteria

2.2.1 Emissions to Air

The limits for emission to air provided in the Permits are reproduced in Table 2-1.

Table 2-1 Particulate matter emission limits into air

Parameters and frequency of monitoring	Emission Limit	Note
Gross dust depositional rate – Quarterly	200 mg/m ² /day	50% correction factor to be applied (as outlined by Tata letter (ref: Landfill_003) dated 28 September 2007.
Asbestos fibres (non-chrysotile) - Quarterly	0.002 fibres/ml (f/ml) 4 hour total	

2.2.2 Surface Water Control Levels

The surface water control levels used are summarised in Table 2-2.

Table 2-2 Revised Assessment Levels for Surface Water

Parameter	SW2 and SW4	
	Assessment level 1 (AL1)	Assessment level 22 (AL2)
Cadmium	0.1	
Copper	25	28
Mercury	0.1	
Chloride	200	250
Ammonia	2.75	3
Alkalinity	350	400
Cadmium, copper and mercury reported as µg/l. Alkalinity reported as mg/l CaCO ₃ . Ammonia reported as mg/l.		

2.2.3 Groundwater Compliance Levels

Groundwater Trigger and Control Levels used are summarised in Table 2-3.

Table 2-3 Revised Groundwater Control and Compliance Levels

Table 2-5 Revised Groundwater Control and Compliance Levels									
Parameter	BH3S (shallow aquifer)			BH12 (shallow aquifer)			BH 25S (shallow aquifer)		
	CL1	CL2	Trigger Level	CL1	CL2	Trigger Level	CL1	CL2	Trigger Level
Cadmium	-	0.1		-	0.1			0.1	
Mercury	-	1		-	1			1	
Chloride		100	250	100	200			200	250
Ammonia	8	10	12	0.44	0.52		3.5	4	4.5
Alkalinity	2400	2700	3000	284	335		500	550	600
	BH26S (shallow aquifer)			BH27S (shallow aquifer)			BH28S (shallow aquifer)		
Cadmium		0.1						0.1	
Mercury		1						1	
Chloride		200	250		200	250		400	450
Ammonia	1.6	1.8	2	1.6	1.8	2	1.6	1.8	2
Alkalinity	350	400	450	350	400	450	350	400	450
	BH29S (shallow aquifer)								
Cadmium		0.1							
Mercury		1							
Chloride		250	300						
Ammonia	1.6	1.8	2						
Alkalinity	350	400	450						
Cadmium, copper and mercury reported as µg/l. Alkalinity reported as mg/l CaCO3. Ammonia reported as mg/l. These Assessment Criteria will also apply to future replacement boreholes for these positions although the situation will be reviewed at the time									

2.2.4 Leachate Control Levels

Leachate levels used are presented in Table 2-4.

Table 2-4 New Leachate Control Levels

Leachate Point	Ammoniacal nitrogen	Cl	As
Unit	mg/l	mg/l	mg/l
Control levels	70	70000	3

2.2.5 Leachate Level Limits

The head of leachate shall not be permitted to exceed 1 metre above the base of any leachate monitoring point at any time throughout the operational or aftercare phases.

2.2.6 Landfill Gas Compliance Levels

The currently applicable gas compliance levels are summarised in Table 2-5.

Table 2-5 Landfill gas compliance levels

Parameter	Morfa Hazardous Landfill
	GA28 to GA30 Monitoring Wells
Methane	1.0%
Carbon Dioxide	1.5%

There are currently no gas wells installed.

2.3 Application of Assessment Criteria

The focus of this annual summary report is to evaluate the data collected against the applicable Assessment Criteria. Time series graphs have been plotted for the majority of parameters where trigger and control levels apply and where sufficient data is available for graphical plotting. These graphs are presented in Appendices 1 to 6. Modifications to the control and trigger levels are also shown. Time series plots of other key parameters are also presented in the relevant appendices. Where possible, the scale of the y-axis has been modified to the same range on all graphs for the same parameters to enable rapid comparison of concentration data between monitoring locations.

Spatial distributions of key parameters across the site are provided in Appendix 7.

2.4 Hydrogeological Risk Assessment Criteria

One of the objectives of the four year HRA review is to ensure that the computer simulations used to design the landfill and justify compliance with the GWD do not become detached from the reality of landfill construction and operation. Therefore, in addition to evaluating the data against the assessment criteria set out in the Permit, Geotechnology also uses the preparation of the annual report as an opportunity to compare the actual leachate chemistry with that modelled as part of the most recent HRA. The model input parameters against which the leachate chemistry is compared are summarised in Table 2-6.

Table 2-6 Modelled leachate inventory

	Ammonia	Arsenic	Chloride
	mg/l	mg/l	mg/l
LandSim PDF*	Triangular (0.05, 10, 50)	Triangular (0.005, 0.3, 3)	Log Triangular (1000, 10000, 61000)
*PDF – Probability Density Function used to describe statistical distribution of parameter. Triangular and Log Triangular are the PDFs used in most recent HRA. Values in parenthesis are minimum, most likely and maximum values used in LandSim model			

3 MONITORING NETWORK PERFORMANCE

3.1 Monitoring Programme

The available monitoring network provides comprehensive spatial coverage and is shown on Figure 2. The monitoring infrastructure used in the assessment of MHL is summarised in Table 3-1 and the analytical suites in Table 3-2.

Table 3-1 Current Monitoring Programme

	Lab analysis	Surface water samples	Quarterly Groundwater samples	Annual Groundwater Samples	Monthly levels	Leachate chemistry
Q1 (Jan-Mar)	Indicator suite	SW1 – SW15	BH25S, BH26S, BH27S, BH28S, BH29S,		SW gauges 1,2,4,5,6 Piezometers Sampled groundwater wells	L17
Q2 (Apr-Jun)	Indicator suite/ Characterisation suite alternated every year	SW1 – SW15	BH12S, BH25S, BH26S, BH27S, BH28S, BH29S,		SW gauges 1,2,4,5,6 Piezometers Sampled groundwater wells	L17
Q3 (Jul-Sep)	Indicator suite	SW1 – SW15	BH25S, BH26S, BH27S, BH28S, BH29S,		SW gauges 1,2,4,5,6 Piezometers Sampled groundwater wells	L17
Q4 (Oct-Dec)	Indicator suite/ Characterisation suite alternated every year	SW1 – SW15	BH12S, BH25S, BH26S, BH27S, BH28S, BH29S,	BH12D, BH25D, BH26D, BH27D, BH28D, BH29D	SW gauges 1,2,4,5,6 Piezometers Sampled groundwater wells	L17

Table 3-2 Indicator and Characterisation Suites

	Indicator Suite	Characterisation suite*
	Quarterly (Q1, Q2, Q3, Q4)	Annually (alternated each year between Q2 and Q4)
Analysis	pH, Electrical Conductivity, alkalinity, Calcium, Chloride, Chemical Oxygen Demand, Total Organic Carbon, Ammoniacal Nitrogen, Nitrate, Nitrite, Phosphorous, Phosphate, Arsenic	pH, Electrical Conductivity, alkalinity, Calcium, Chloride, Chemical Oxygen Demand, Total Organic Carbon, Ammoniacal Nitrogen, Nitrate, Nitrite, Phosphorous, Phosphate, Arsenic, Sodium, Potassium, Magnesium, Sulphate, Boron, Total Chromium, Copper, Iron, Lead, Vanadium, Zinc, Cadmium, Mercury, VOC and SVOC
*Other parameters may be added depending upon any changes to the types of waste landfilled and review of results from preceding indicator suite		

3.2 Monitoring Network Infrastructure

3.2.1 Landfill Leachate

The landfill leachate infrastructure is performing well.

3.2.2 Groundwater Monitoring Network

The integrity of the groundwater monitoring network is inspected monthly. The monitoring network is performing well but clearance of small areas of dense vegetation would make access easier and safer. Minor repairs to some headworks are also required.

3.2.3 Shallow Piezometer Monitoring Network

A series of shallow piezometers have been manually installed into the shallow aquifer along the boundary with Margam Moors, as shown on Figure 2. These have been routinely monitored since 2006. This aspect of the monitoring network is performing well but clearance of small areas of dense vegetation would make access easier and safer.

Due to the construction of Cell 2, MHL, which was started in 2010 and which was completed in 2012, piezometers TPG and TPV have been lost. Replacement piezometers should be located along the new landfill boundary.

3.2.4 Surface Water Monitoring Network

The integrity, access and safety of each of the surface monitoring locations are inspected monthly. No aspect of the surface water monitoring network relevant to MHL requires change or improvement.

3.2.5 Gas Monitoring Network

There is currently no gas monitoring network installed at MHL.

3.2.6 Dust Monitoring Network

Dust monitoring is undertaken by Tata Environment Department. Dust monitoring comprises two types of monitoring:

- Deposition gauges which collect dust (and rainfall) via a bowl which drains into a bottle at four locations. These instruments record the total amount of dust fallen.
- Flexible poles fitted with 'sticky pads'. As the pads collect airborne dust from 360 degrees, dust deposition direction can be evaluated. These were installed November 2005.

During 2011, only the deposition gauges were used. The five dust monitoring positions (D15 - D19) are indicated on Figure 2. The 'sticky pad' poles were not used in 2011, as this aspect of the monitoring is not a Permit requirement and is now only to be considered during the implementation of the contingency actions documented in the Dust Management Plan for the site.

3.3 Action required

- Small areas of vegetation require routine clearance to facilitate safe access to several monitoring locations
- Replacement piezometers are required due to the loss of TPG and TPV

4 SITE ACTIVITY

4.1 Hazardous Waste Deposition

A summary of the waste types and tonnages deposited at the landfill as recorded by the landfill operator is regularly submitted to the EA in accordance with the Permit requirements. A graphical record of waste deposition is presented in Appendix 8.

A current topographic plan of MHL is provided in Figure 3.

During March 2014, fire waste containing cement bound asbestos was moved from Cell 2 of MNHL into Cell 2 of MHL. The movement of the waste was, at times, observed by NRW and following completion of the works Geotechnology prepared a Validation Report documenting the works undertaken (see report 1327r1v1d0314). A copy of the Compliance Assessment Report (CAR) summarising observations made by NRW is provided in Appendix 10.

4.2 Restoration of Morfa Closed Landfill (MCL)

Phased restoration of unlined MCL, which has been on-going since September 2004, was completed in 2013. The restoration involved placement of geomembranes which, in combination, provide gas and surface water management as well as providing barriers to precipitation ingress and gas egress. The sympathetic restoration also involves the placement of sand on top of the geomembranes, creating dune morphology similar to the surrounding land.

As part of the re-profiling to achieve stable restoration surfaces, the opportunity was taken to recover materials for use in the steel making process. During this aspect of the works, wastes were temporarily exposed to weathering and leaching prior to them being capped.

4.3 Construction and Landfilling at Non Hazardous Landfill

Two biodegradable cells (bio cells A and B) and two non-hazardous waste cells (Cells 1 and 2) have been constructed at the adjacent MNHL.

4.4 Summary of Landfilling and Restoration Activity

The timeline of landfill construction and operation is summarised in Table 4-1.

Table 4-1 Summary of landfilling activity to date

Activity	Start	Finish
Construction of MNHL Cell 1	1 June 2004	19 October 2004
Construction of MHL Cell 1	1 June 2004	19 October 2004
Restoration of MCL	September 2004	8 June 2013
Construction of MNHL Bio Cell A	14 June 2004	8 September 2004
Construction and operation of waste treatment centre	5 December 2006	Ongoing
Construction of MNHL Bio Cell B	August 2007	13 October 2007
Construction of MNHL Cell 2	6 May 2008	31 July 2009
Landfilling of HMS filter cake in MNHL Bio Cell 2	28 October 2008	Ongoing
Construction of MHL Cell 2	October 2011	August 2012
Temporary Storage of fire waste in MNHL Cell 2	25 June 2011	20 July 2011

5 TOPOGRAPHIC SURVEY AND VOID SPACE

Condition 3.6.3 of the Permit requires an annual topographic survey to be completed.

5.1 Topographic Survey

A topographic survey of the operational landfill cells was carried out on 19 January 2015. Following data acquisition, the digital data was imported into a digital terrain model for each of the cells in order to calculate the available void space.

Previous topographic surveys have been conducted on foot using a Topcon GR-3 base and rover GPS system. Since 2013, the survey has been completed using an unmanned aerial vehicle (UAV) with survey control established using the GR-3 system. The UAV data is then used, together with ground control points, to create a digital terrain model. This method of surveying collects data points at significantly closer intervals than methods previously used and is therefore able to create a more detailed topographic model, as shown in Figure 3.

5.2 Remaining Void Space

Based on a comparison of the topographic levels observed in 2014 and those from 2013 an assessment of void space has been made. This is summarised in Table 5-1.

Table 5-1 Volume Remaining in Landfill Cells

Volumes (m ³)	Hazardous Sub Cell 1	Hazardous Sub Cell 2
Total Capacity	23310	37401
Used capacity at January 2015	24485	12239
Available Capacity	-1175	25162
% Available Capacity	0	67

Using this data, the remaining volume for the whole landfill has been calculated. This calculation is provided in Table 5-2.

Table 5-2 Remaining Landfill Volume

Void Space (m ³)	Hazardous
Total	216840
Used January 2015	36725
Available	180115
% Available Space	83

6 LEACHATE

6.1 Leachate Level

In accordance with the Permit conditions, the head of leachate has not exceeded one metre above the base of leachate monitoring point (L17). Based on weekly monitoring undertaken by the landfill operator, the variation of leachate head is illustrated in Appendix 1.

To maintain leachate levels within the Permit levels, significant quantities of leachate are pumped by vacuum tanker from each leachate sump and taken back into the steelworks for treatment. Graphical summaries of the quantities involved, as recorded by the landfill operator are provided in Appendix 1. Given the large volumes involved, Geotechnology suggests that Tata should consider measures to reduce the volume, such as capping and ensure that all potential leachate treatment and re-use opportunities are evaluated.

6.2 Leachate Chemistry

The temporal variation of leachate chemistry is graphically illustrated in Appendix 2.

As the waste landfilled at MHL is not largely biodegradable, the evolution of the leachate is not following the same path which is well documented for municipal solid wastes. Rather, the leachate chemistry is being controlled by mostly inorganic processes.

Leachate chemistry has been relatively stable over the past five years, typically characterised by elevated pH (pH 12 – 13), calcium (1000 mg/l) and alkalinity (~1700 mg/l CaCO₃). During 2013 and 2014 however, the leachate has become more dilute with electrical conductivity dropping below ~2000 micros/cm. Trace metals, major ions and ammonia are detected at low concentration. Due to the nature of the waste streams, very low levels of hydrocarbons, volatile organic compounds (VOC's) and semi VOC's have been detected to date.

6.3 Assessment against Control Levels and LandSim Criteria

The low mineralised content of the leachate is partly reflected in the summary provided in Table 6-1. This shows selected key parameters to be well below the modelled levels in the recent HRA and Permit control levels.

Table 6-1 Evaluation of Leachate Chemistry

	Ammonia	Arsenic	Chloride
	mg/l	mg/l	mg/l
LandSim PDF*	Triangular (0.05, 10, 50)	Triangular (0.005, 0.3, 3)	Log Triangular (1000, 10000, 61000)
Permit control Levels	70	3	70000
Leachate chemistry 2013			
Maximum 2013 Leachate chemistry (L17)	<0.05	0.002	5470
Leachate chemistry 2014			
Maximum 2014 Leachate chemistry (L17)	<0.05	0.003	2212
*PDF – Probability Density Function used to describe statistical distribution of parameter. Triangular and Log Triangular are the PDFs used in most recent HRA. Values in parenthesis are minimum, most likely and maximum values used in LandSim model			

6.4 Contingency Actions Taken

No specific contingency actions have been required as no Control Levels have been exceeded and the leachate chemistry is well within the PDFs used to evaluate the risks to the environment in the most recent HRA.

7 GROUNDWATER

The results of the groundwater monitoring are presented in Appendix 3 and Appendix 4. Also provided in Appendix 7 are spatial plots of selected groundwater chemistry.

7.1 Groundwater Level and Flow

Groundwater levels and flow around the landfill are similar to levels previously observed.

7.2 Groundwater Quality

The water quality monitoring continues to indicate that groundwater within the vicinity of MHL is impacted to a variable extent, particularly in the shallow aquifer around BH12. For most parameters, the concentration in groundwater is higher than that observed in leachate sump L17. This is because the area surrounding the landfill, particularly BH12, contains slag wastes which are open to leaching and the groundwater may also be influenced by seepage from MCL. Similar variations are also observed in other monitoring positions around the landfill cell (BH25 – BH29), although the trend is not as distinct and the temporal variations are different. Given the proximity of some of the positions to the sea there may also be a saline / tidal influence on groundwater quality and water level. To the west of the site, there is also a possibility that activities in the operational yard of the landfill could affect groundwater recharge and seepage.

The key point to note is that the data continues to indicate MHL is not having a discernible significant impact on groundwater.

7.3 Assessment against Permit Compliance Level

As shown by the summary provided in Table 7-1, very few exceedances of the trigger levels were detected in 2014. These breaches were not part of wider trends and apart from the detection of cadmium, were localised.

As cadmium is analysed as part of the annual characterisation suite (due to its previous lack of detection) the only samples analysed for cadmium were collected in November. Further, this data was not issued by the laboratory until January 2015.

The source of the cadmium is unclear. At this stage, the active landfill is not considered the source as cadmium has not been detected in leachate for many years. However, cadmium was (unusually) detected in leachate samples collected in November. Given that leachate and groundwater (and some surface water) was found to contain cadmium in November 2014 Geotechnology suspects that the most likely explanation is related to error during sampling or analysis. To test this hypothesis, the indicator suite should be initially amended during 2015 to include cadmium when samples are collected.

As revealed by the temporal plots in Appendix 4, and summarised in Table 7-1, chloride breached the trigger level at BH27S on several occasions during 2014. The distinct temporal variations in chloride observed at BH27S were also observed in the chloride concentration in leachate and at BH26S. However, at BH26S, the chloride concentrations were lower and similar within the leachate. As the electrical conductivity at BH27S is higher than the leachate and pH lower, seepage from the landfill is not considered the most plausible source

of the chloride. As the pattern of chloride occurrence at these positions was similar, a common process would, however, appear to offer a reasonable explanation. Clearly, sampling or analytical error could have occurred but as all monitoring positions are close to the seaward side of the site, the pattern of chloride occurrence could be related to salt spray, although monitoring at other positions in similar locations did not reveal the same trend. At this stage, the processes occurring are not fully understood. With the benefit of more monitoring data this situation will be reviewed.

Table 7-1 Comparison of Selected Groundwater Chemistry with Trigger & Compliance Levels and Leachate chemistry

ID	Date	pH	EC	Cl	Ammoniacal Nitrogen as N	Alkalinity	Cd
Units			uS/cm	mg/l	mg/l	mg/l CaCO ₃	microg/l
Leachate at L17							
	23/01/2014	9.9	415	38.1	<0.05	70.0	
	21/02/2014	10.9	692	74.8	<0.05	873	
	17/06/2014	11.9	1952	830	<0.05	150	
	23/09/2014	11.6	1764	2212	<0.05	160	
	13/11/2014	11.6	800	147	<0.05	68	1.15
BH3S Trigger Level/ Compliance Level				250	12	3000	0.1
BH3S	23/01/2014	11.8	1065	72.8	<0.05	222.5	
BH3S	16/06/2014	11.3	592	67.7	0.28	100	
BH3S	23/09/2014	11.0	637	97.9	1.15	83	
BH3S	13/11/2014	12.2	1584	90.87	11.62	305	0.21
BH12S Trigger Level/ Compliance Level				200	0.52	335.0	0.1
BH12S	16/06/2014	11.4	643	43.5	<0.05	102.5	
BH12S	13/11/2014	11.2	480	49.7	<0.05	128	<0.10
BH25 Trigger Level/ Compliance Level				250	4.50	600.0	0.1
BH25S	21/01/2014	7.4	576	40.2	<0.05	247.5	
BH25S	16/06/2014	7.5	715	79.87	<0.05	182.5	
BH25S	23/09/2014	7.2	659	84.57	<0.05	177.5	
BH25S	13/11/2014	7.3	947	124.4	<0.05	310	<0.10
BH26S Trigger Level/ Compliance Level				250	2.00	450.0	0.1
BH26S	21/01/2014	7.9	452	26.5	<0.05	178	
BH26S	16/06/2014	7.5	740	61.49	<0.05	252.5	
BH26S	23/09/2014	7.3	834	66.24	<0.05	230	
BH26S	13/11/2014	7.5	803	5.26	<0.05	345	1.07
BH27S Trigger Level/ Compliance Level				200	1.8	400	
BH27S	23/01/2014	8.3	448	66.2	<0.05	73	
BH27S	16/06/2014	9.0	1874	513	<0.05	112.5	
BH27S	01/08/2014			1434			
BH27S	23/09/2014	8.9	5710	2005.0	<0.05	63	
BH27S	13/11/2014	8.3	2454	762.3	<0.05	110	0.11
BH28S Trigger Level/ Compliance Level				450	2.00	450.0	0.1
BH28S	23/01/2014	8.2	728	108.2	<0.05	168	
BH28S	16/06/2014	8.2	950	108.65	0.05	155	
BH28S	23/09/2014	7.7	947	102.6	<0.05	183	
BH28S	13/11/2014	7.6	942	131.4	<0.05	280	0.12
BH29S Trigger Level/ Compliance Level				300	2.00	450.0	0.1
BH29S	23/01/2014	7.7	542	43.8	<0.05	205.0	
BH29S	16/06/2014	7.3	1166	146.4	<0.05	307.5	
BH29S	23/09/2014	7.2	1095	43.78	<0.05	275.0	
BH29S	13/11/2014	8.2	721	85.09	<0.05	243	<0.10
BH29S	23/01/2014	7.7	542	43.8	<0.05	205.0	

The characterisation monitoring conducted since the start of monitoring has included the analysis of an extensive list of volatile and semi volatile organic compounds in leachate and groundwater. This data has clearly shown the widespread impact of seepage from MCL and potentially other areas on groundwater upgradient and downgradient of the landfill. The occurrence of these compounds is not related to MHL, as many of the compounds have not been found in leachate and where the compounds are detected they are typically found at lower concentration levels. No VOCs or SVOCs have been detected in the groundwater samples analysed by TSW since 2009.

8 SURFACE WATER

8.1 Surface Water Levels

The results of the surface water monitoring are presented in Appendix 5 and Appendix 6. Spatial variations in selected water chemistry are also provided in Appendix 7.

8.2 Assessment against Permit Control Levels

Surface water immediately northeast of MHL on Margam Moors is already known to be significantly impacted by seepage from MCL, as there is a well-developed highly alkaline springline.

Due to the low risk that MNHL poses to surface water under active management control and the historical impact of seepage from MCL, there are no Permit Compliance Limits for surface water. Instead, there are two assessment levels (AL1 and AL2). During 2013, none of the levels were breached. In 2014, alkalinity was the only parameter that breached the compliance level. Cadmium was not detected in any surface water samples downstream of the landfill.

Table 8-1 Comparison of Surface Water quality with Control Levels

		Cl	Ammoniacal Nitrogen	Alkalinity	pH	EC	Ca	As	Cd
		mg/l	mg/l N	mg/l CaCO ₃		microS/cm	mg/l	microg/l	microg/l
	EQS		0.02		6 - 9				50
	Assessment Level 1	200	2.75	350.0					
	Assessment Level 2	250	3.00	400.0					
SW2	21/01/2014	70.5	<0.05	495.00	11.9	2330	228.4	<0.10	
SW2	21/02/2014	64.8	2.00	2207	11.4	1051	91.1	3	
SW2	18/3/2014	52.63	0.56	2303.00	11.9	1196	81.1	2.8	
SW2	01/04/2014	63.4	1.4	90.0	7.5	403.0	52.8	0.9	
SW2	16/06/2014	71.31	<0.05	725	11.6	761	37.4	10.9	
SW2	1/8/2014			300.0					
SW2	23/09/2014	82.96	<0.05	218	11.9	1158	66.6	29.4	
SW2	13/11/2014	22.49	<0.05	168	7.5	583	81.95	1.7	<0.10
SW4	21/01/2014	34.7	<0.05	162.50	7.8	399	63.2	<0.10	
SW4	21/02/2014	53.7	<0.05	1843	7.7	535	70.7	1	
SW4	18-Mar	68.33	<0.05	2061.25	7.0	593	79.8	3.7	
SW4	01/04/2014	60.2	<0.05	215.0	7.3	606.0	68.3	2.3	
SW4	16/06/2014	46.74	<0.05	411	7.7	721	107	2.5	
SW4	1/8/2014			338.0					
SW4	23/09/2014	63.85	<0.05	365	7.1	819	116.0	2.5	
SW4	13/11/2014	43.78	<0.05	100	7.3	411	52.76	2.1	<0.10

Over the past four years, elevated alkalinity has been observed at SW4, particularly during the period May-November. As this monitoring position is upstream of the landfill, the changes are not related to processes occurring at the landfill. The variations potentially indicate that alkaline precipitates are present in the ditch and that when waterlevels rise in response to rainfall, the alkalinity is released. At these times, there may also be increased contributions from the alkaline springline, as suggested by the increased alkalinity in January–March 2014. These observations could have implications for dredging of the ditches.

Other surface water sample locations immediately downstream of the landfill (SW13 and SW14) do not show such variations and the chemistry observed during 2014 is very similar to that observed previously.

8.3 Contingency Actions Taken

No contingency actions were required.

9 DUST

9.1 Assessment against Permit Control Levels

The relative locations of the dust monitoring points are as follows:-

- D15 is located at the Northern end of the site near the offices and close to the coal stockyards.
- D16 is in the middle of Margam Moors north of MNHL.
- D17 is located east of MNHL near the old landfill bordering the SSSI.
- D18 is located to the South East of MNHL near the old landfill and rail sidings.
- D19 is located to the West of site near to the beach and road.

The results from the depositional dust monitoring are summarised in Appendix 9.

Unlike 2012, where there were several breaches of the 200 mg/m²/day threshold, there were no breaches during 2013 or 2014. This may be due to a combination of the higher frequency of rainfall and implementation of measures to control dust.

9.2 Contingency Actions Taken

No specific contingency actions have been needed by Tata.

10 ASBESTOS

10.1 Assessment against Permit Compliance Levels

Asbestos results are reported throughout the year from monitoring undertaken at approximately quarterly intervals from each corner of the landfill (not dust monitoring positions D15, D16 and D19). The monitoring is not coordinated to coincide with asbestos deposition.

All of the 2013 quarterly monitoring results were below the analytical level of detection (0.001 fibres/ml). Consequently, all monitoring results are below the 0.002 fibres/ml Permit Emission Limit over a four hour monitoring period.

10.2 Contingency Actions Taken

No contingency actions have been required as all asbestos measurements were below the emission limit.

11 SUMMARY AND RECOMMENDATIONS

11.1 Environmental Protection

The initial risk assessments completed as part of the Permit Application clearly demonstrated the potential of the landfill to emit non-hazardous pollutants substances to groundwater and potentially, surface water. There was also the potential that the landfill could generate dust and asbestos during landfilling activity and associated vehicular movements and earthworks.

As a consequence, a monitoring programme was put in place to evaluate the leachate source concentrations, leachate head, groundwater flow, surface water chemistry, dust deposition and asbestos emissions throughout the lifespan of the Permit to ensure that the landfill performs at least as well as predicted. Based on the monitoring data gathered to December 2014, there is no significant evidence to suggest that the landfill is not behaving as initially predicted and that the identified receptors remain protected. Groundwater and surface water within the vicinity are already known to be impacted by other activities not related to the current landfill.

11.2 Regulatory Framework

Relative to the applicable Assessment Criteria, the following key observations are made:

- In accordance with the Permit, landfill leachate head above the concrete slab has remained well below 1m. This has significant implications for leachate chemistry and potential seepage as it reduces the leachate residence time and leakage driving force. The control of leachate head at the landfill is minimising the risks posed to the water environment well below those predicted by the LandSim simulations.
- Leachate chemistry at L17 has recently become more dilute. Leachate chemistry is dominated by the leaching of alkaline materials within the landfill.
- No asbestos fibres have been detected during the quarterly monitoring programme to date.

11.3 Actions Required

- Small areas of vegetation require clearance to facilitate safe access to several monitoring locations
- Due to the construction of Cell 2 MHL, replacement piezometers should be located along the new landfill boundary when safely accessible.

Figure 1 Site Location Plan



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Figure 2 Available Monitoring Network

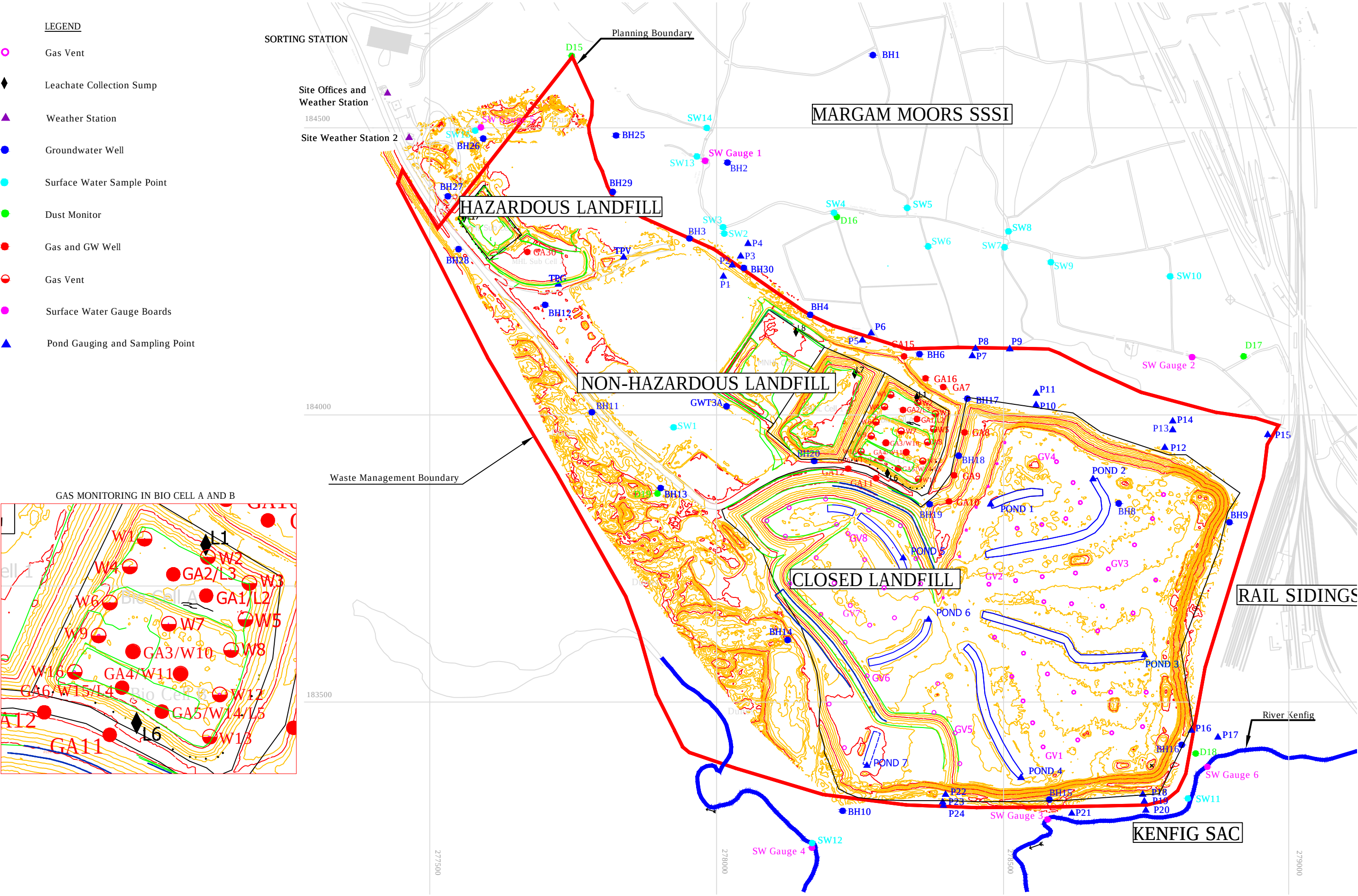
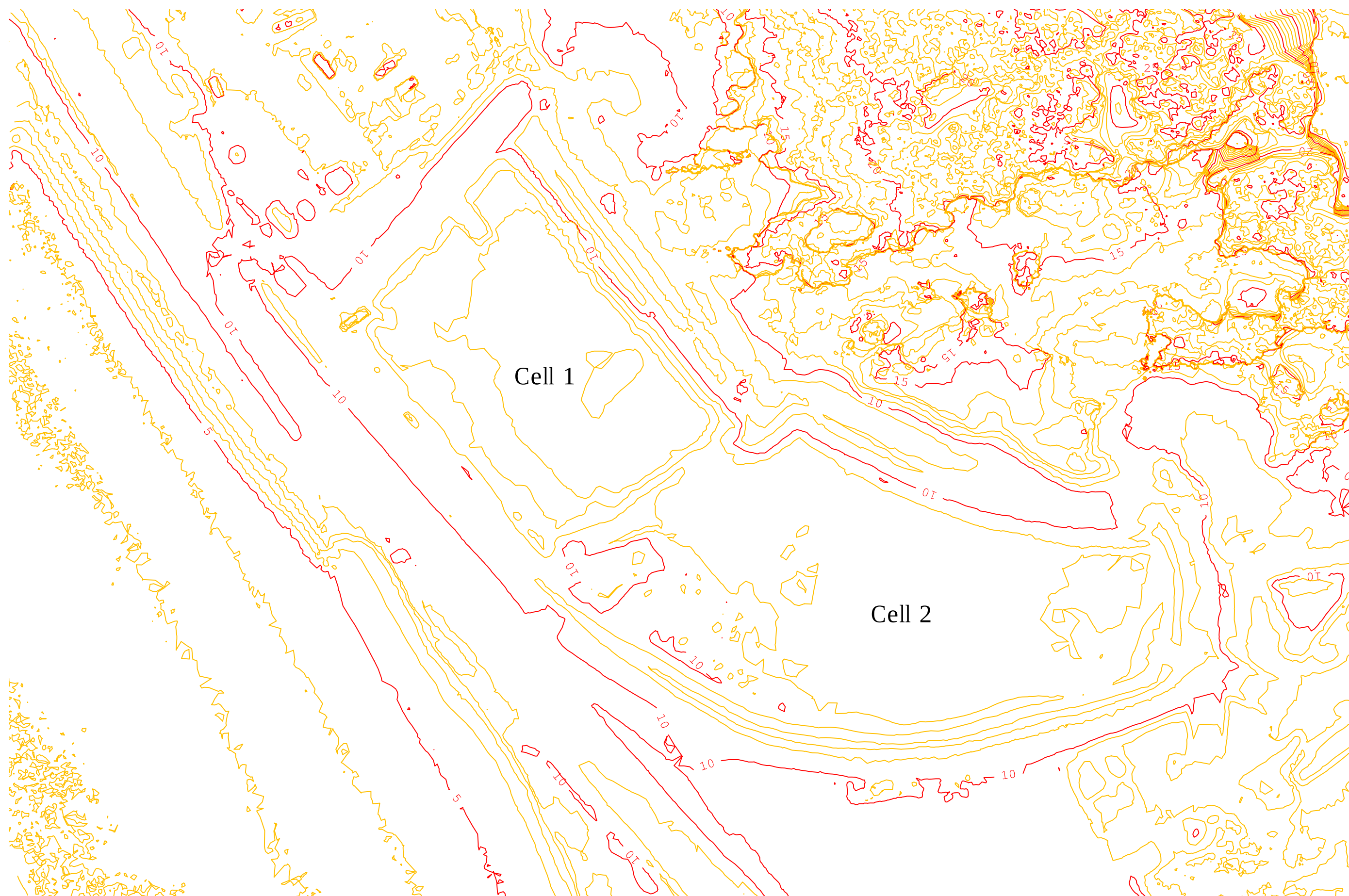
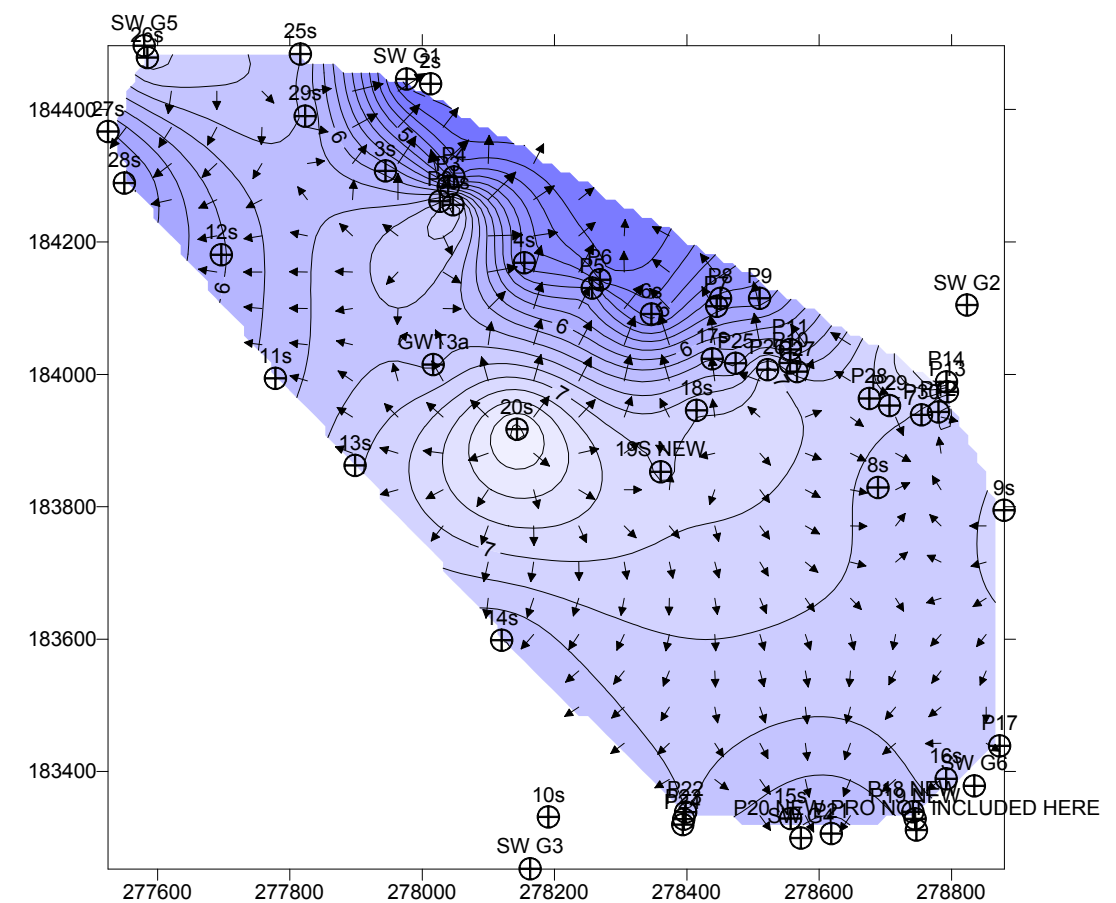


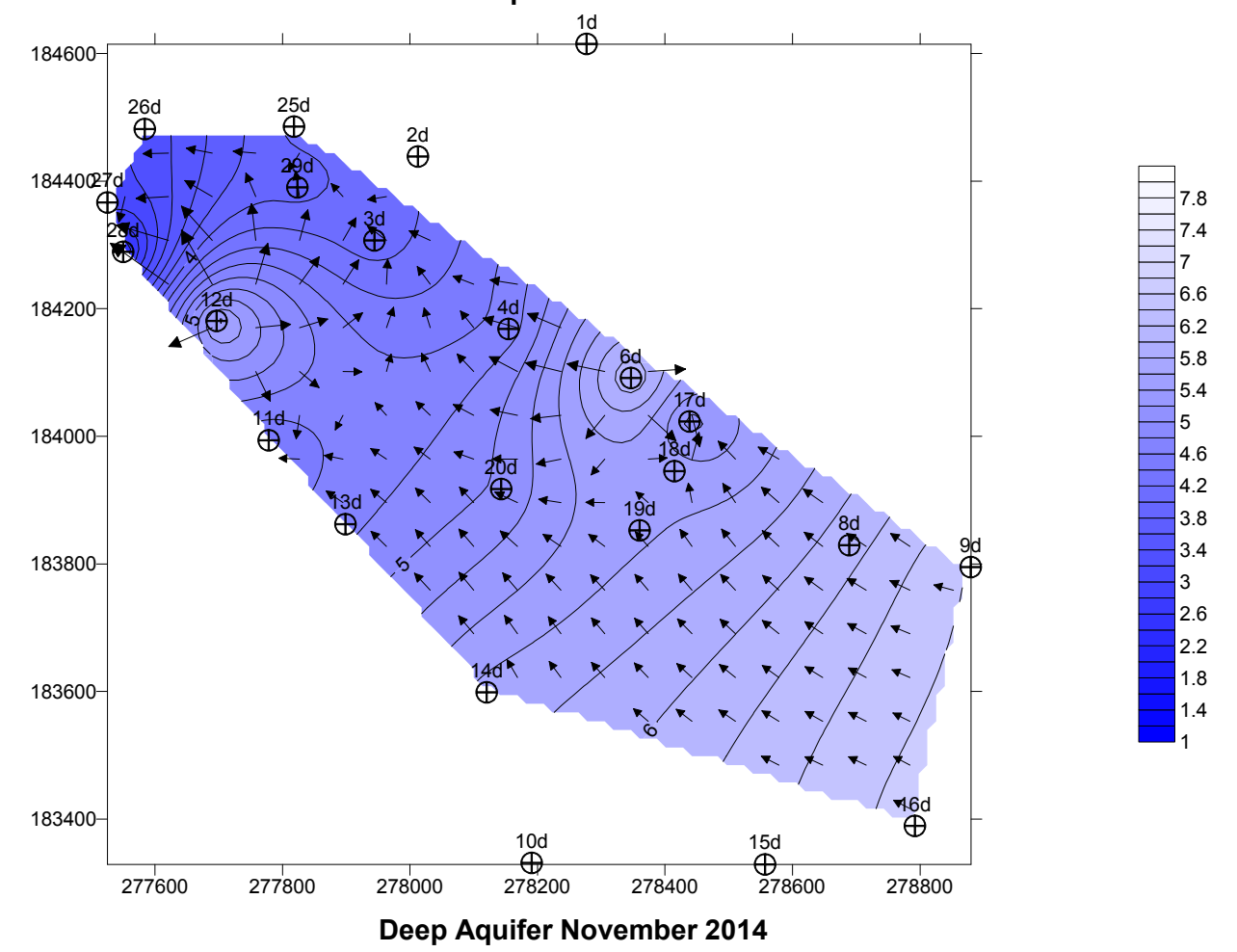
Figure 3 Current Topographic Plan of MHL



Revision 0



Deep Aquifer November 2014



Scale : As shown

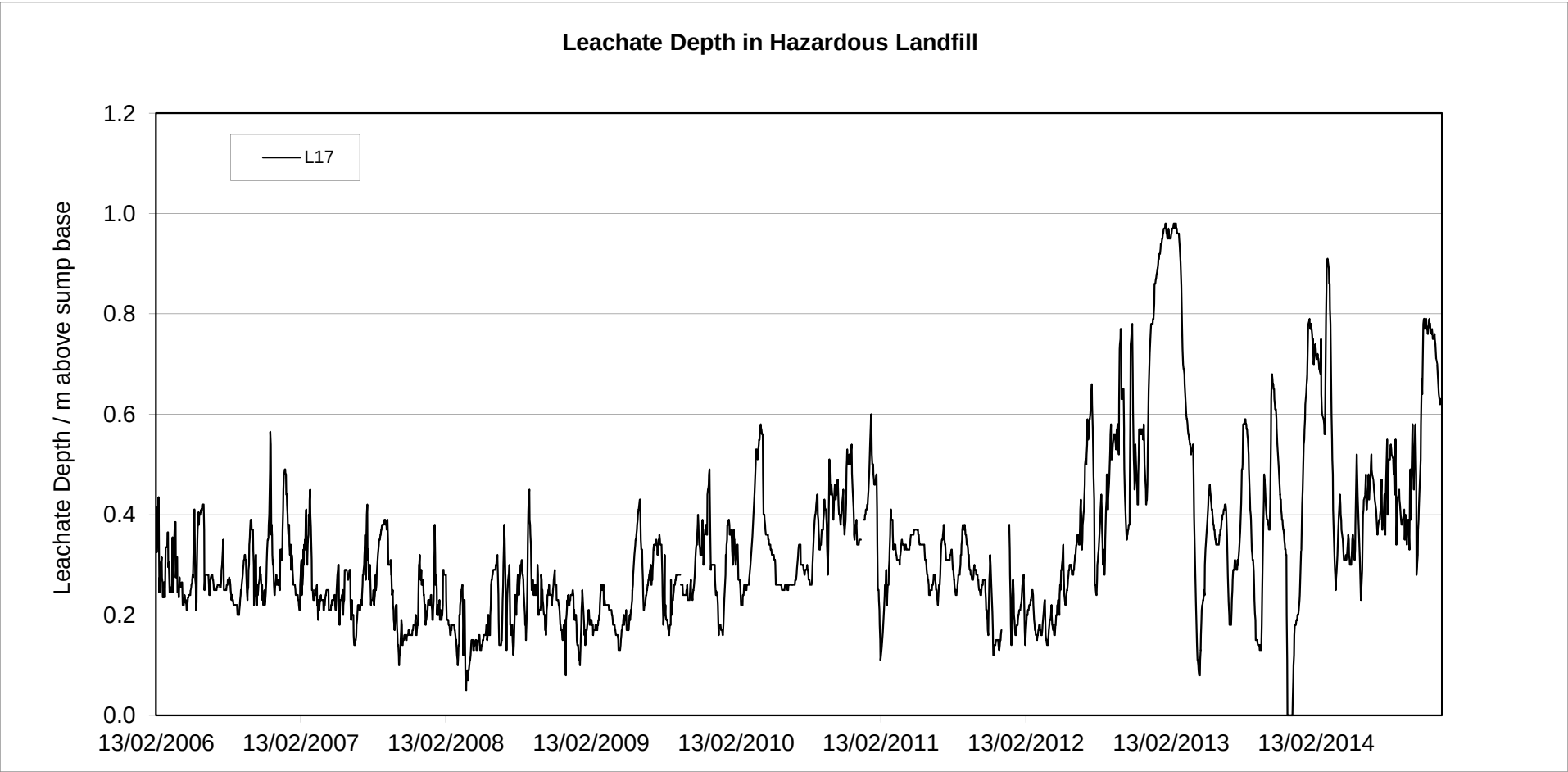
**MORFA HAZARDOUS
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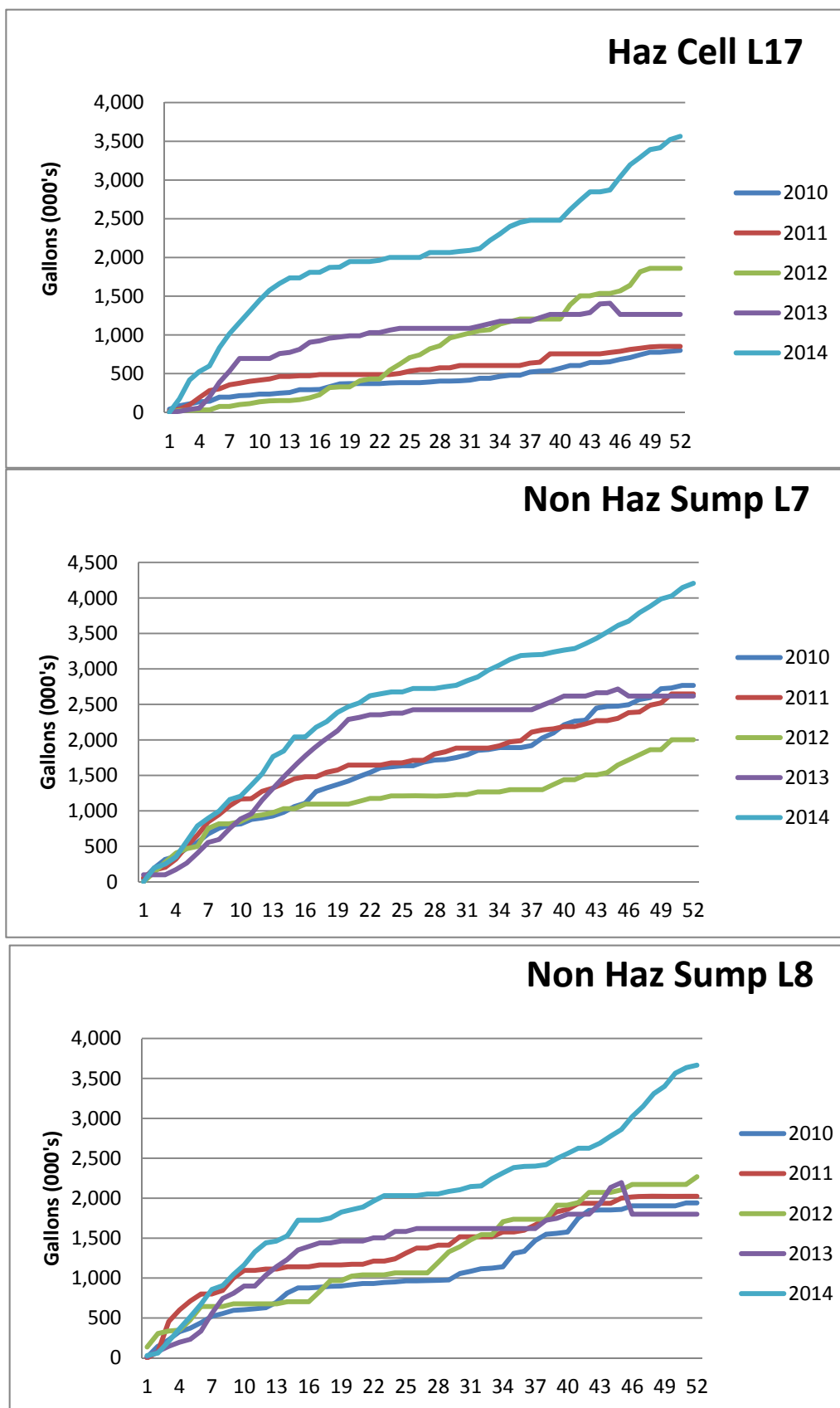
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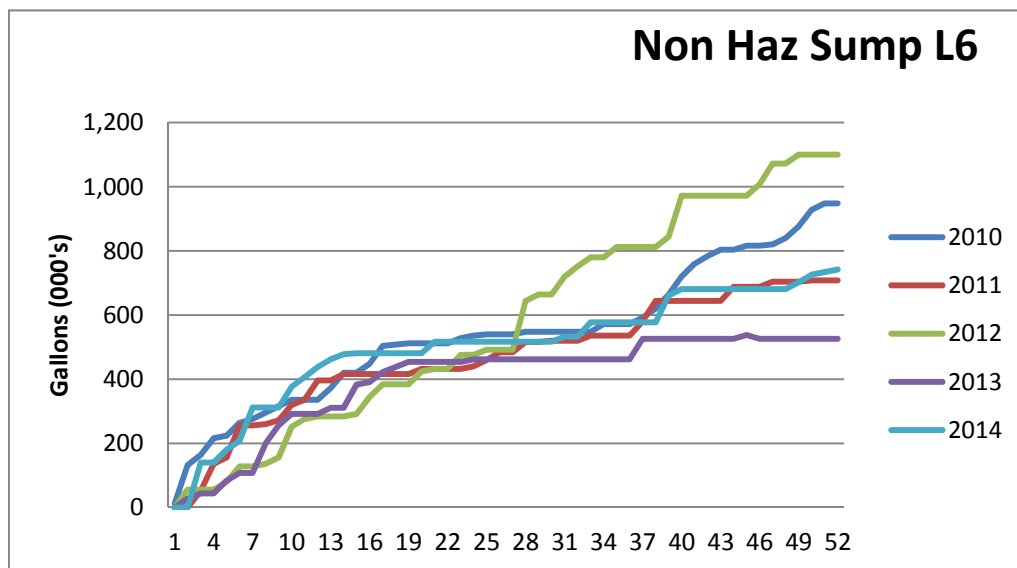
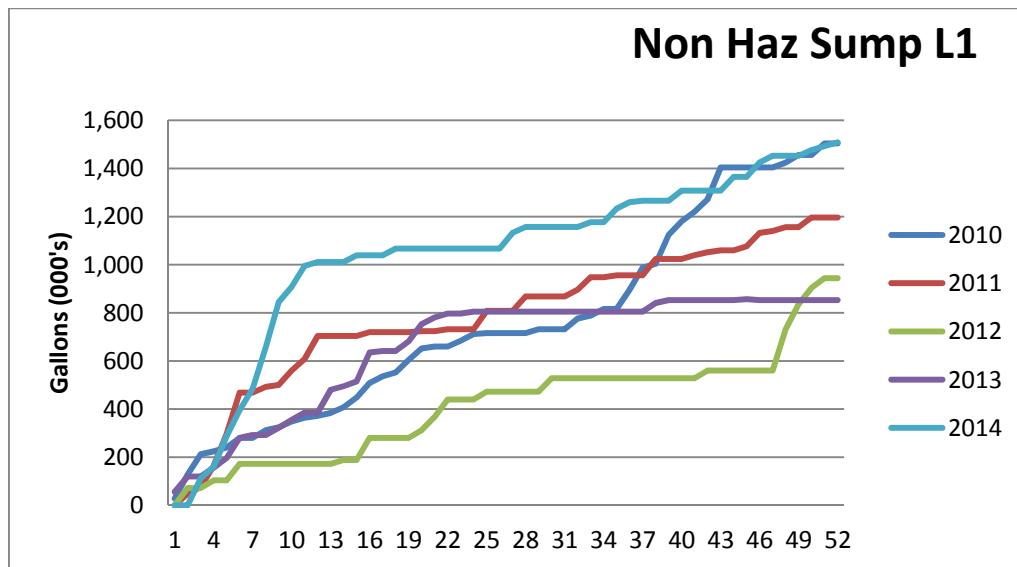
**2014 Annual Review of
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**Appendix 1
Temporal variation of
leachate head and
volume extracted**

Report Number 1393r1v1d0215







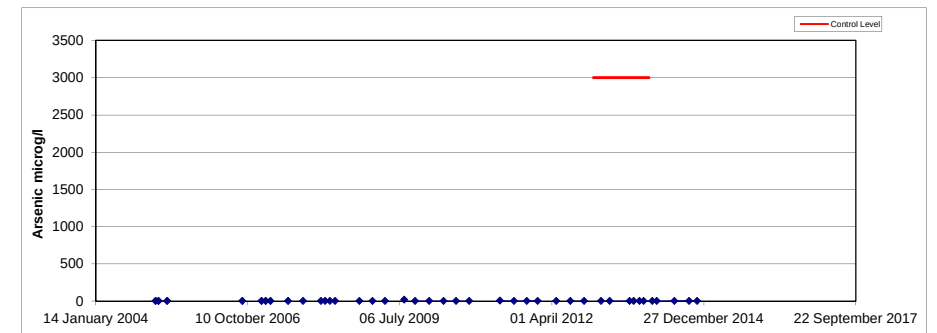
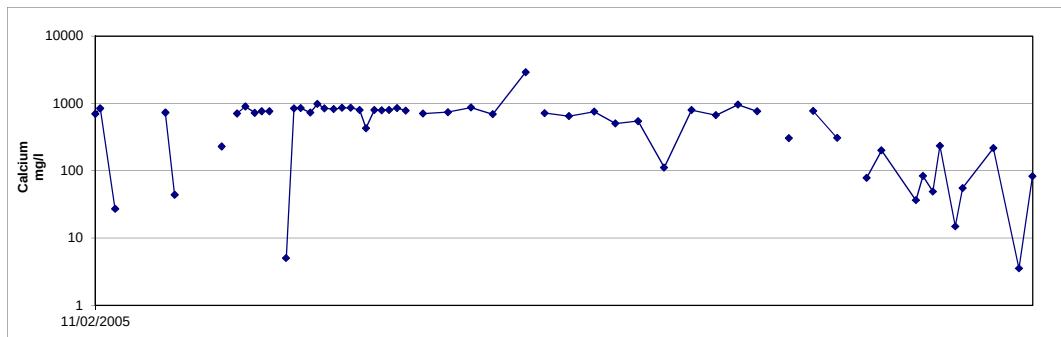
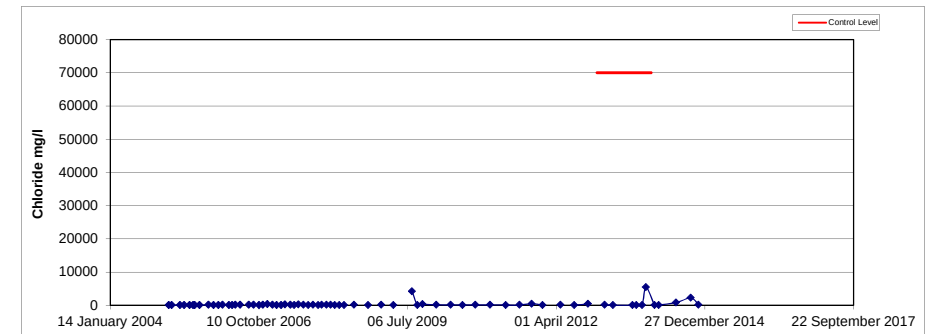
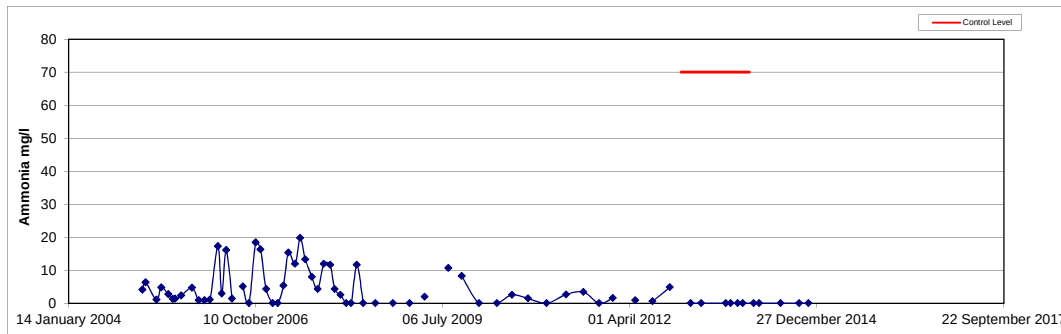
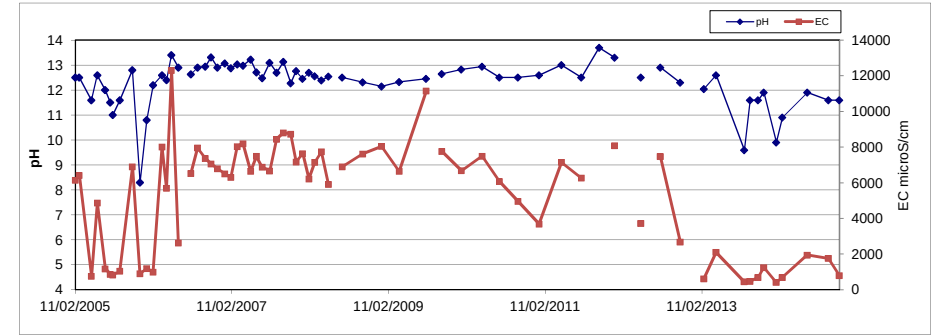
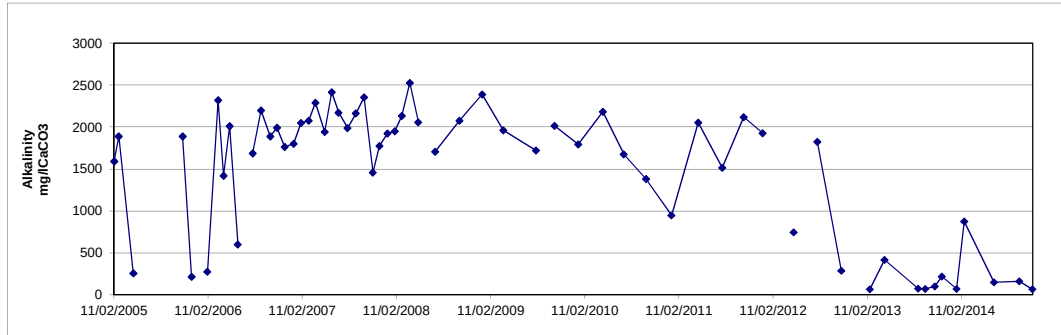
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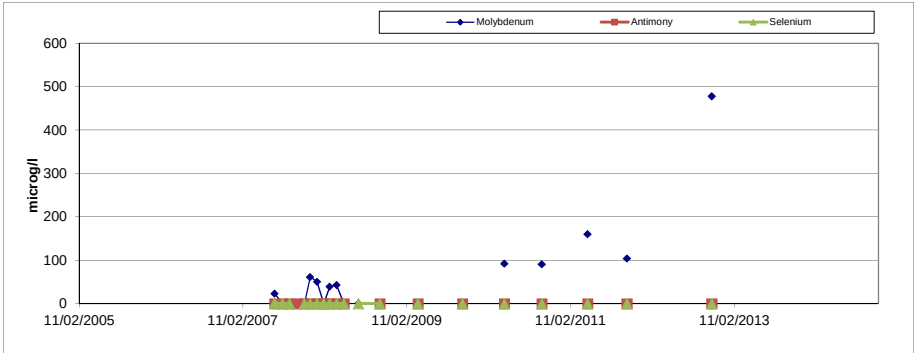
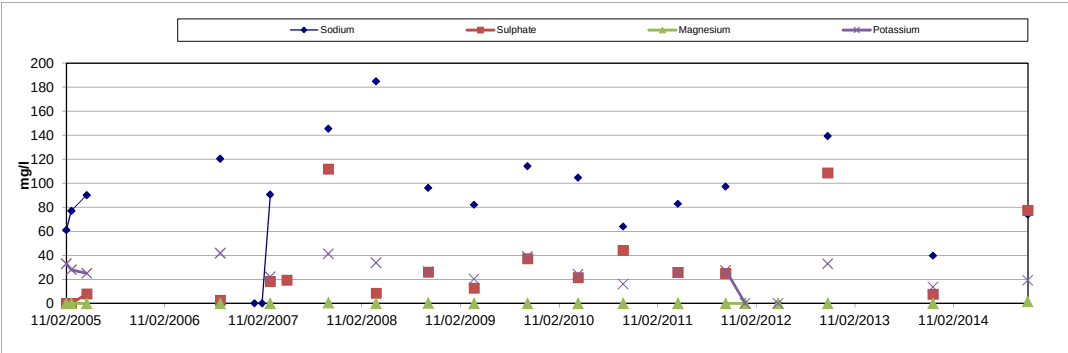
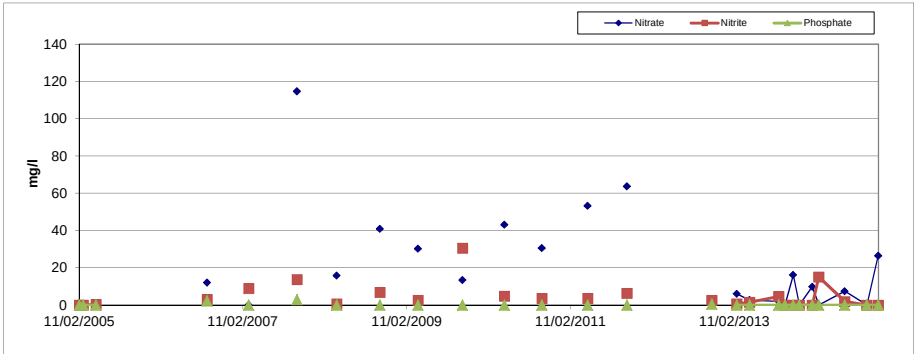
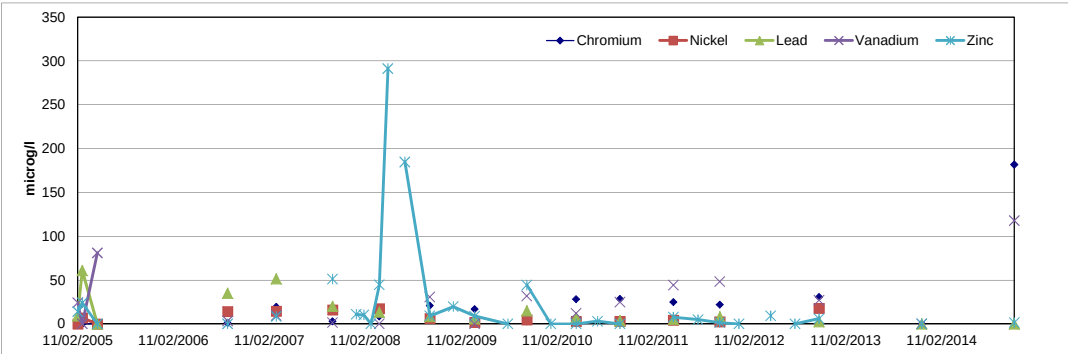
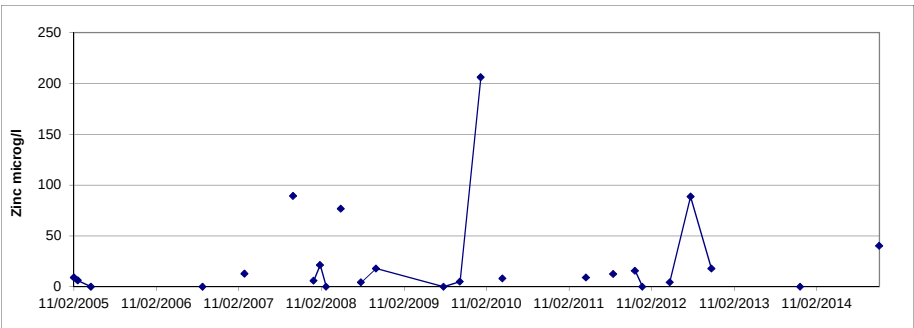
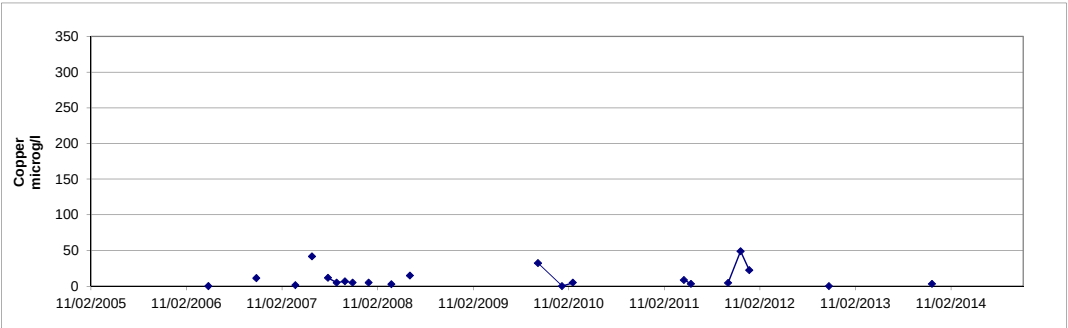
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**Appendix 2
Temporal variation of
leachate chemistry**

Report Number 1393r1v1d0215





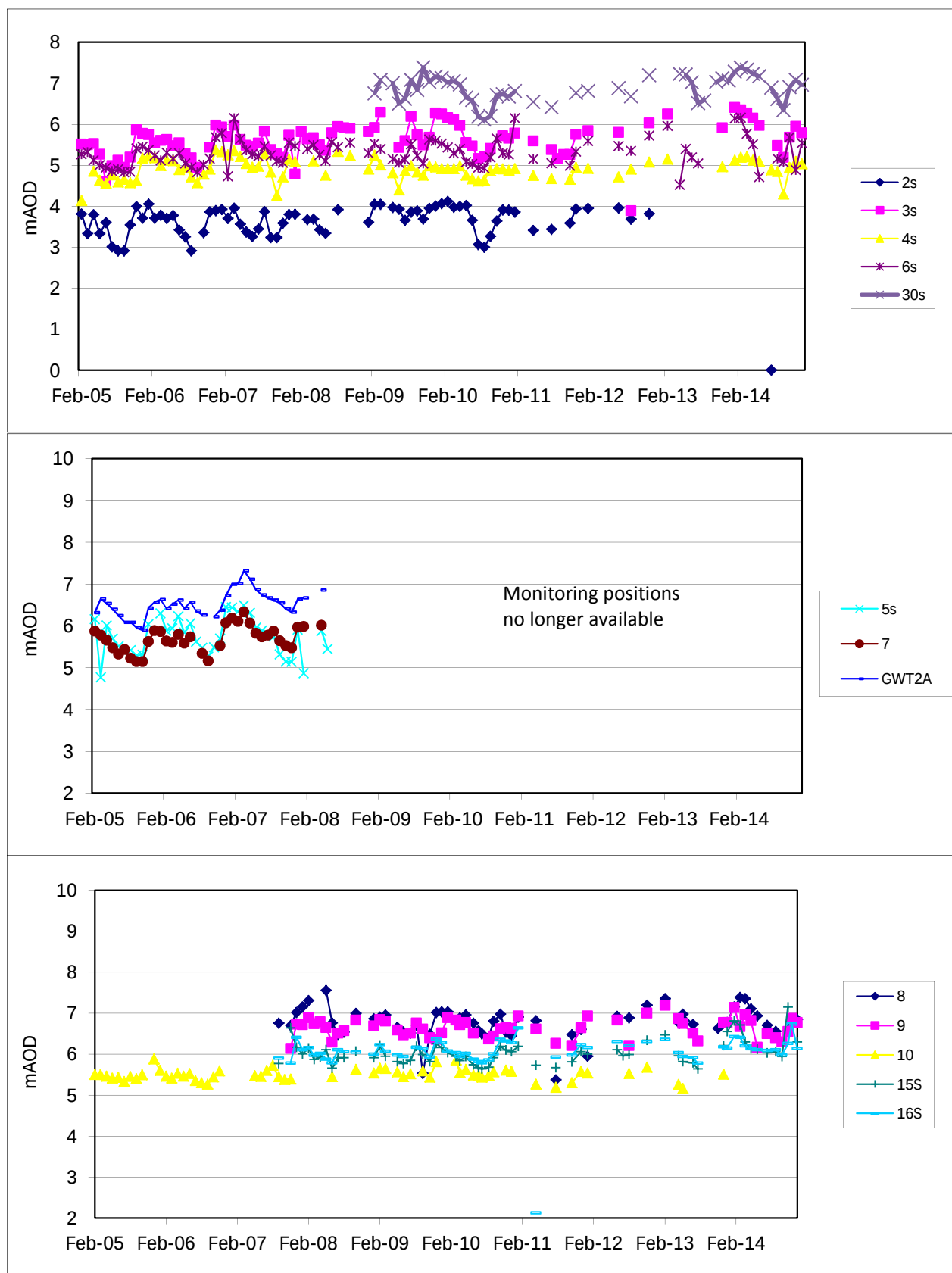
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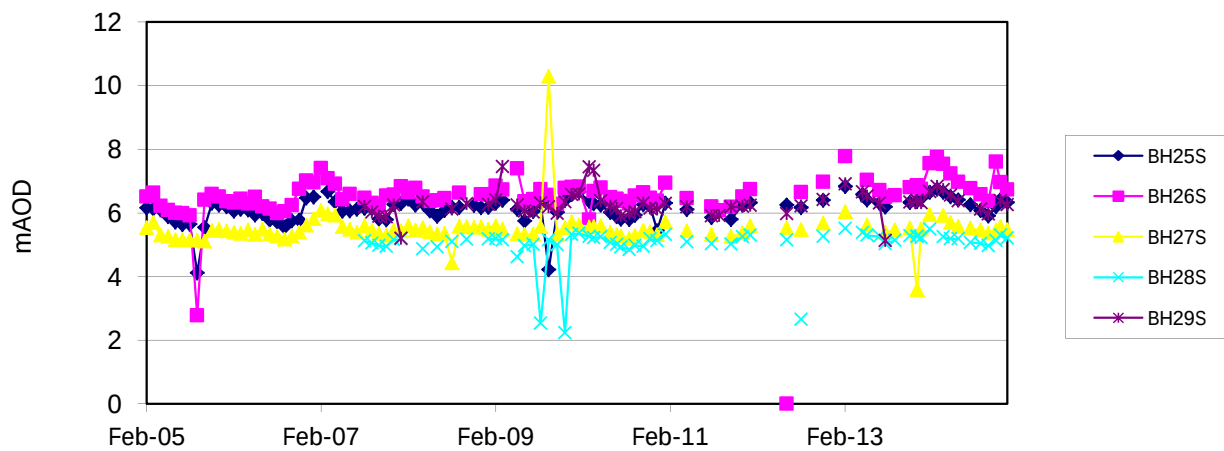
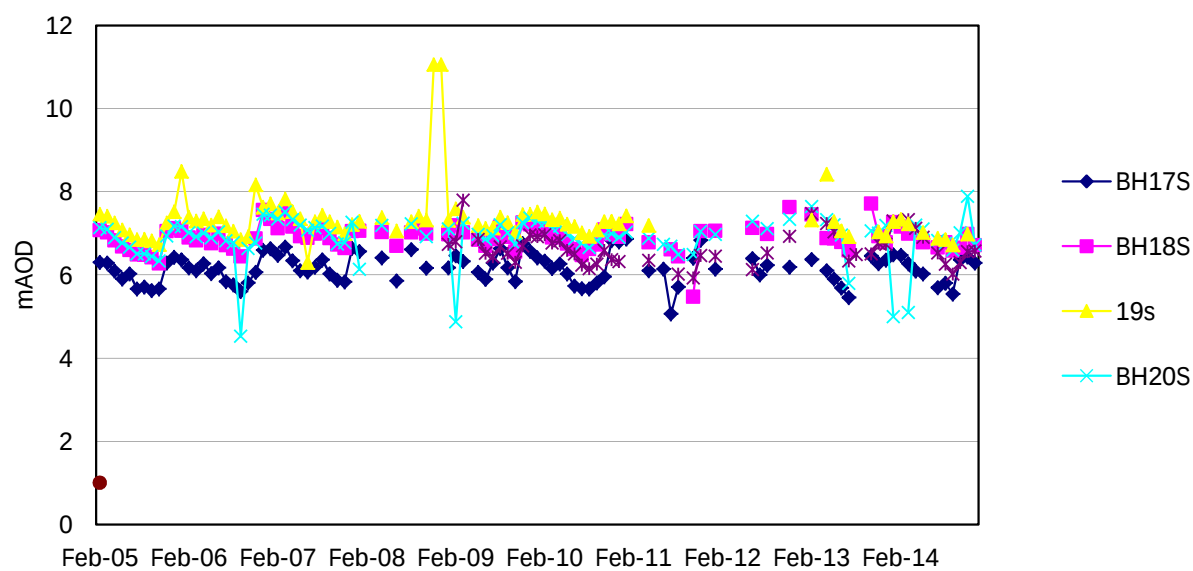
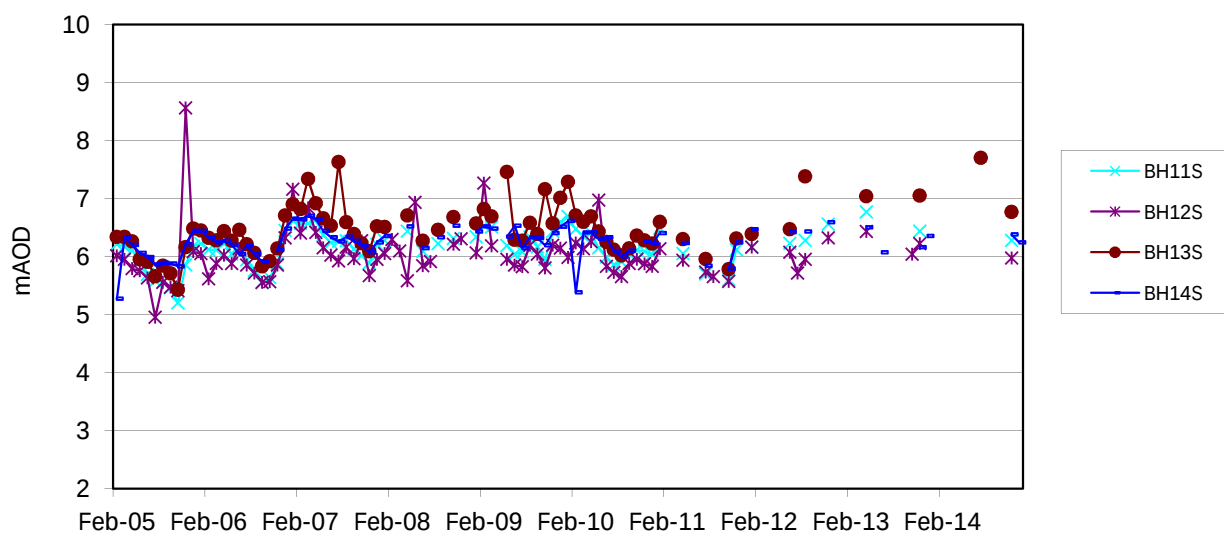
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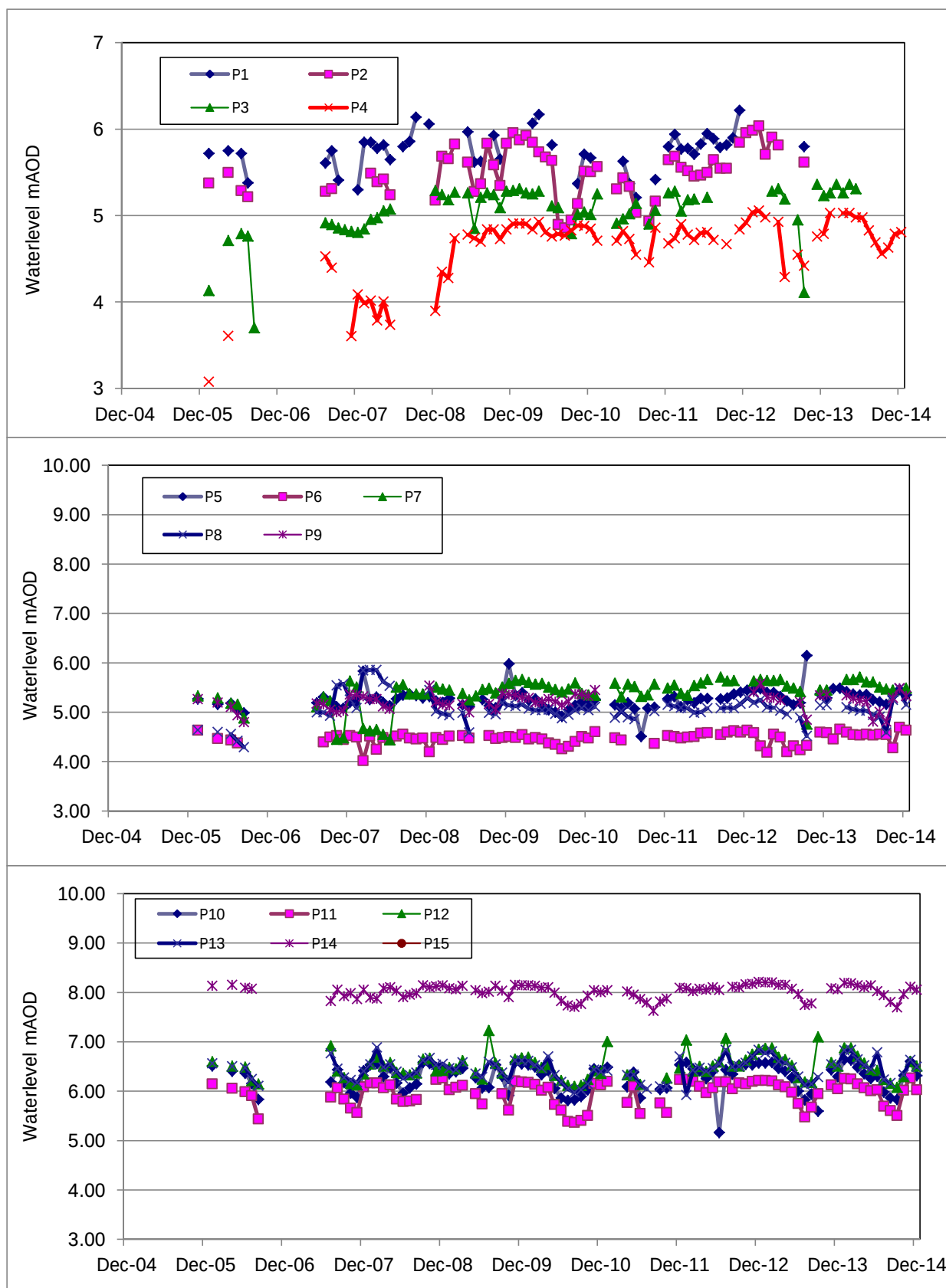
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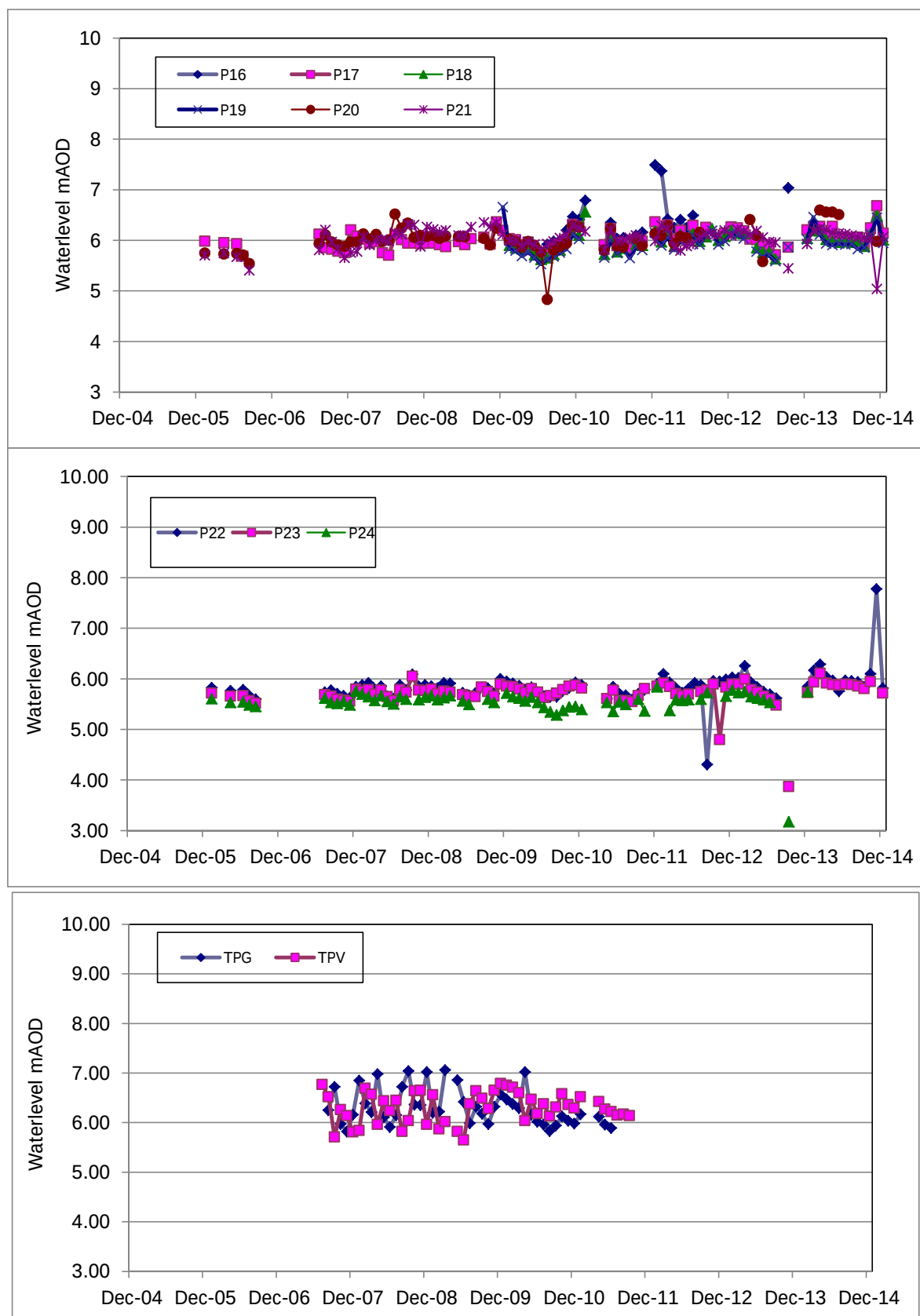
**Appendix 3
Temporal variation of
groundwater levels**

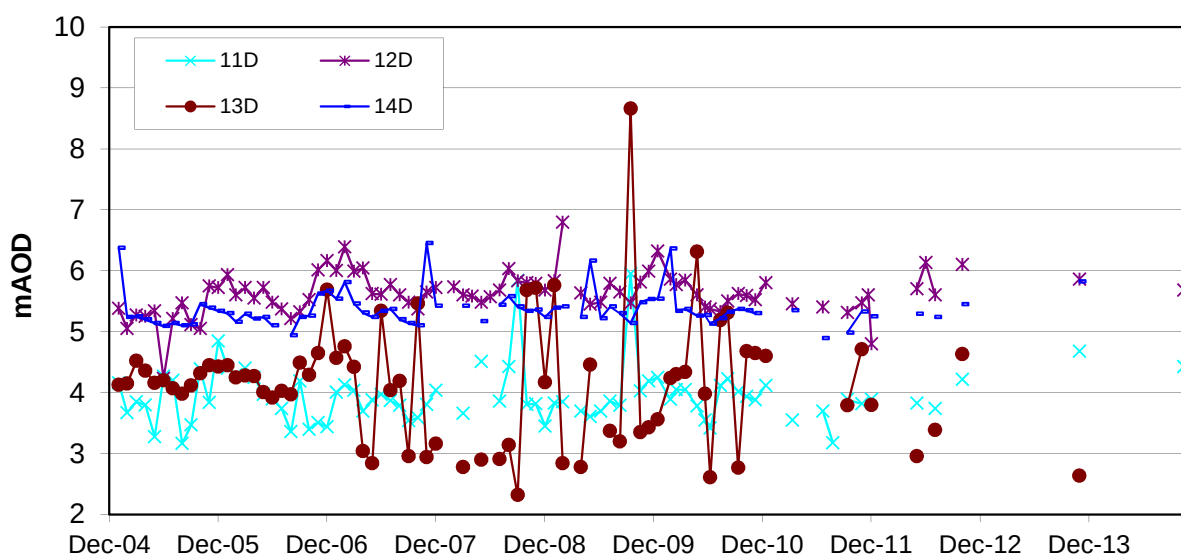
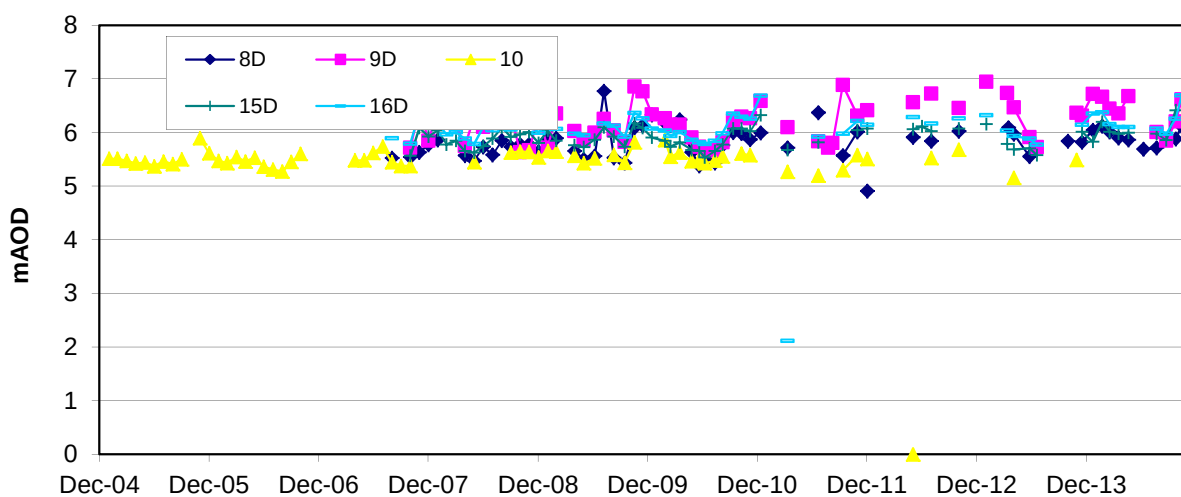
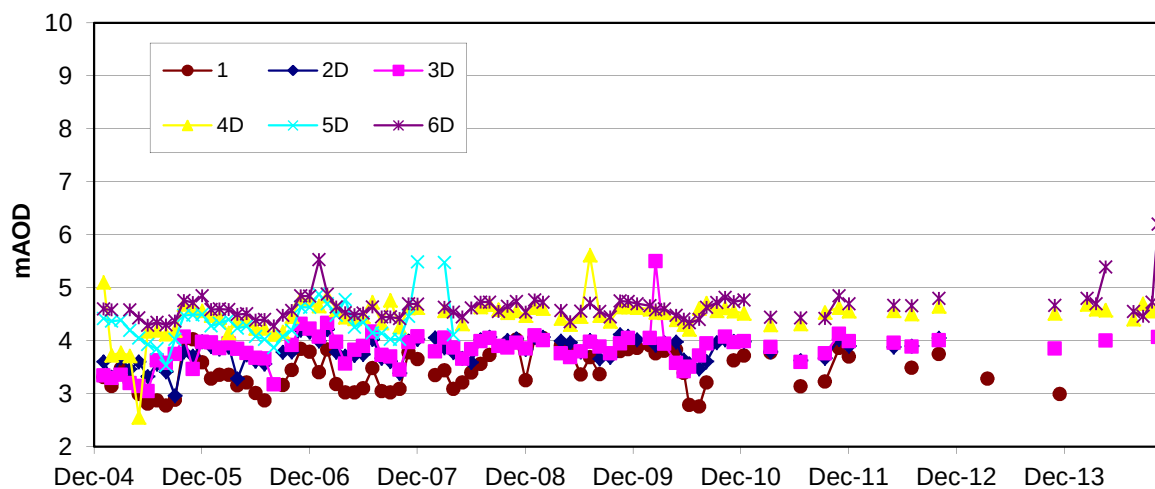
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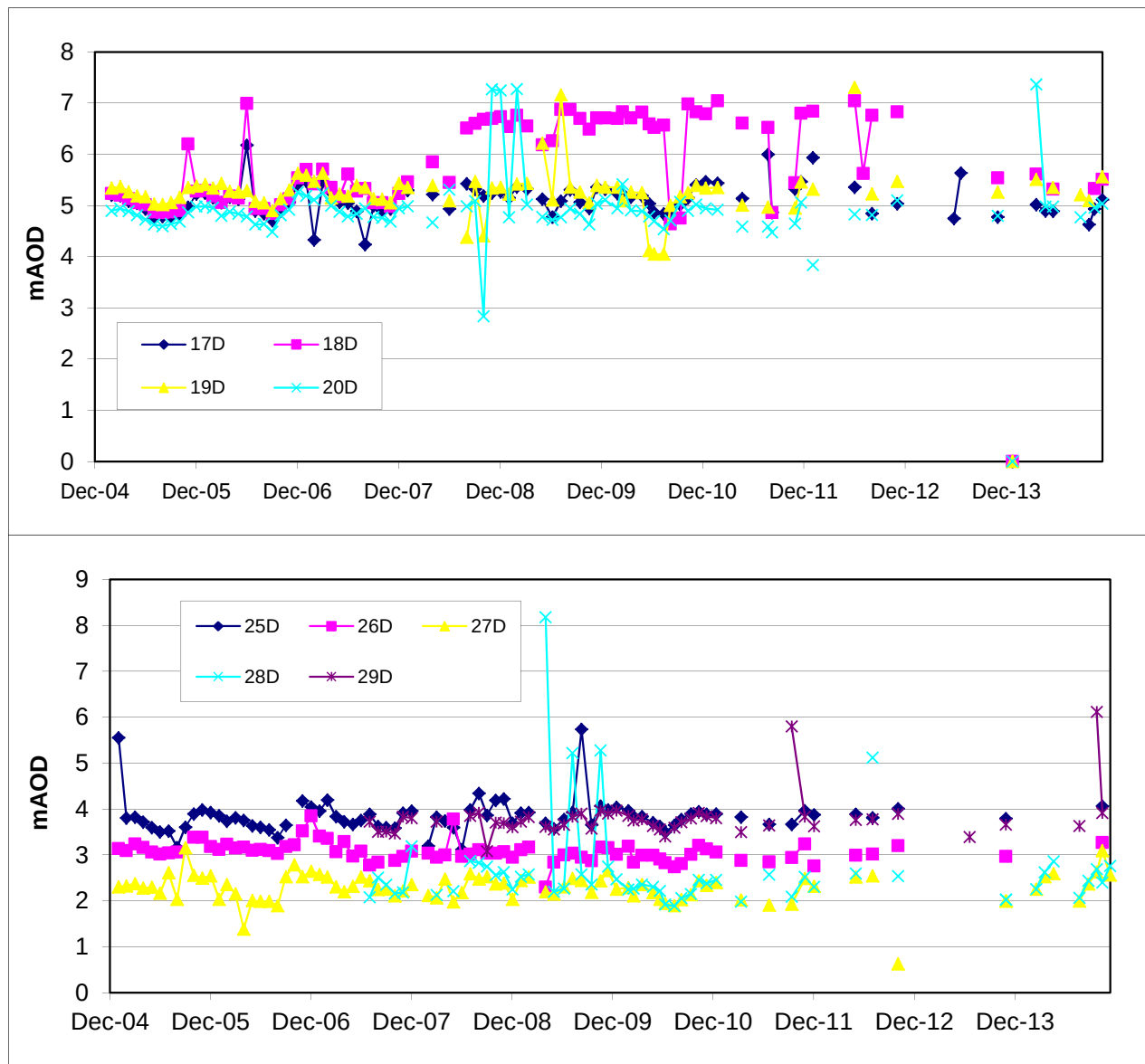












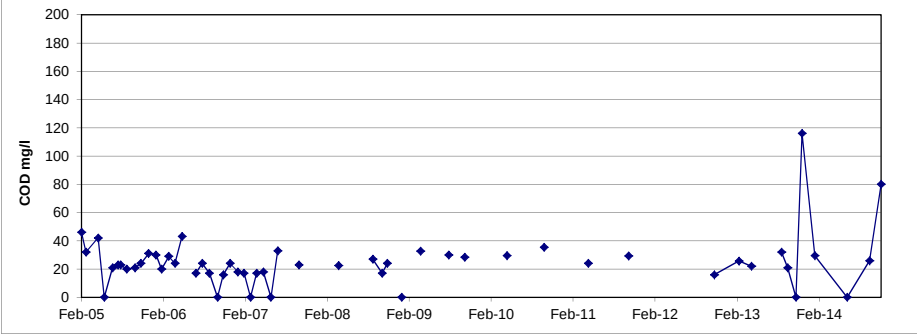
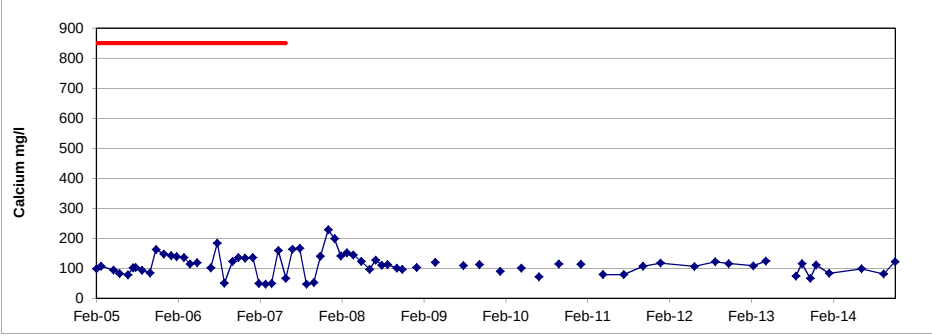
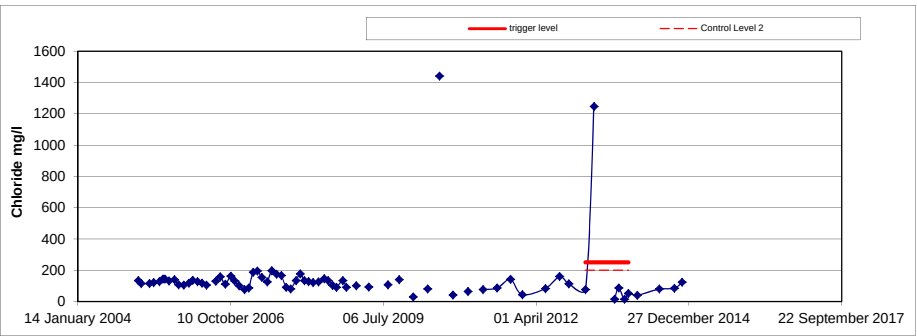
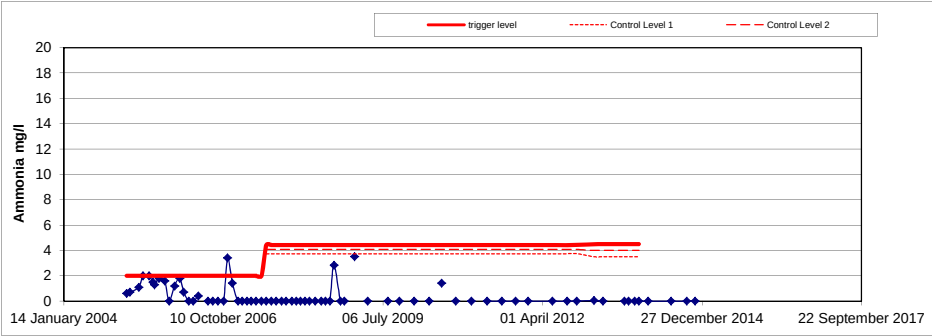
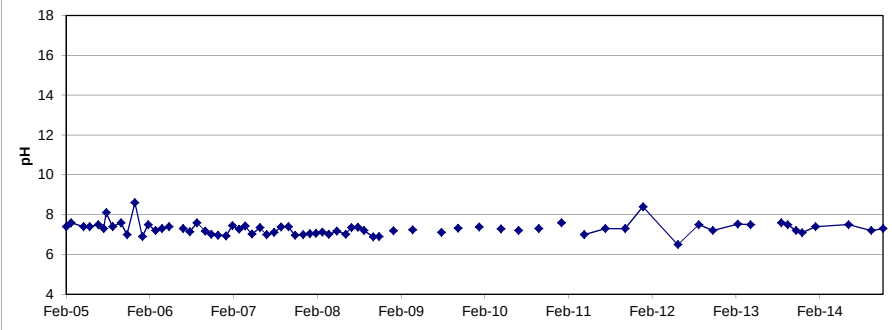
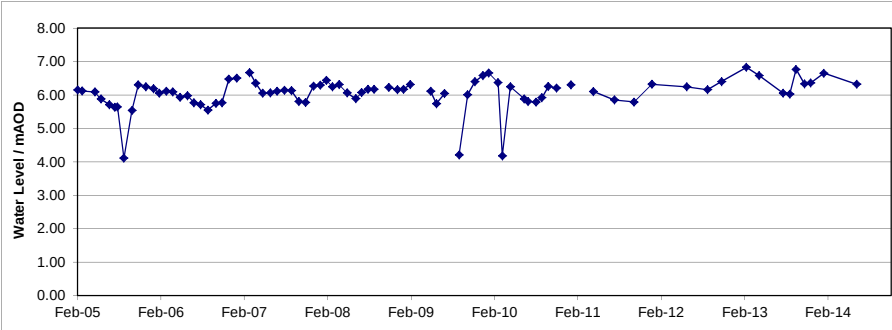
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LANDFILL, PORT TALBOT**

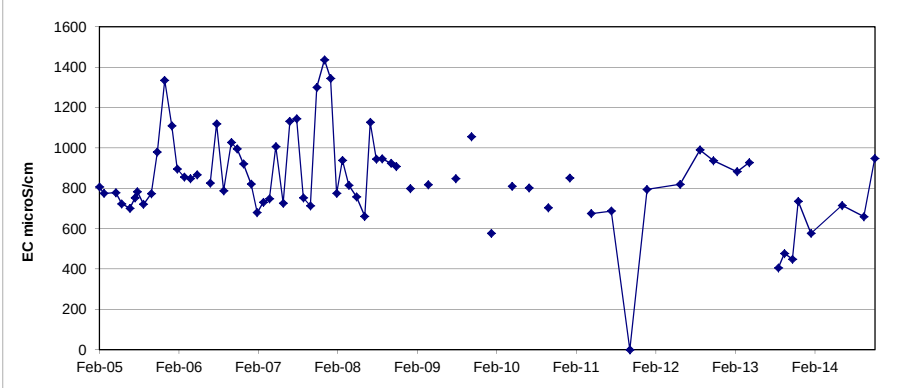
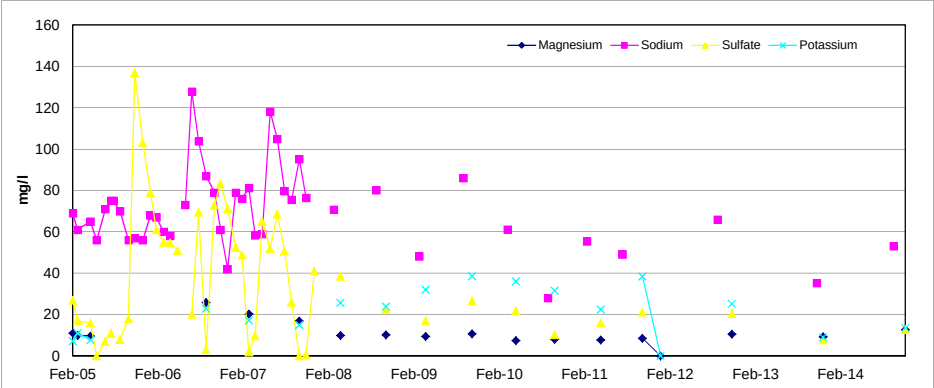
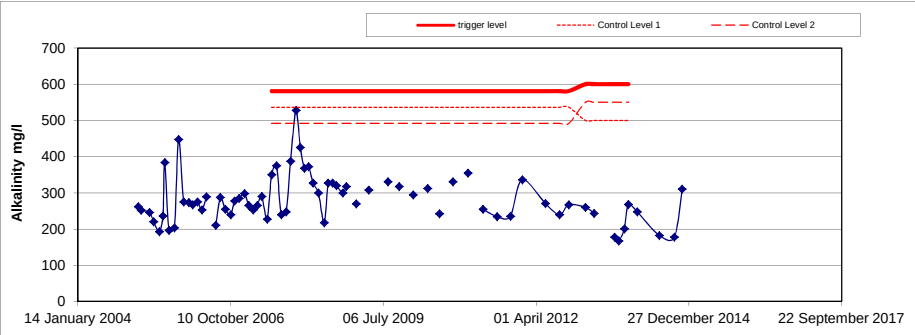
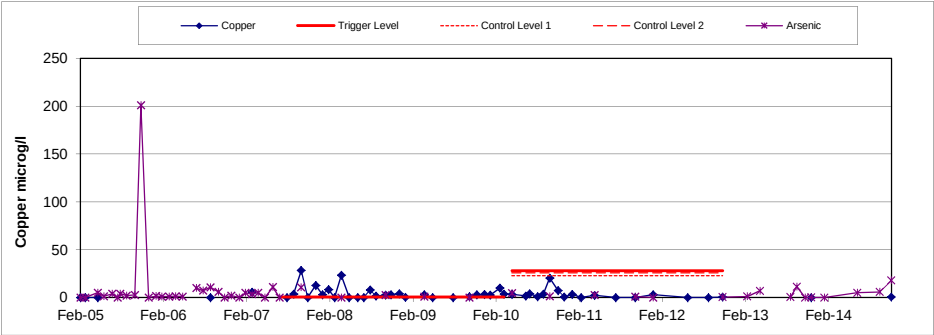
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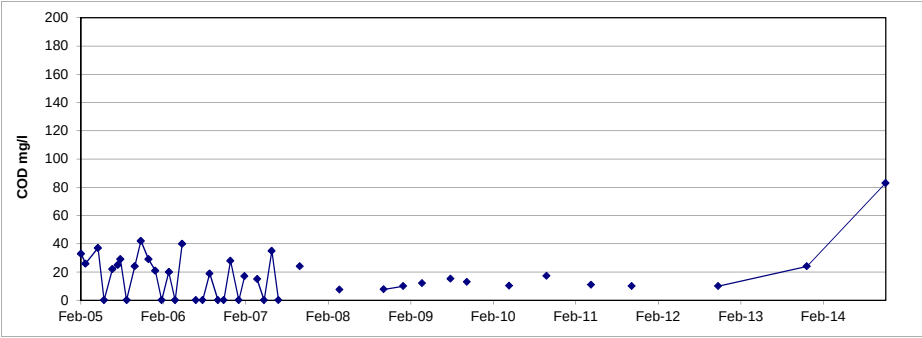
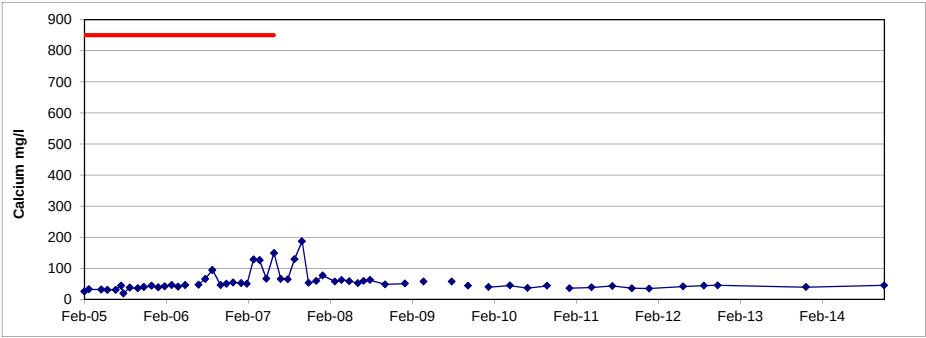
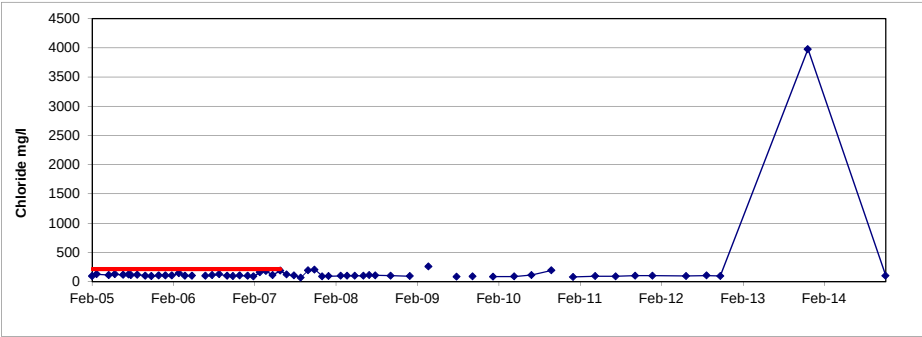
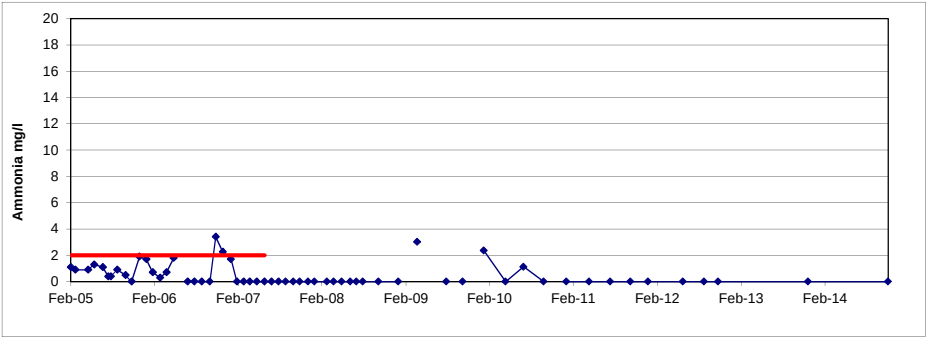
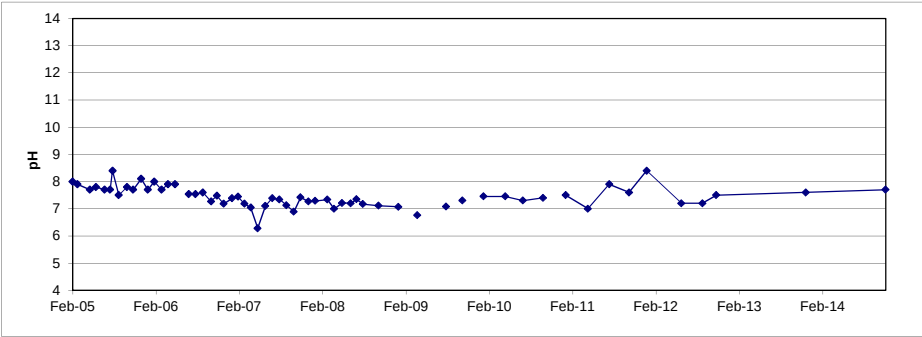
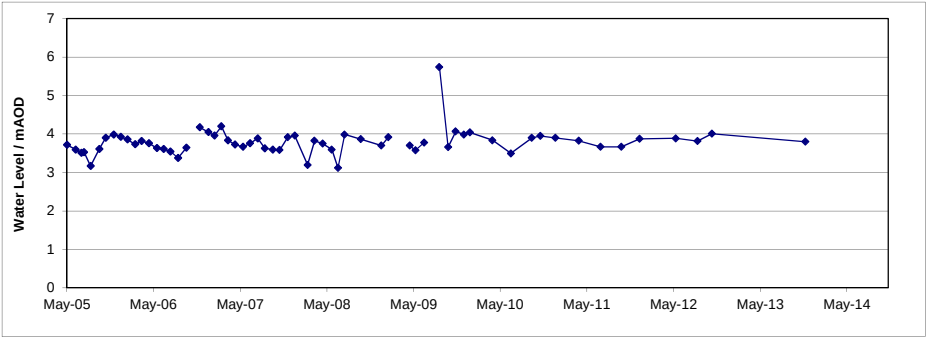
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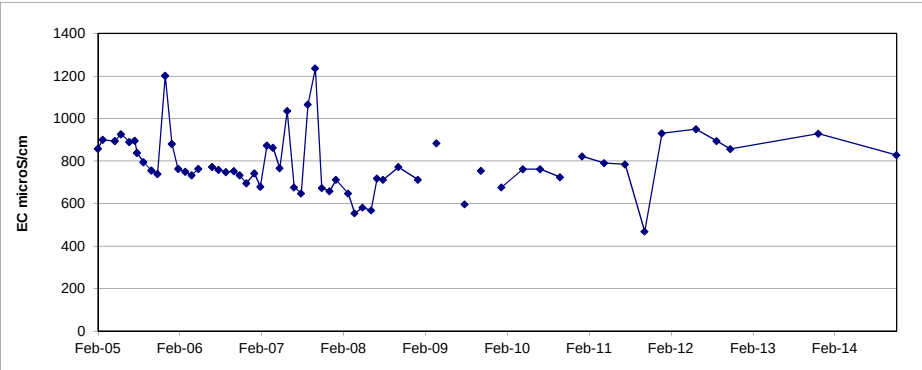
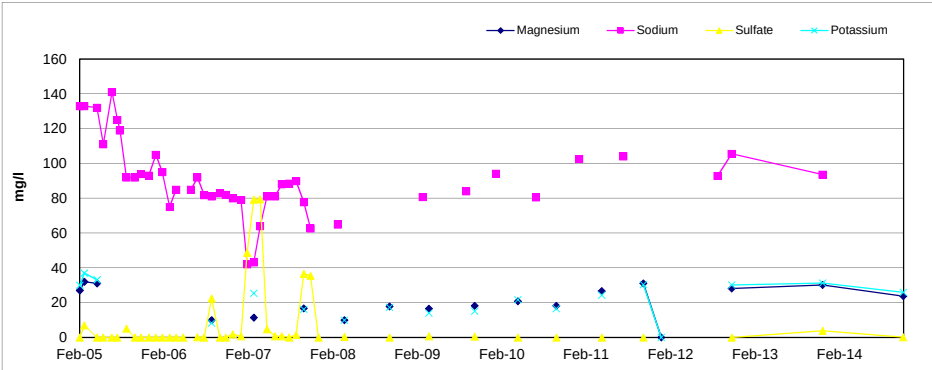
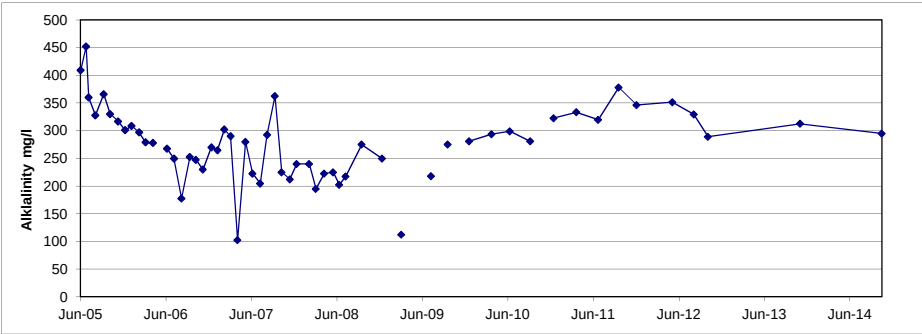
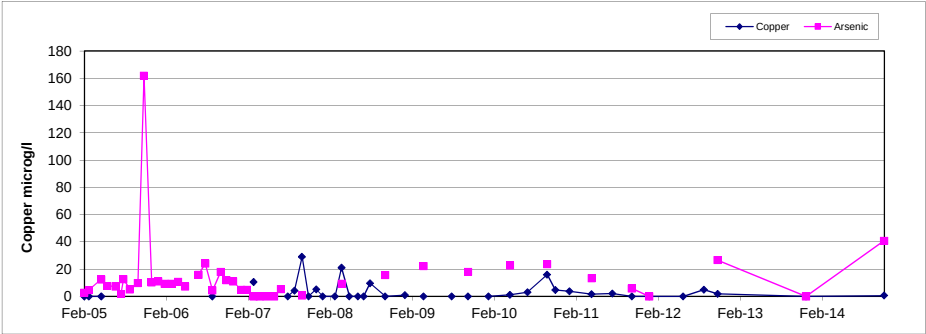
**Appendix 4
Temporal variation of
groundwater chemistry**

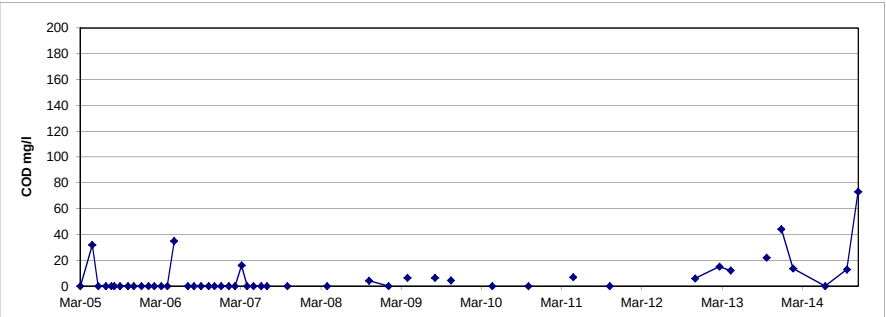
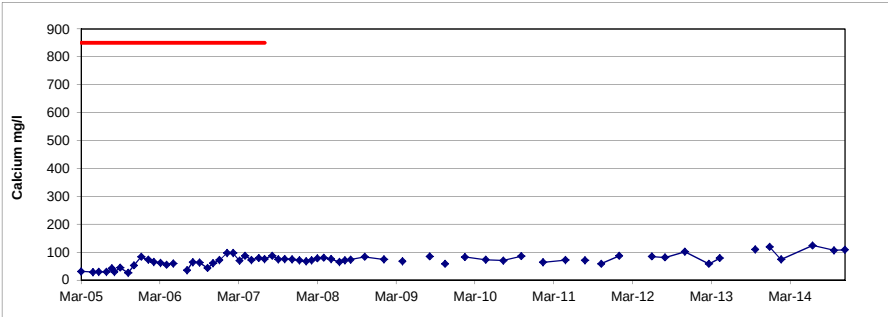
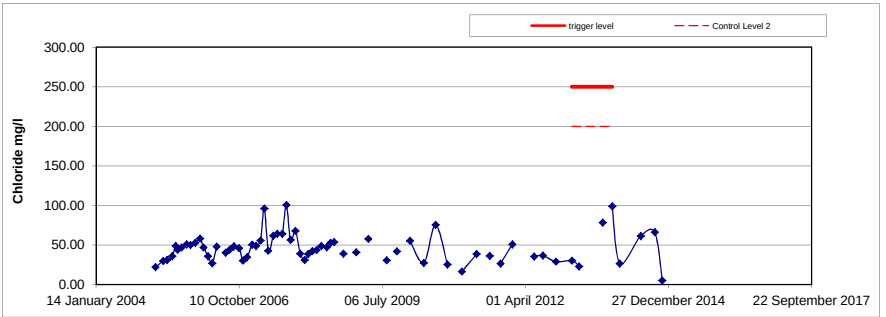
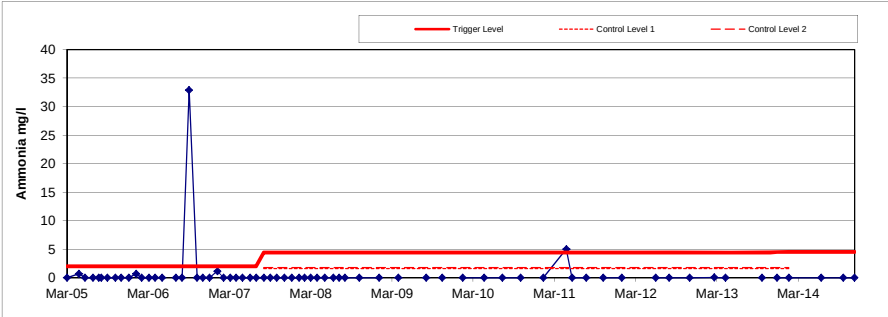
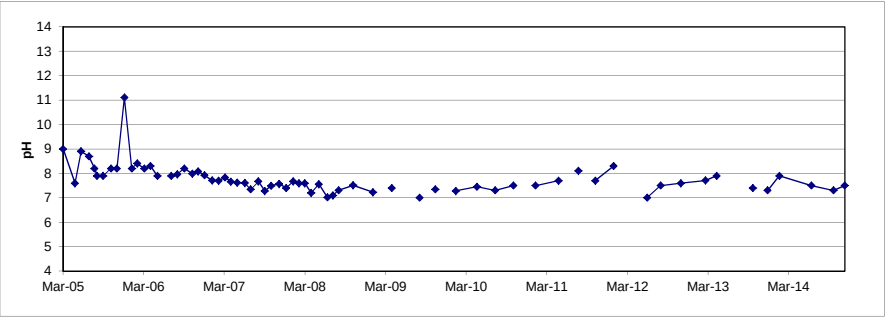
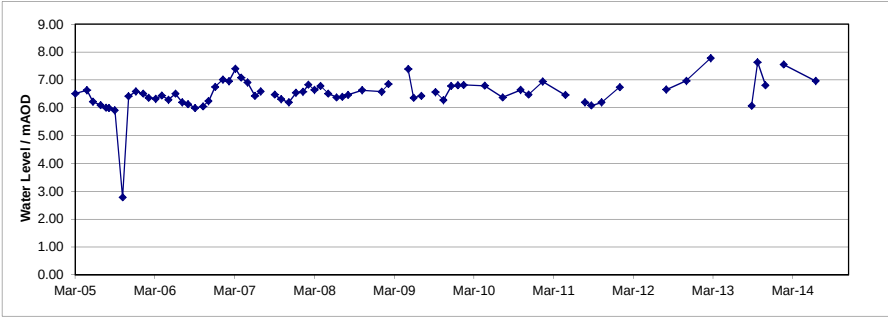
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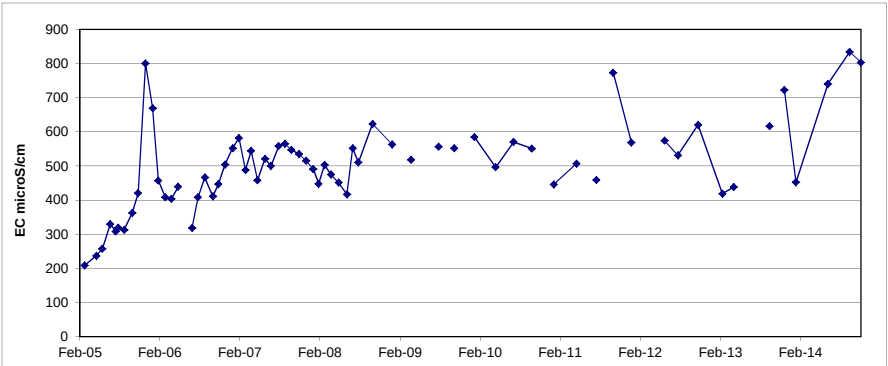
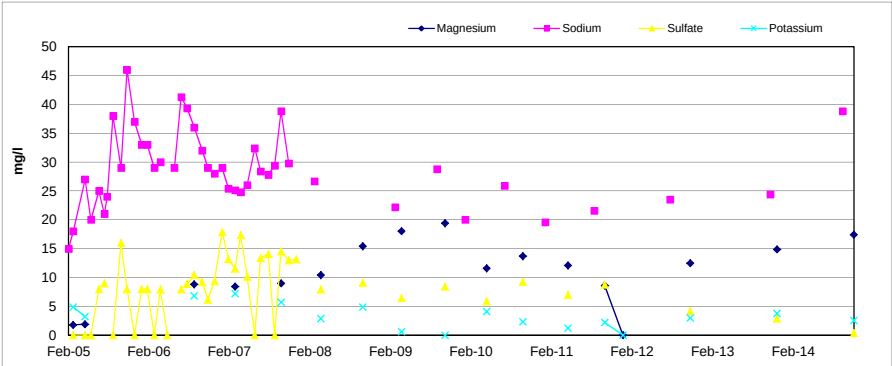
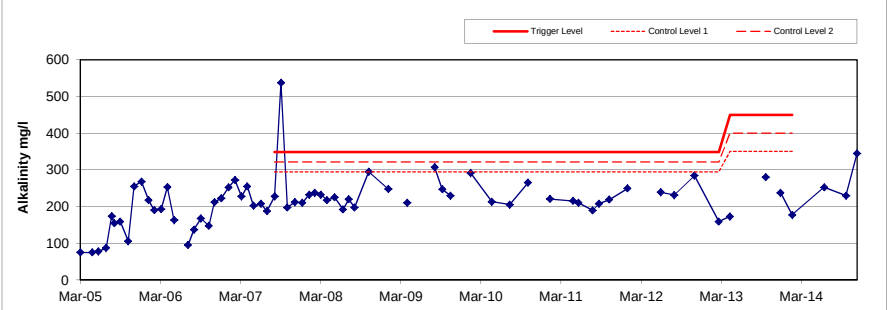
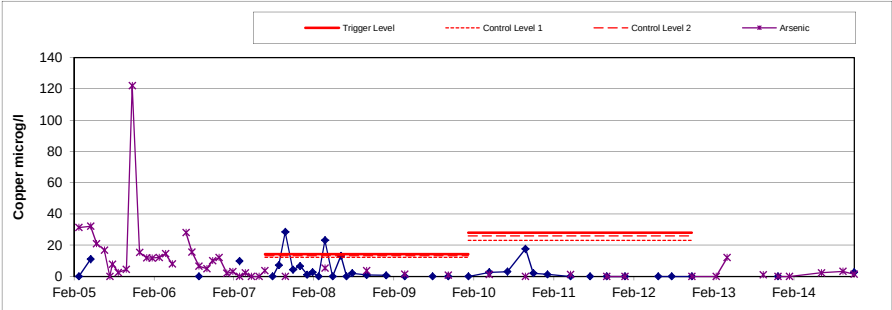


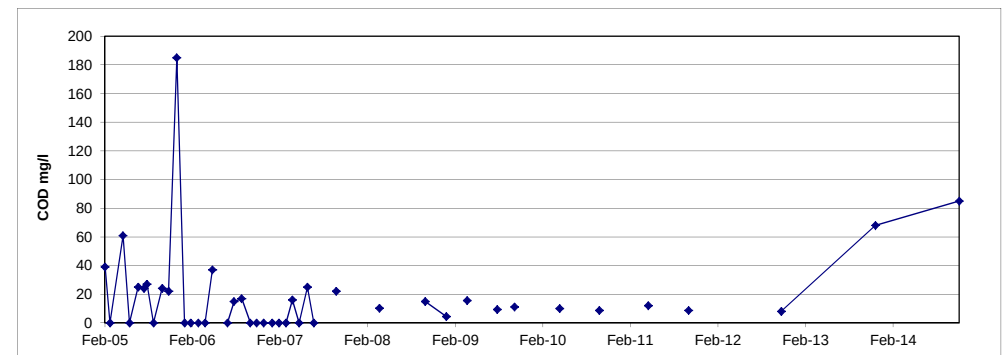
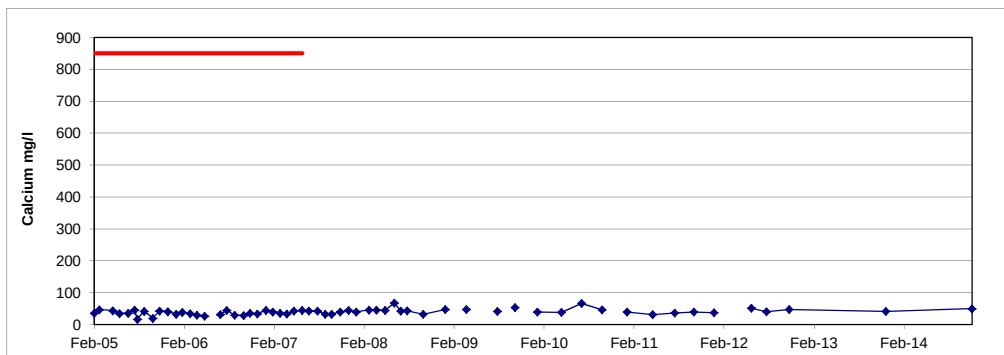
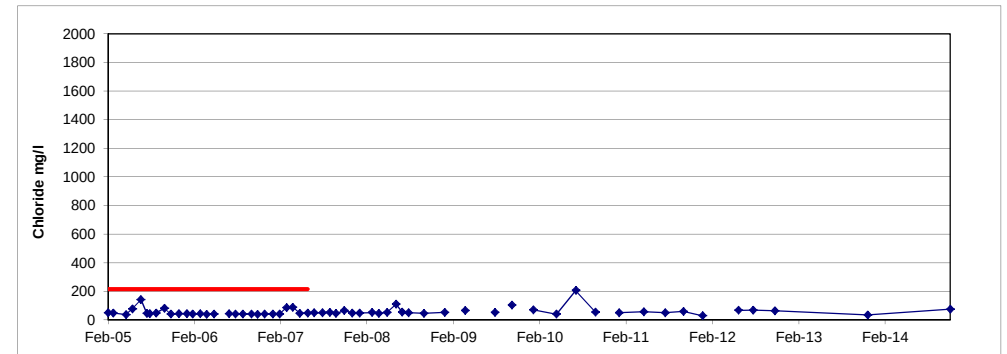
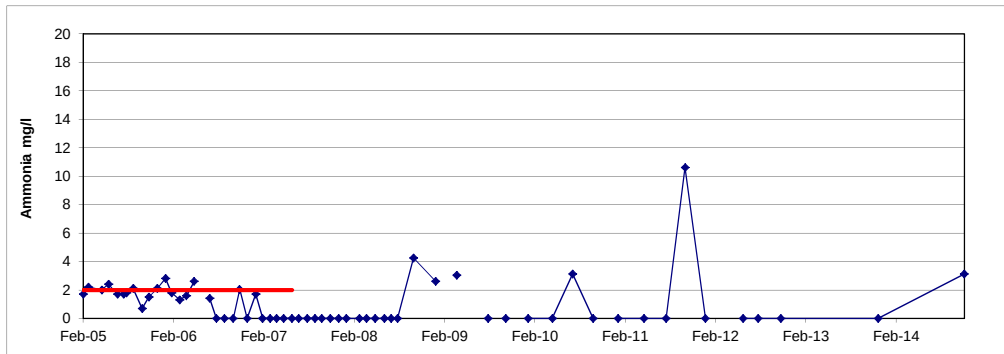
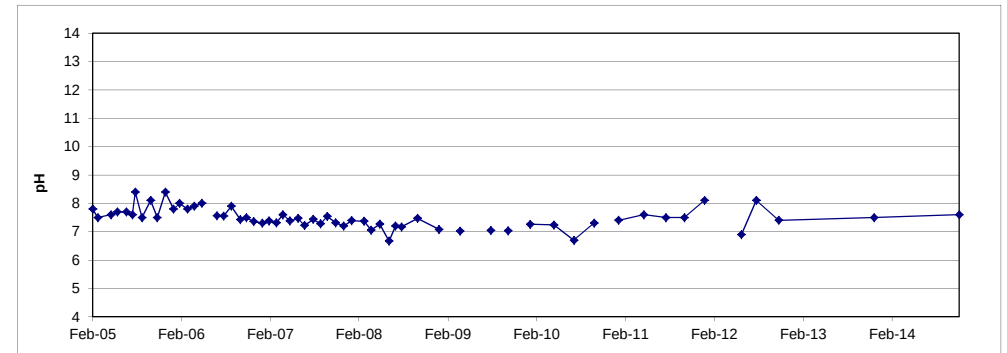
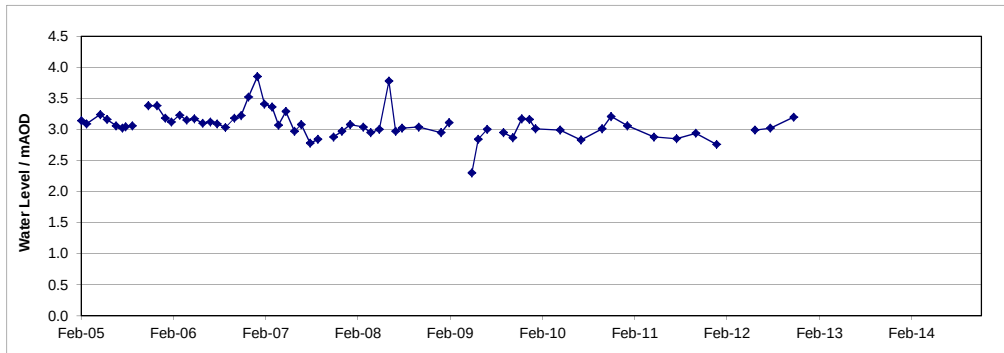


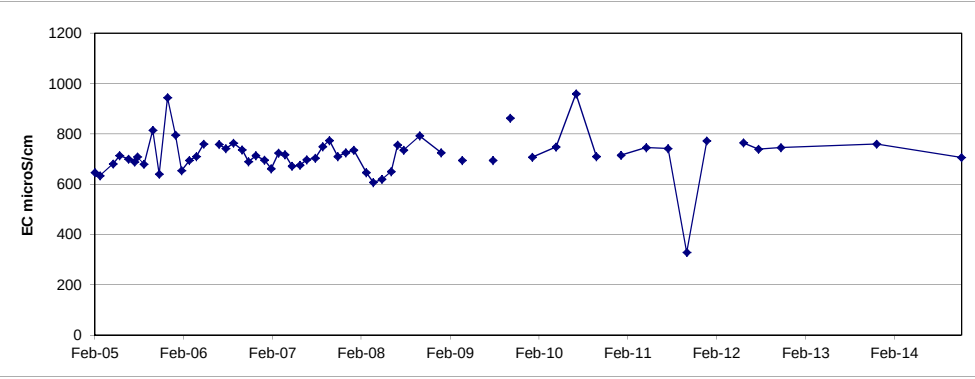
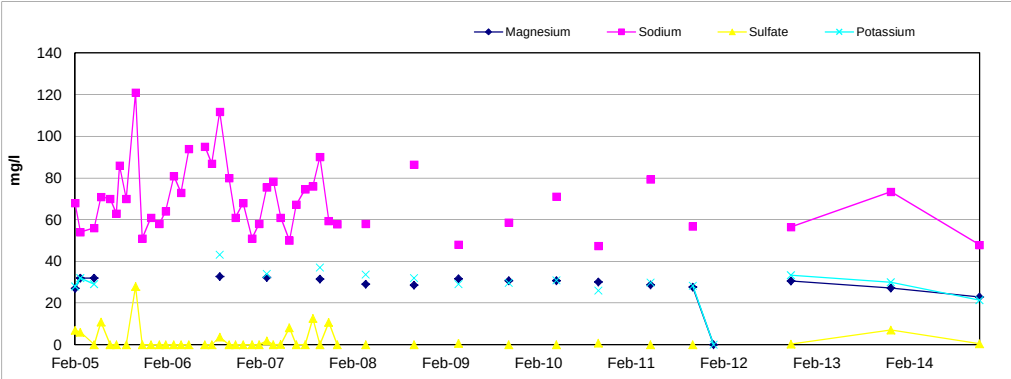
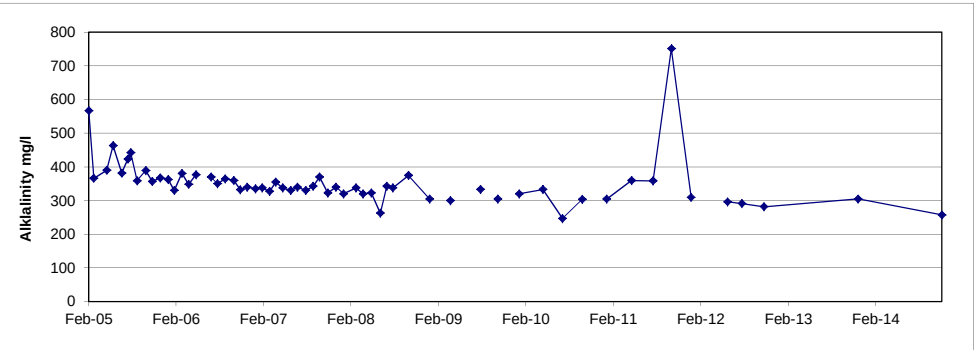
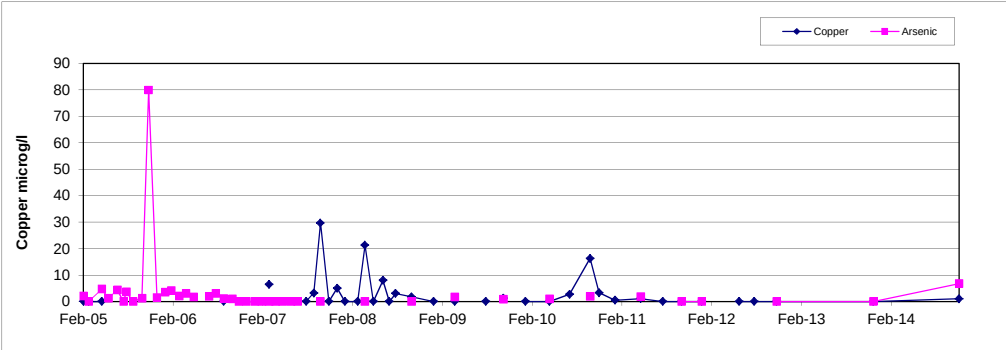


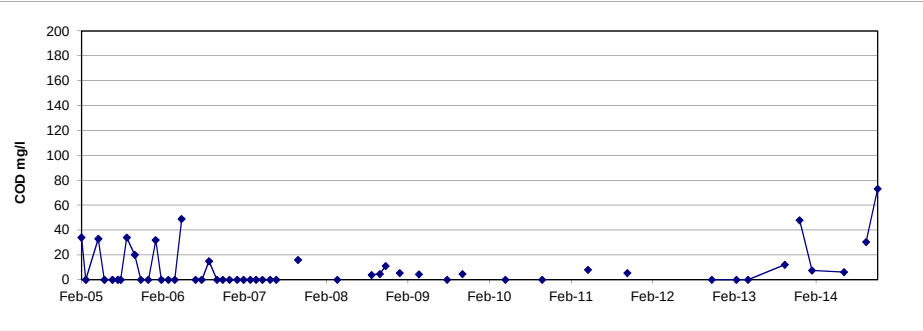
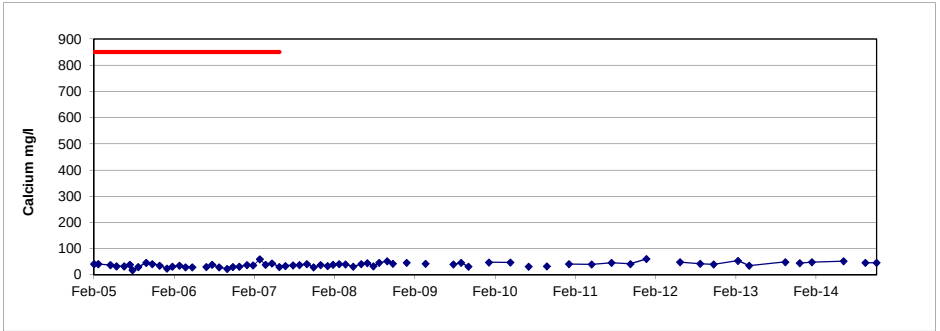
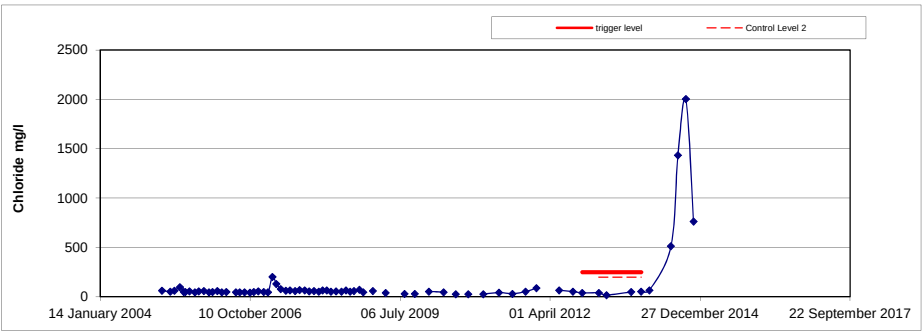
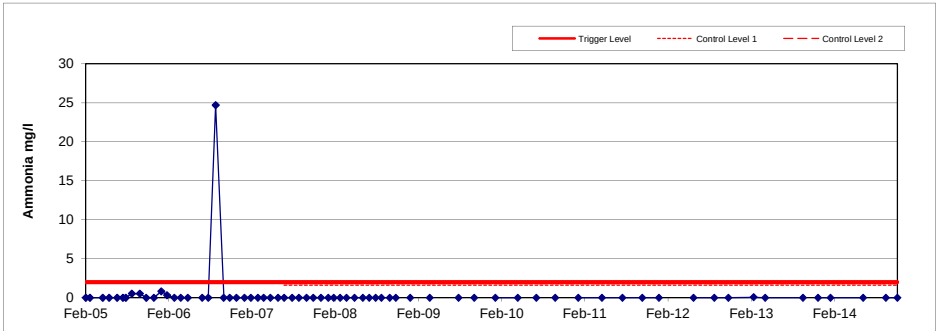
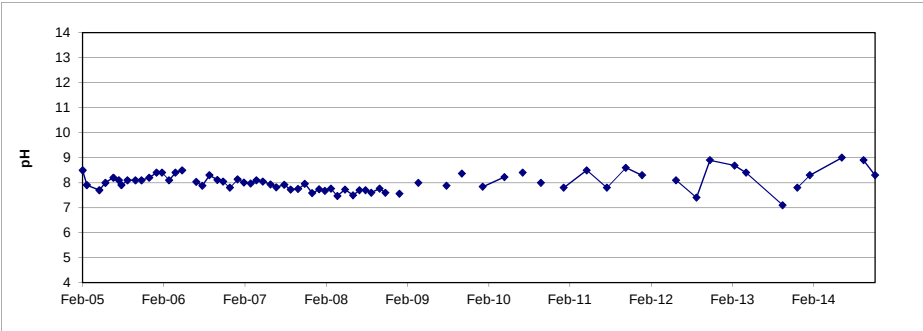
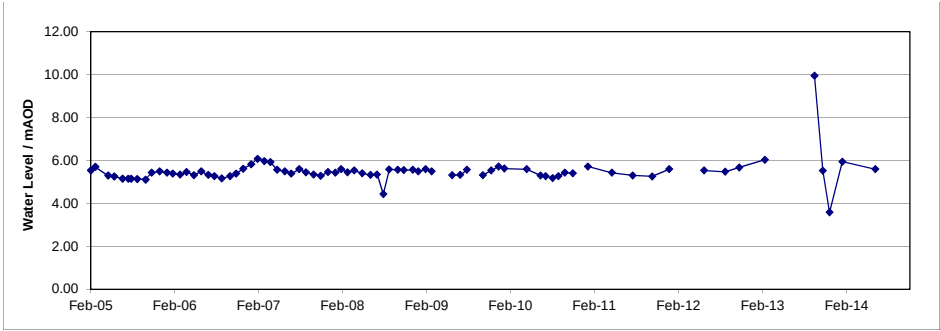


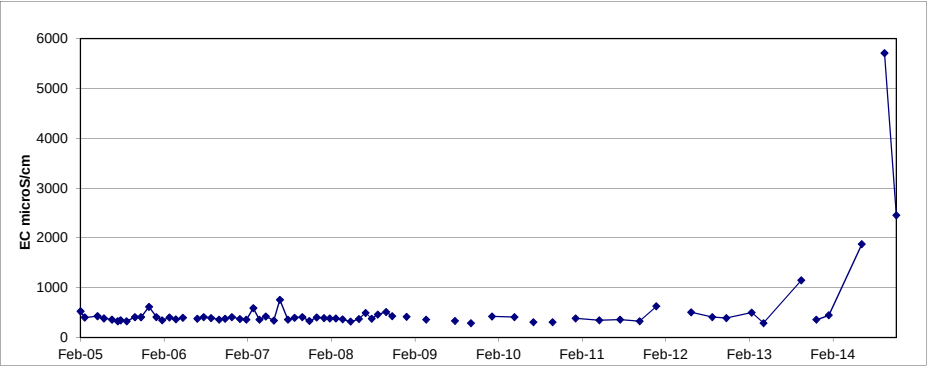
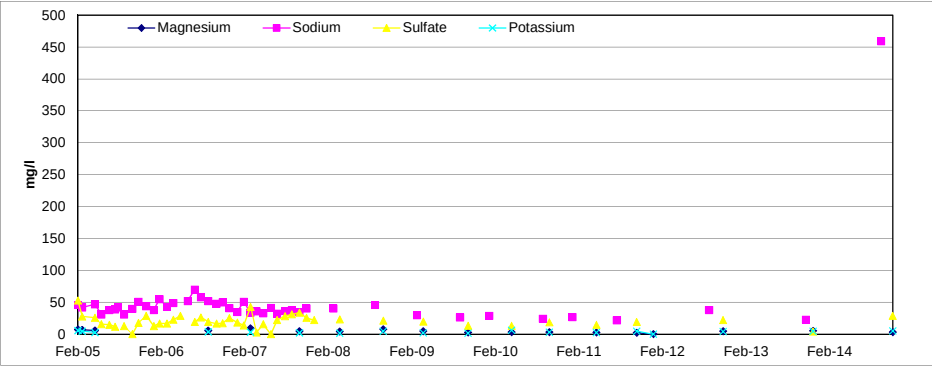
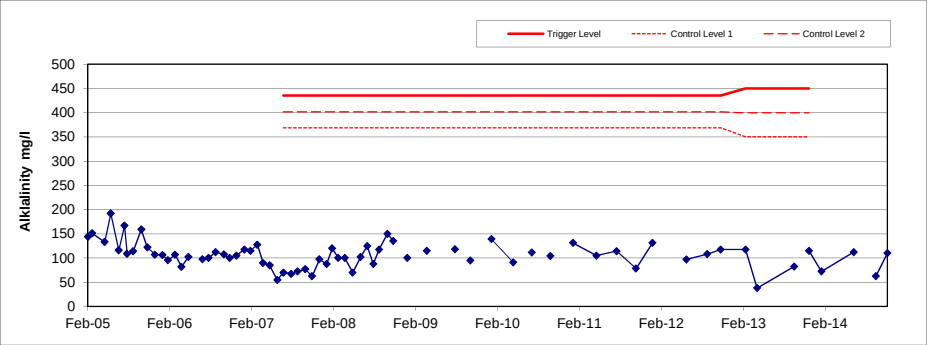
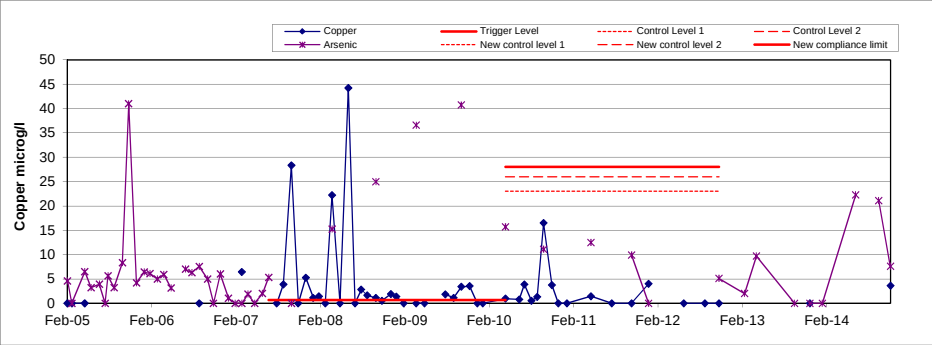


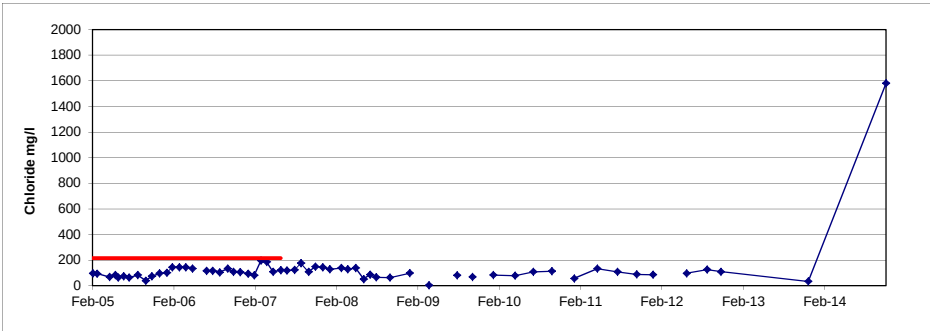
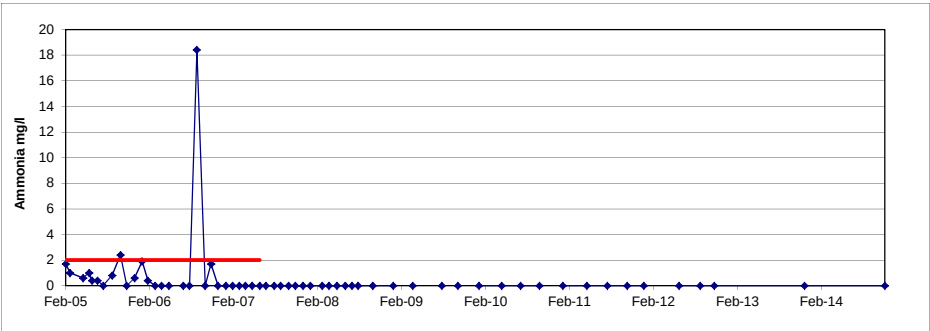
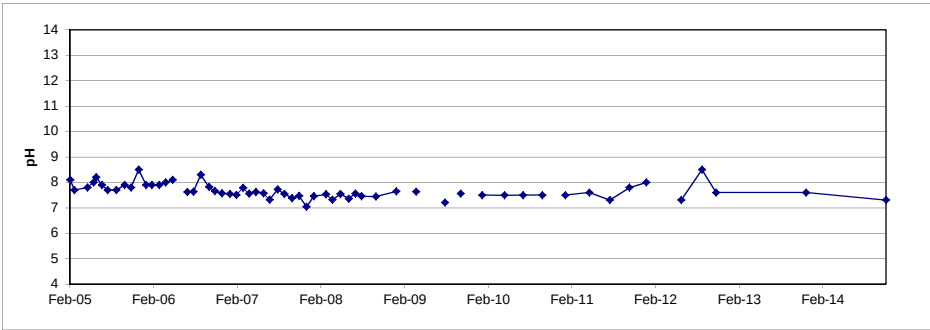
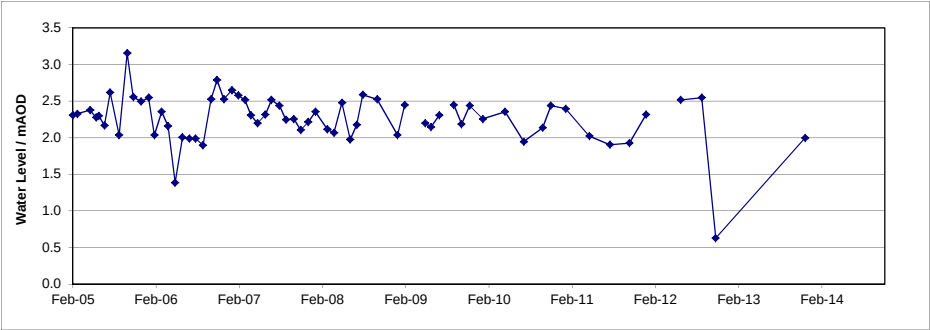


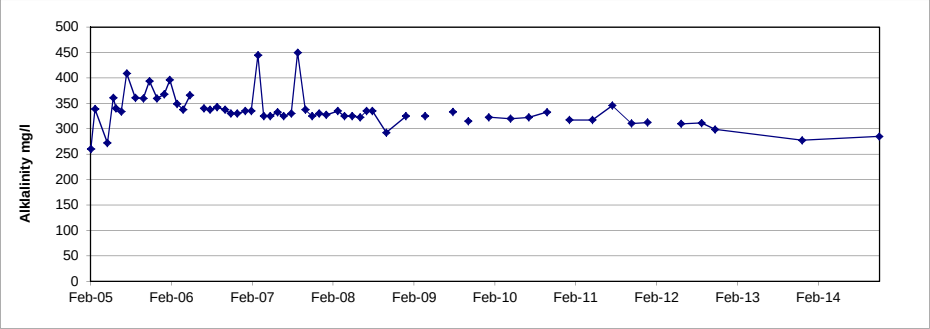
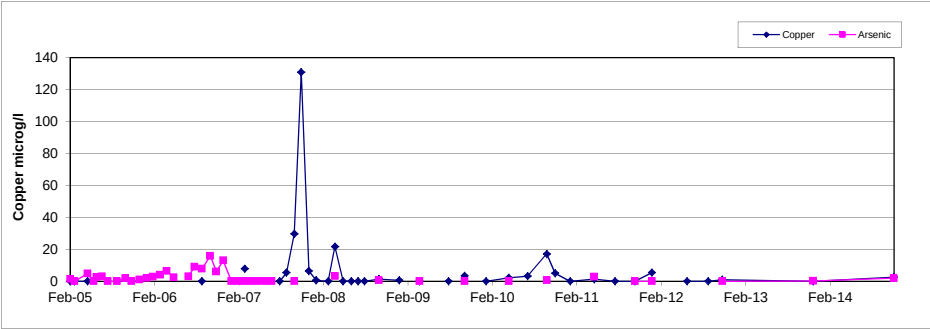
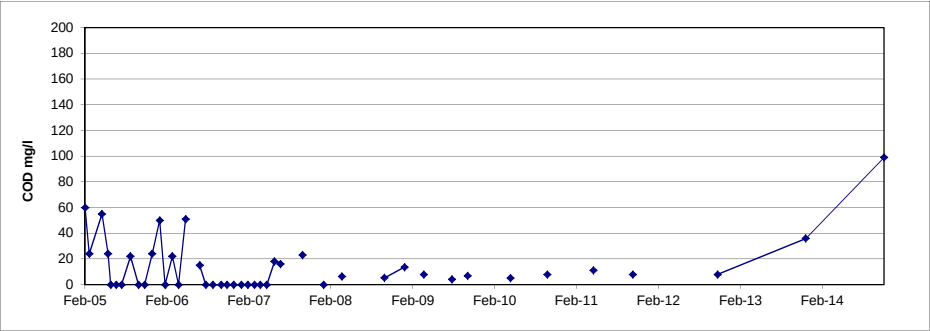
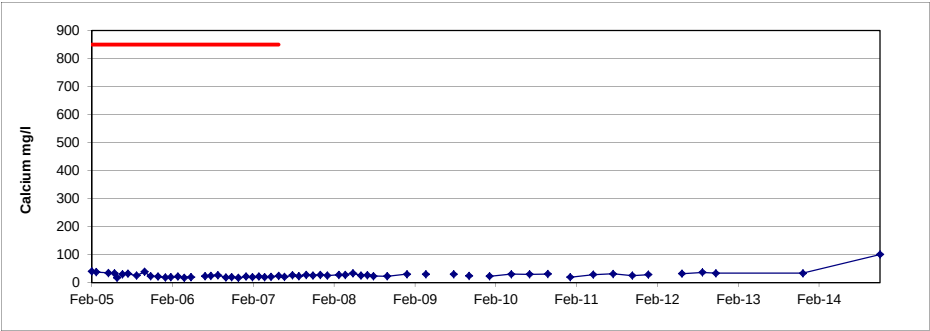


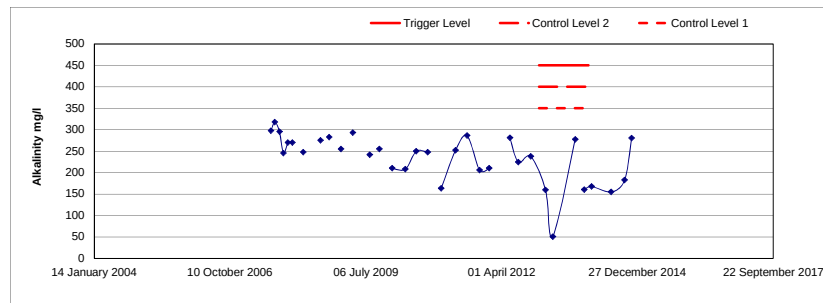
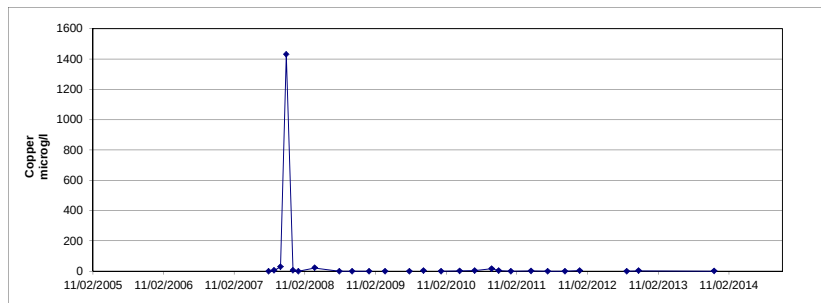
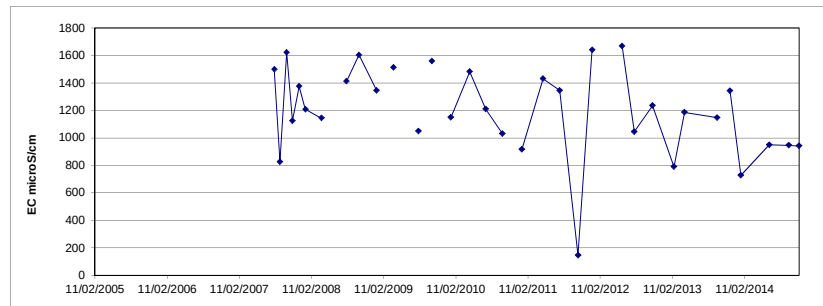
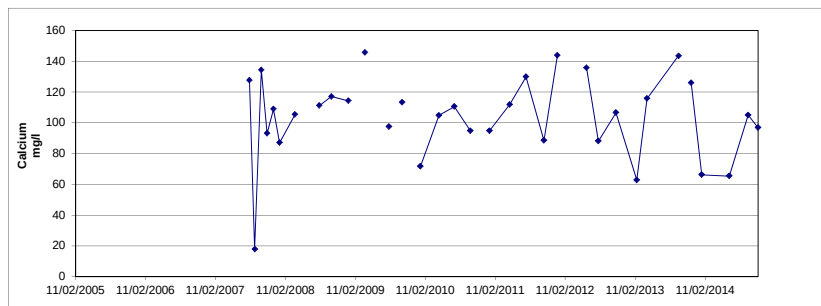
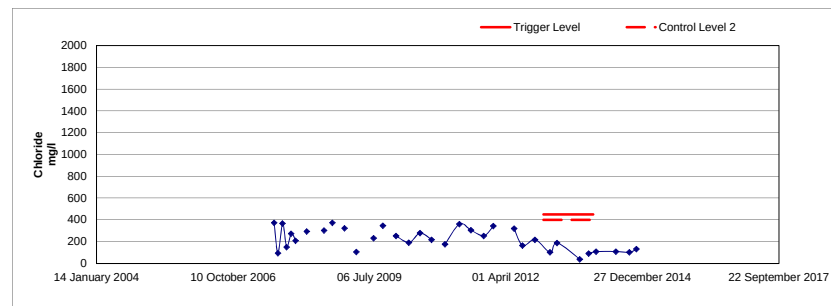
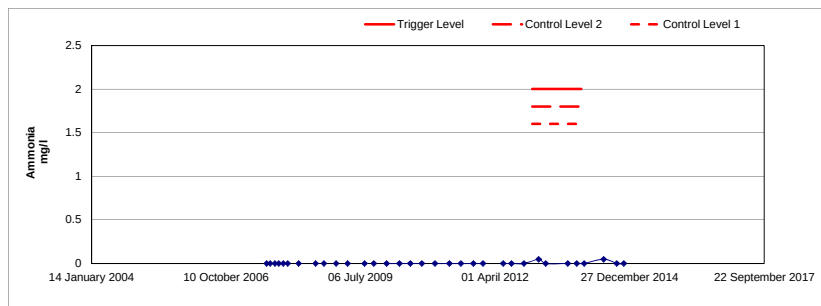
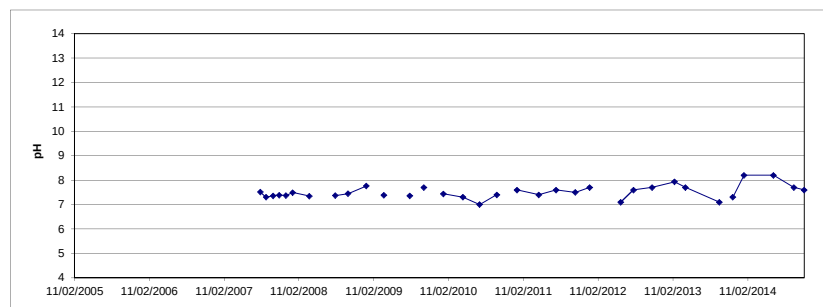
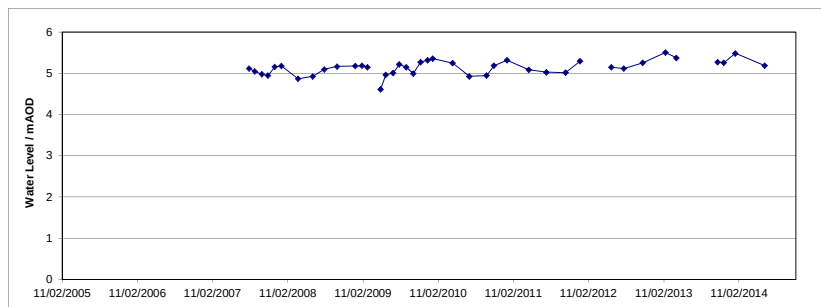


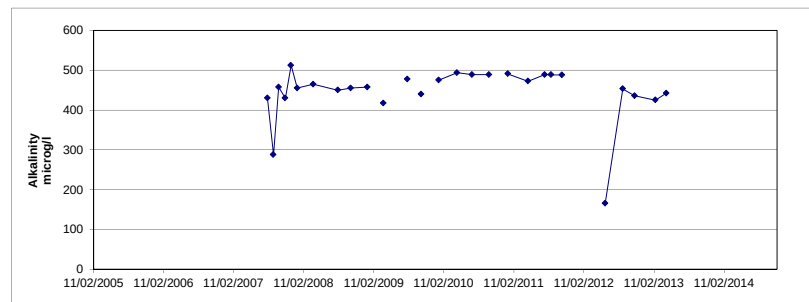
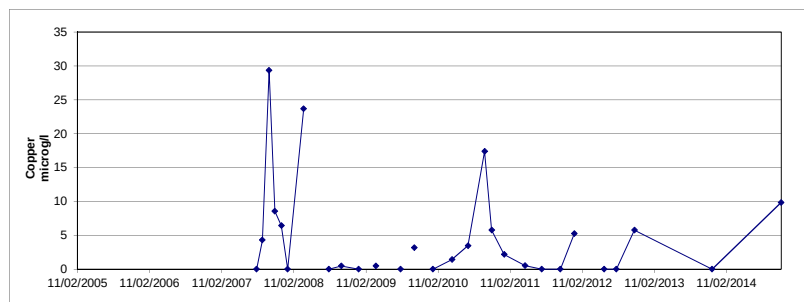
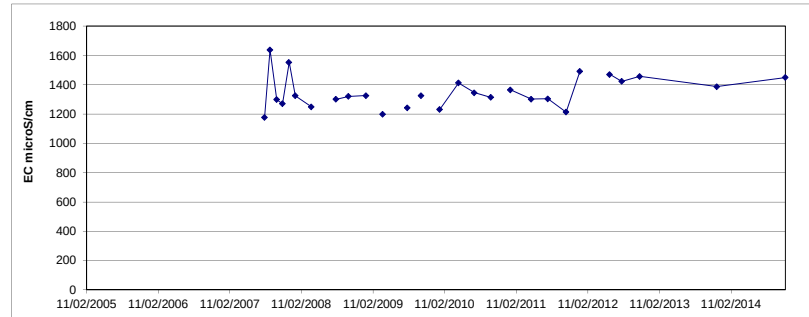
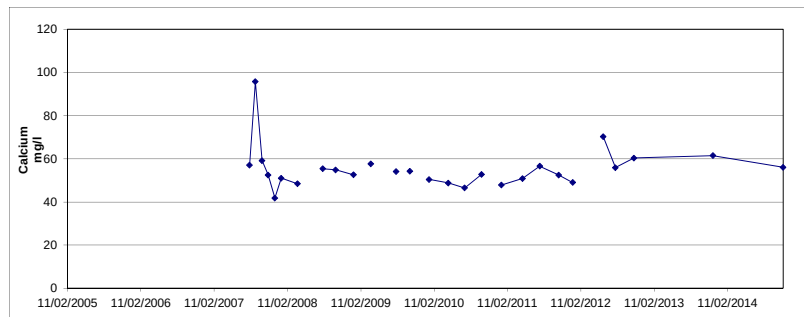
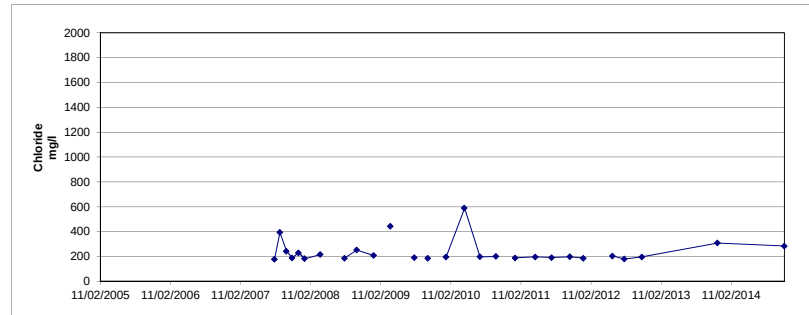
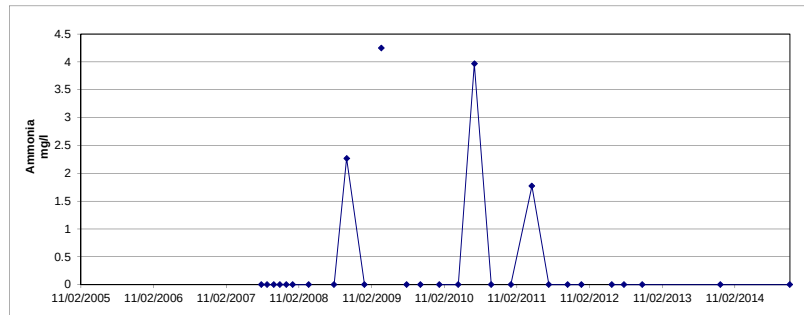
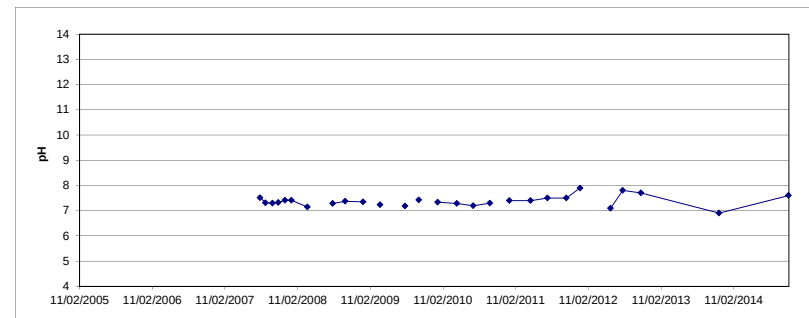
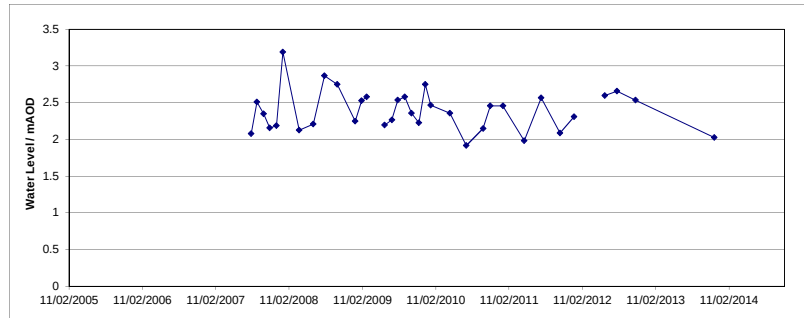


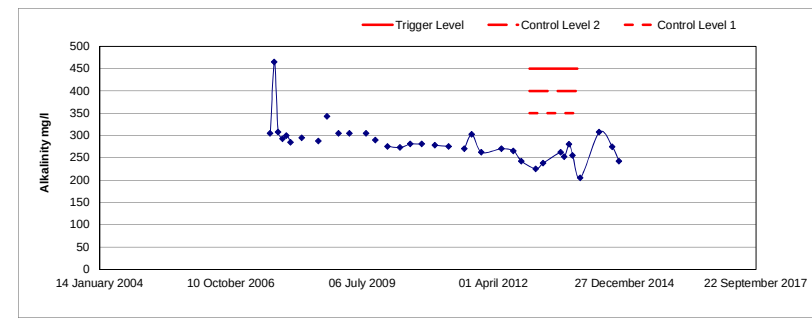
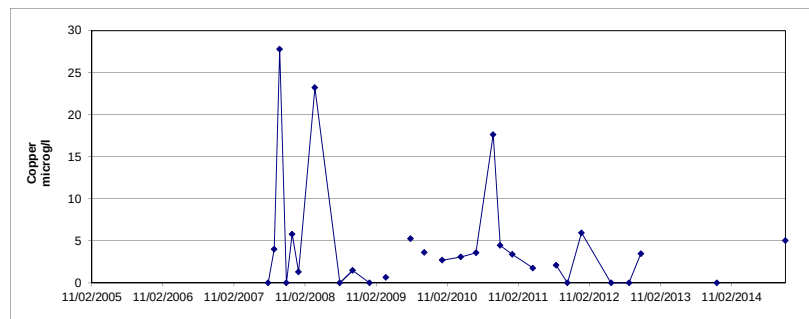
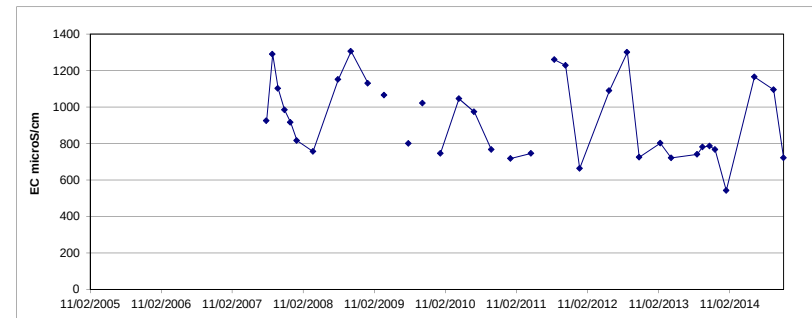
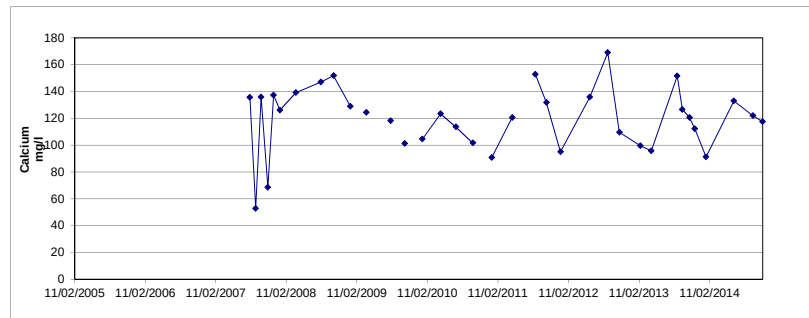
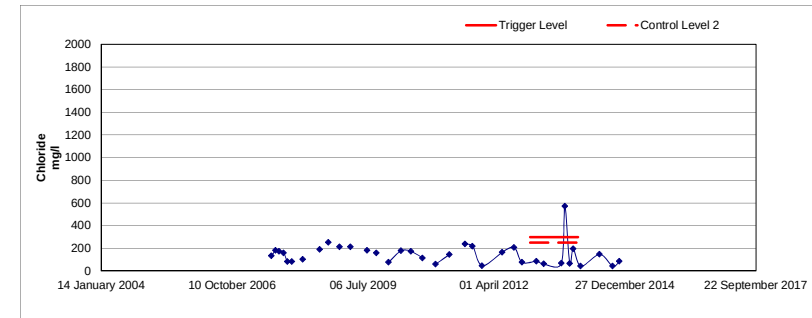
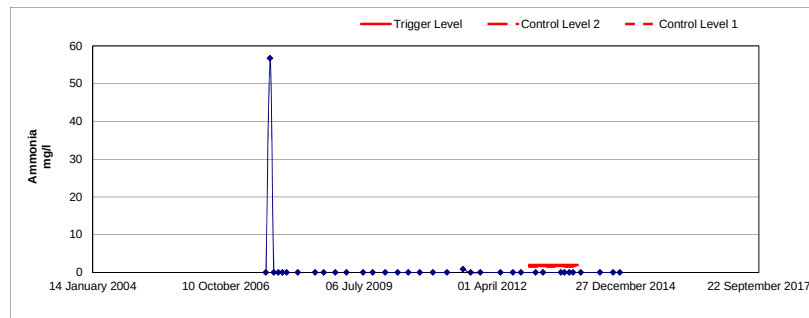
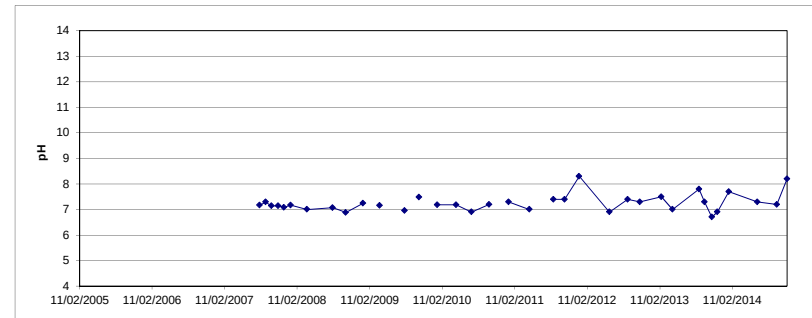
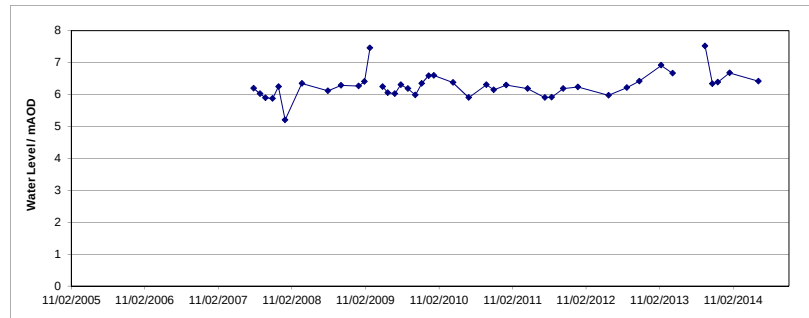


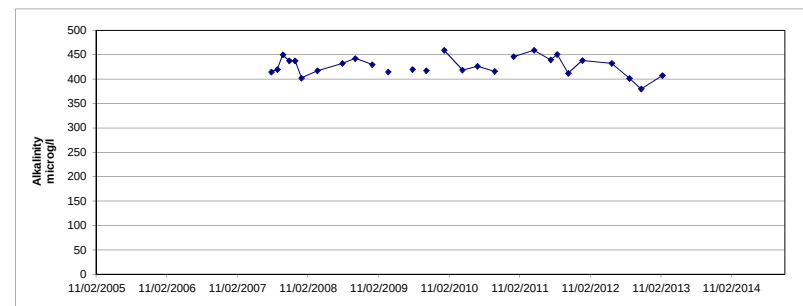
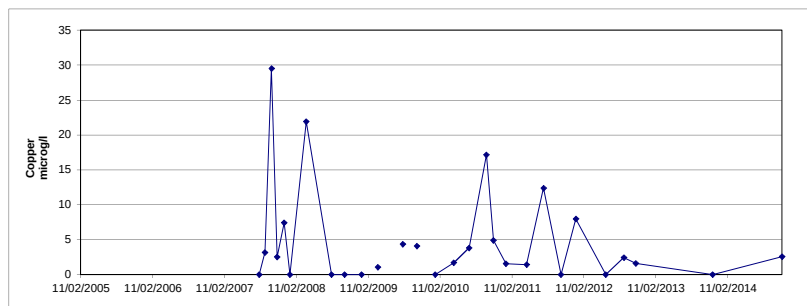
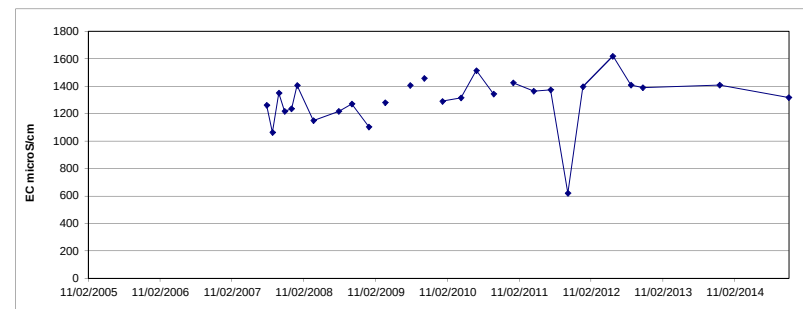
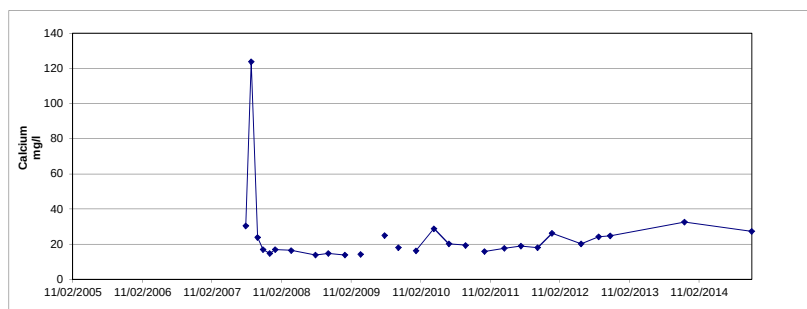
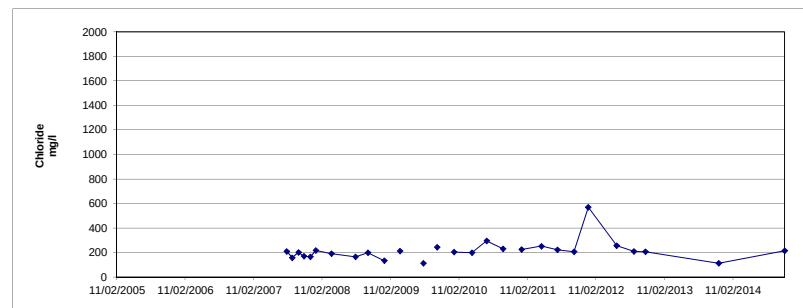
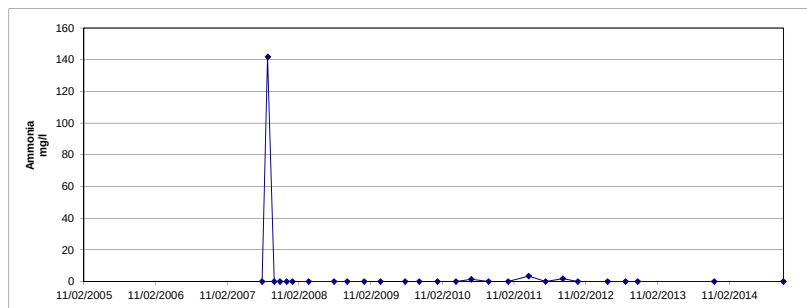
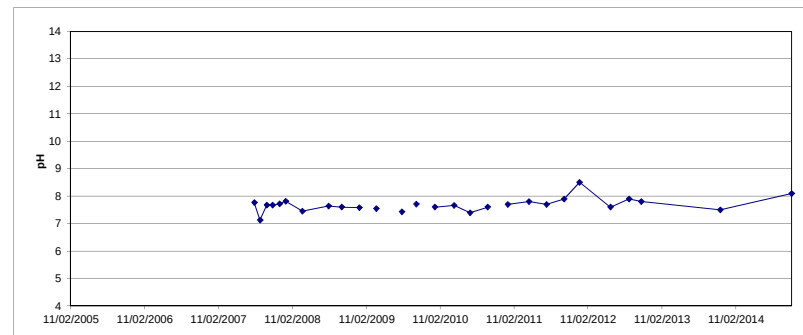
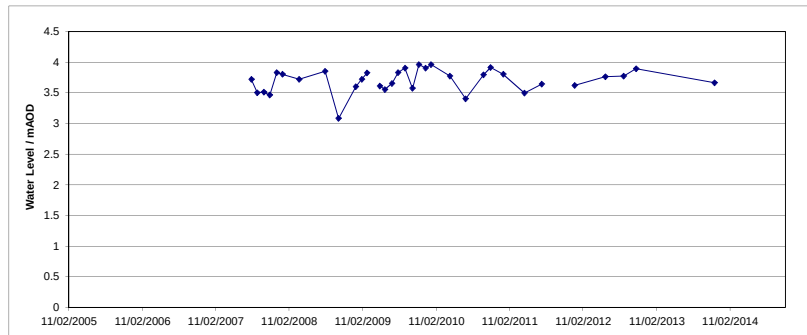












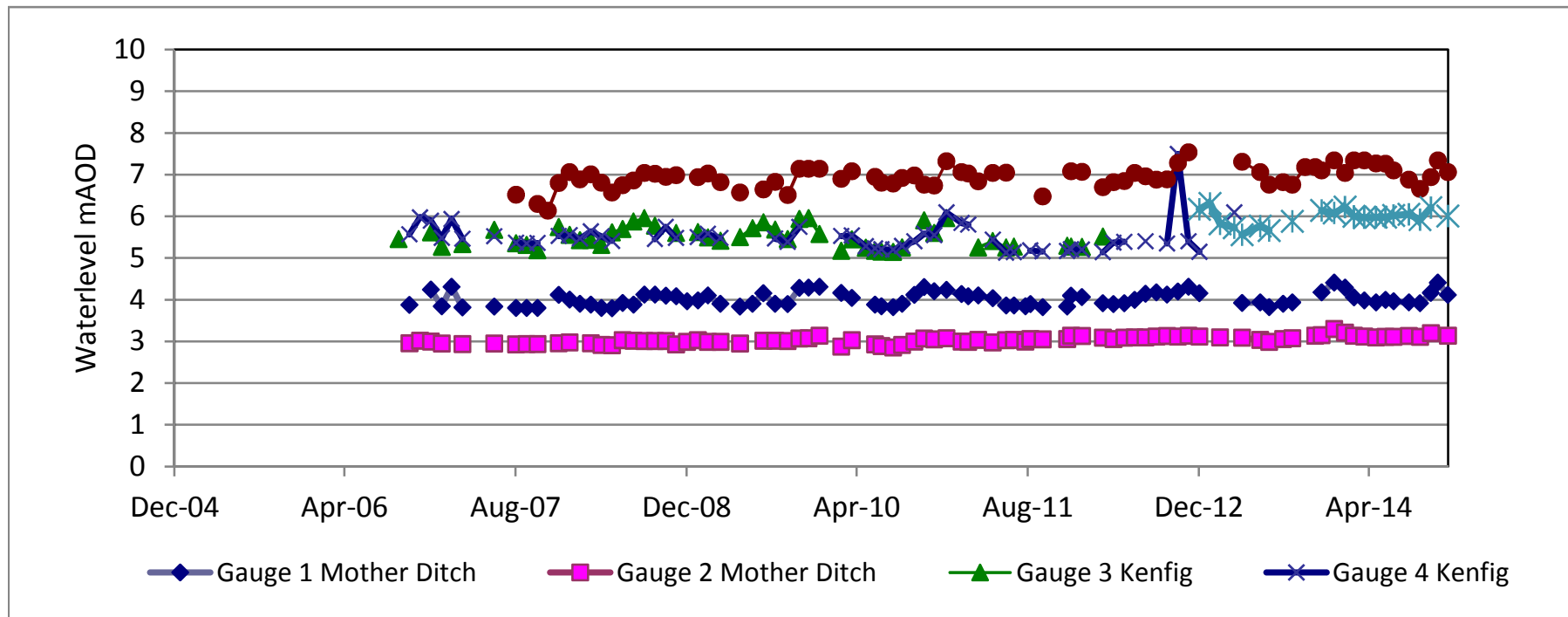
**MORFA HAZARDOUS
LANDFILL, PORT TALBOT**

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**Appendix 5
Temporal variation of
surface water levels**

Report Number 1393r1v1d0215



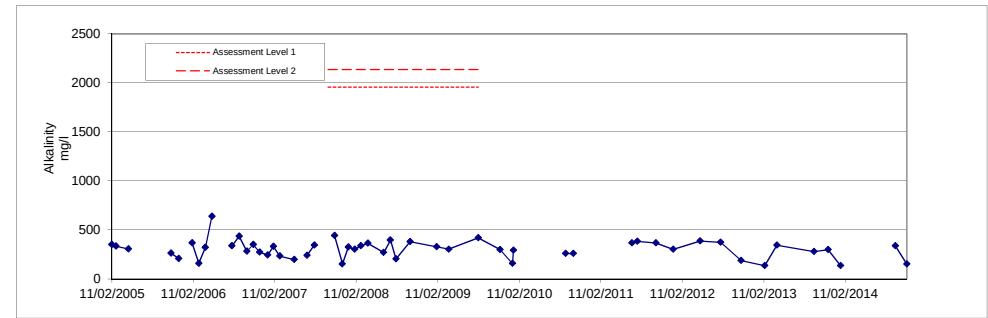
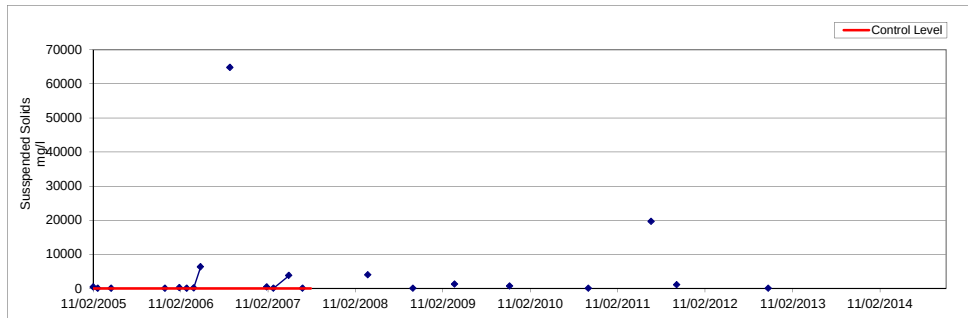
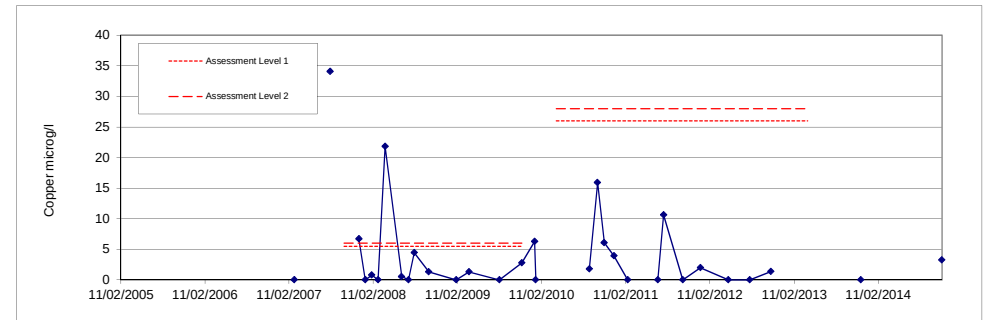
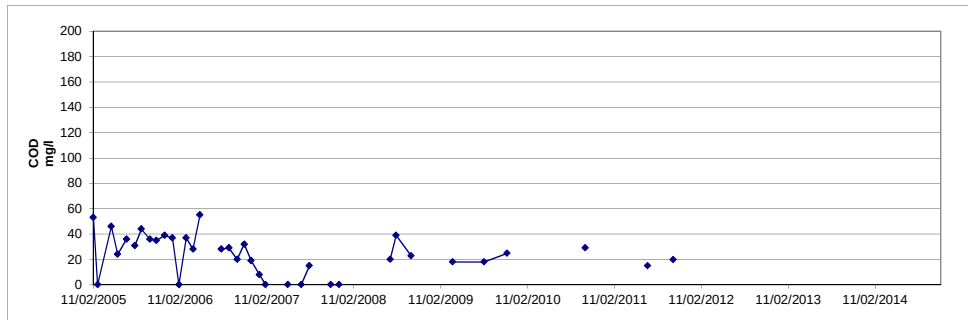
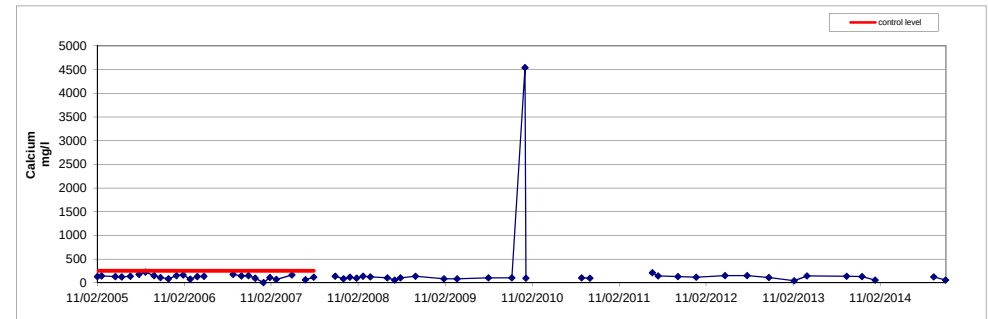
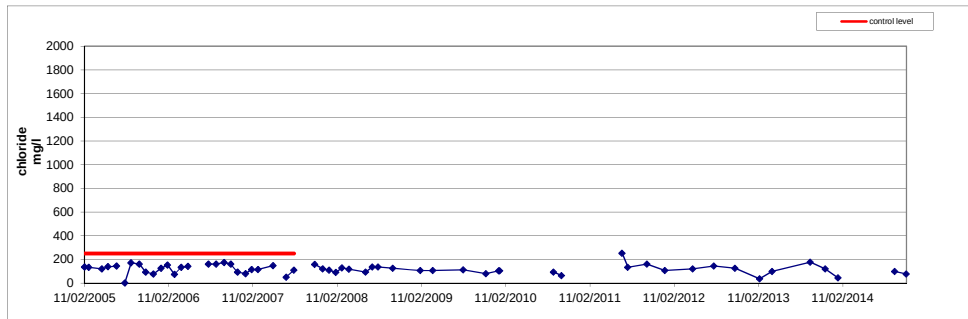
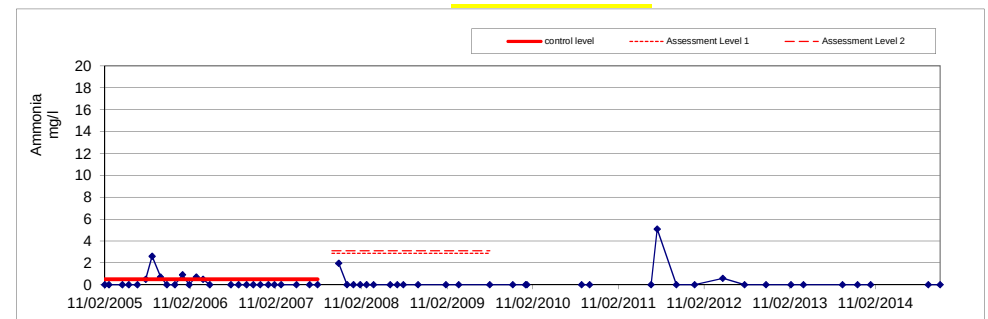
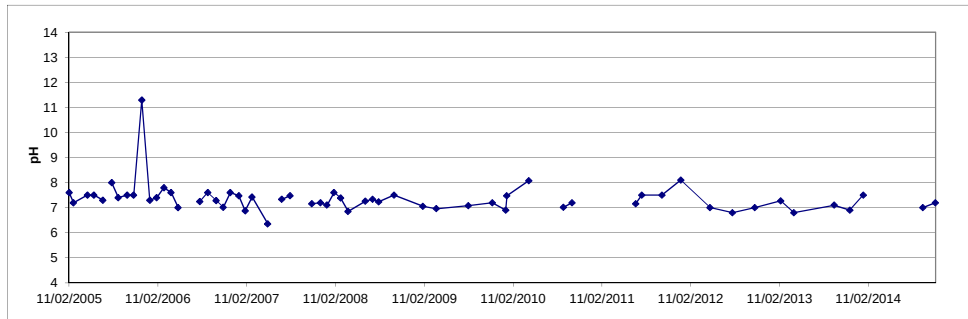
**MORFA HAZARDOUS
LANDFILL, PORT TALBOT**

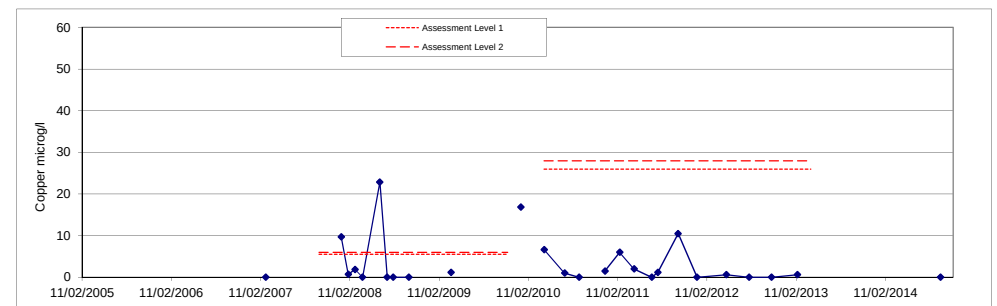
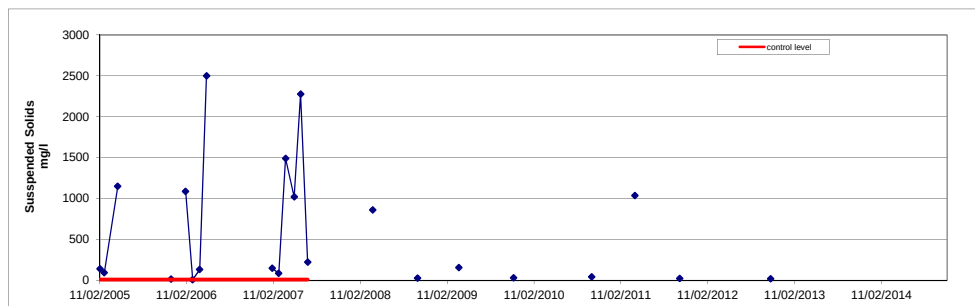
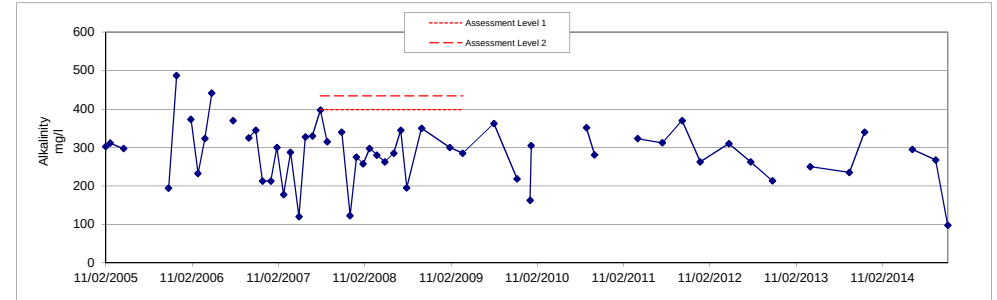
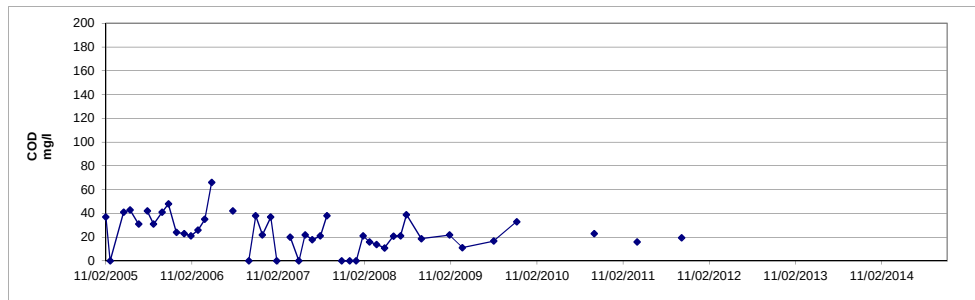
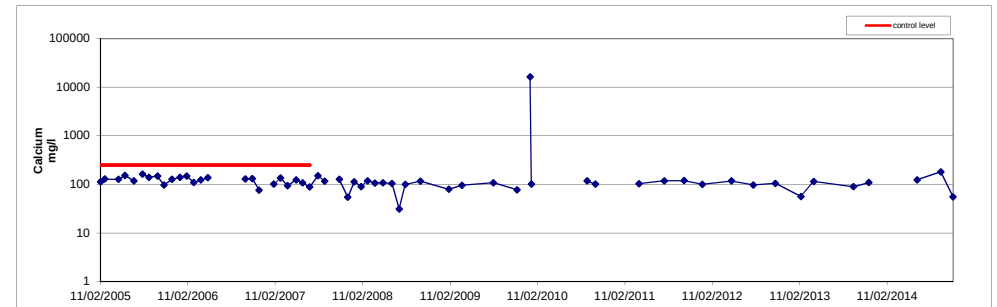
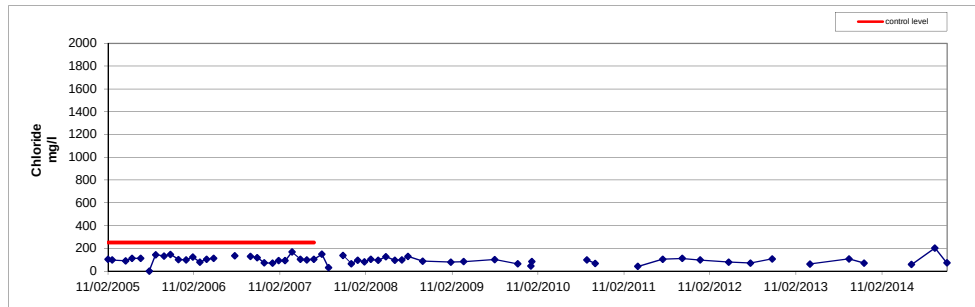
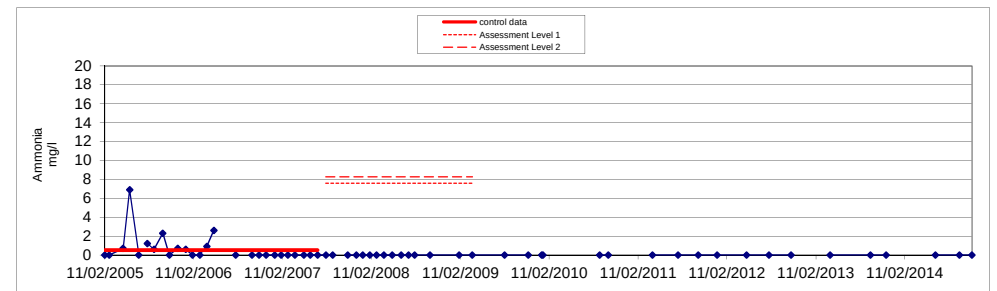
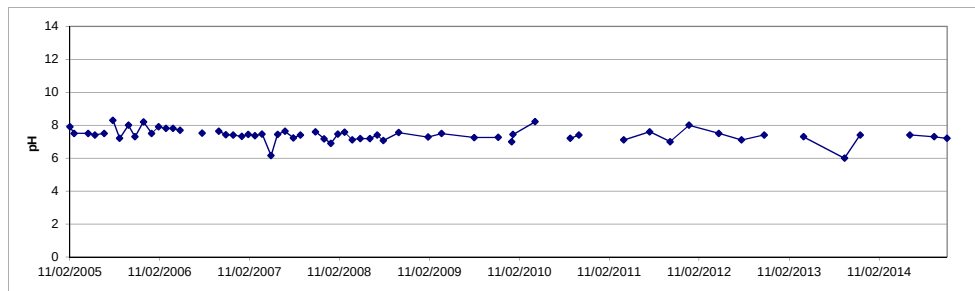
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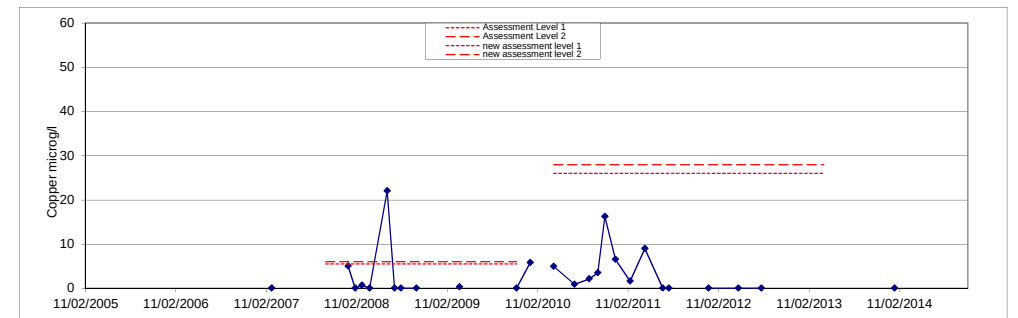
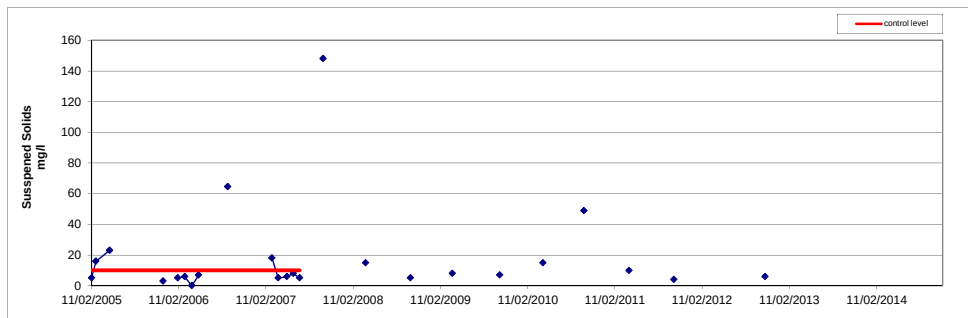
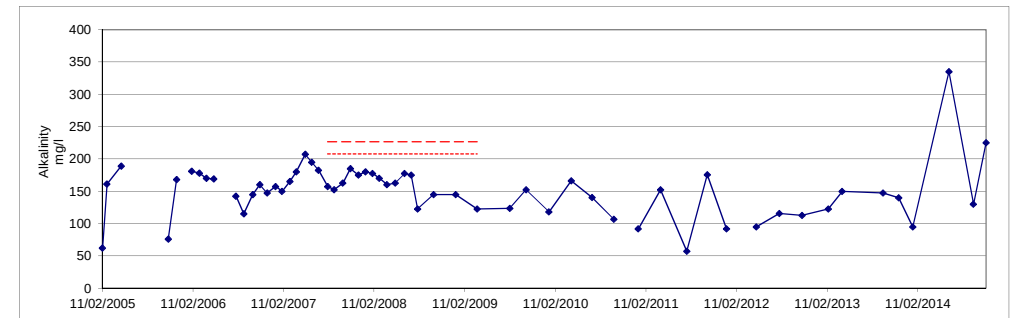
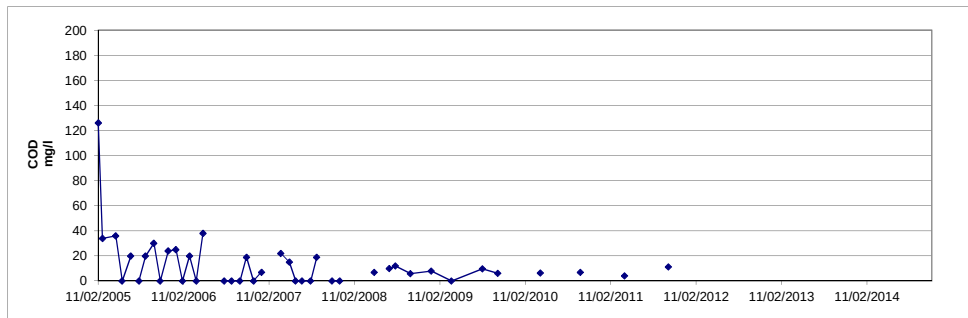
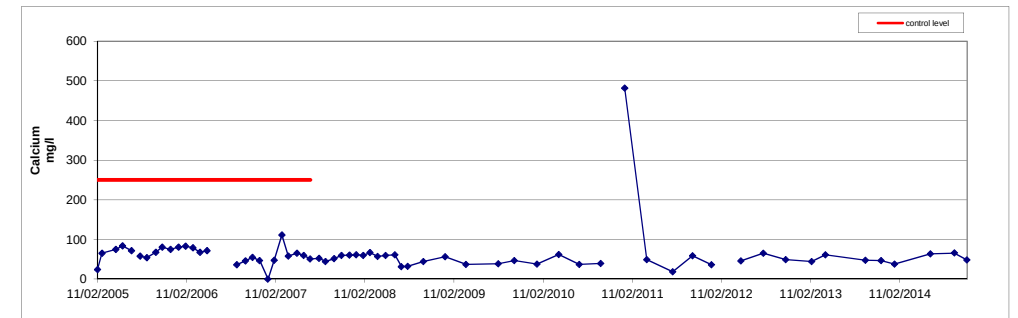
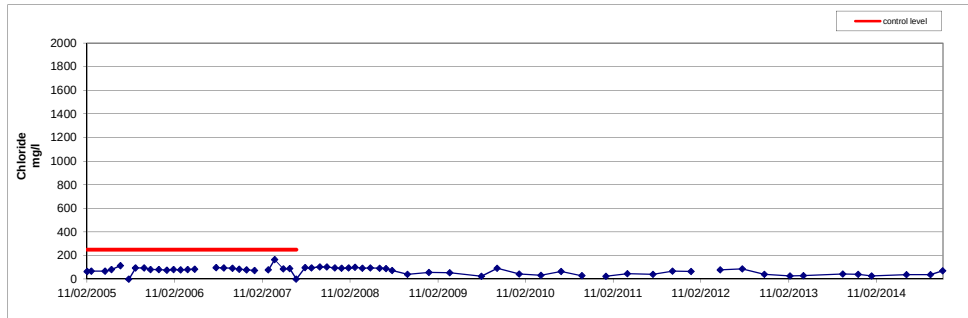
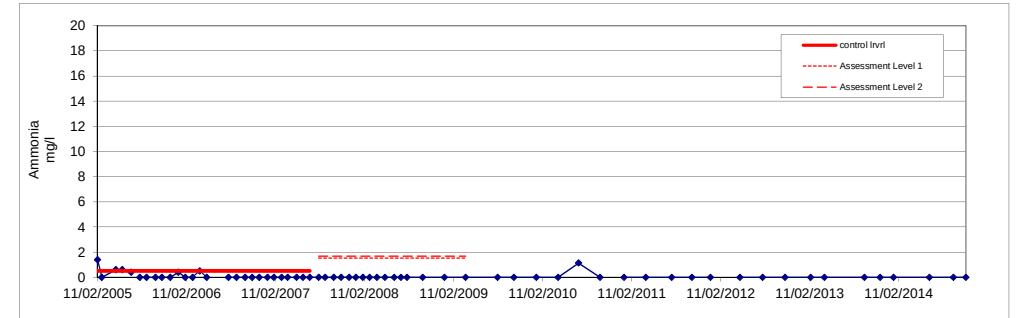
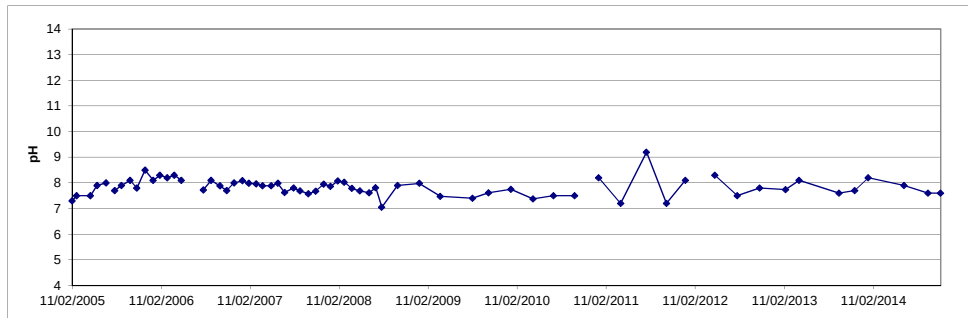
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Monitoring**

**Appendix 6
Temporal variation of
surface water chemistry**

Report Number 1393r1v1d0215







**MORFA HAZARDOUS
LANDFILL, PORT TALBOT**

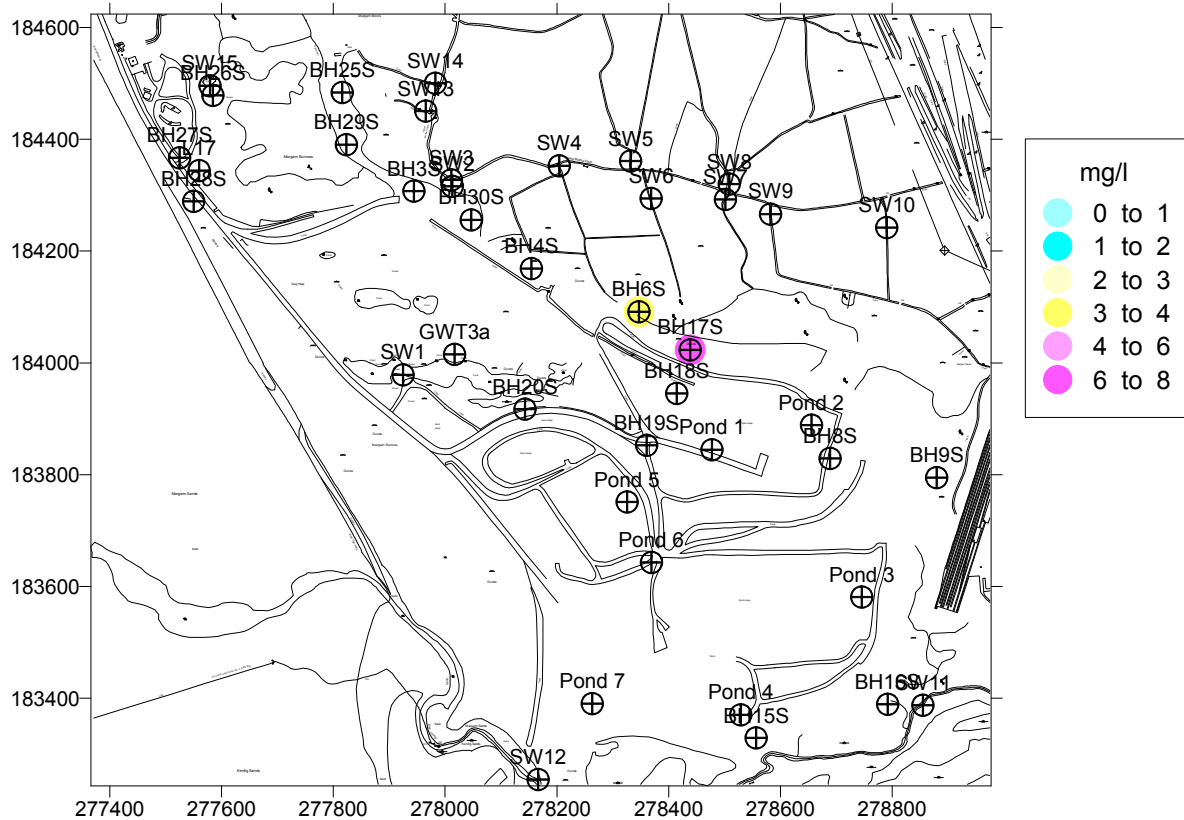
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**2014 Annual Review of
Environmental
Monitoring**

**Appendix 7
Spatial distribution of
Key Parameters**

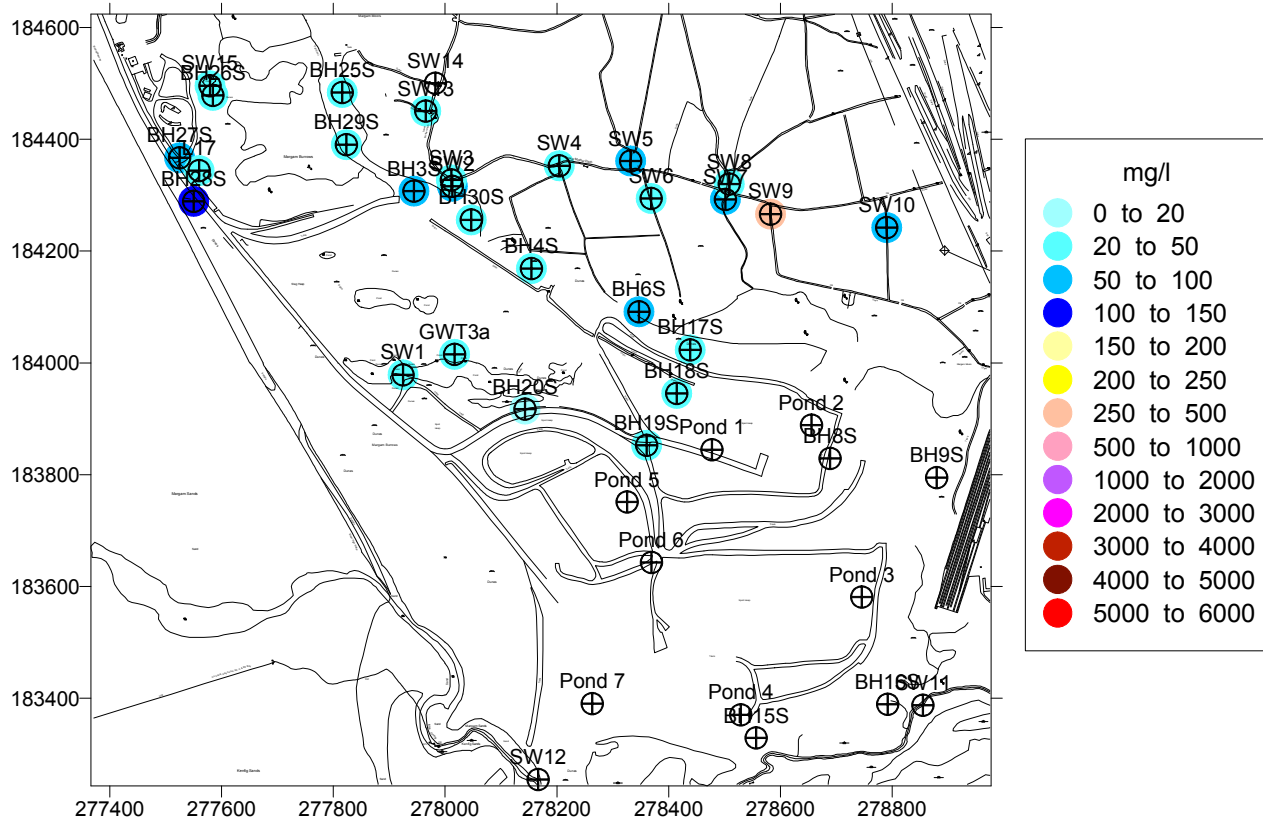
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Shallow Groundwater, Leachate and Surface Water Chemistry

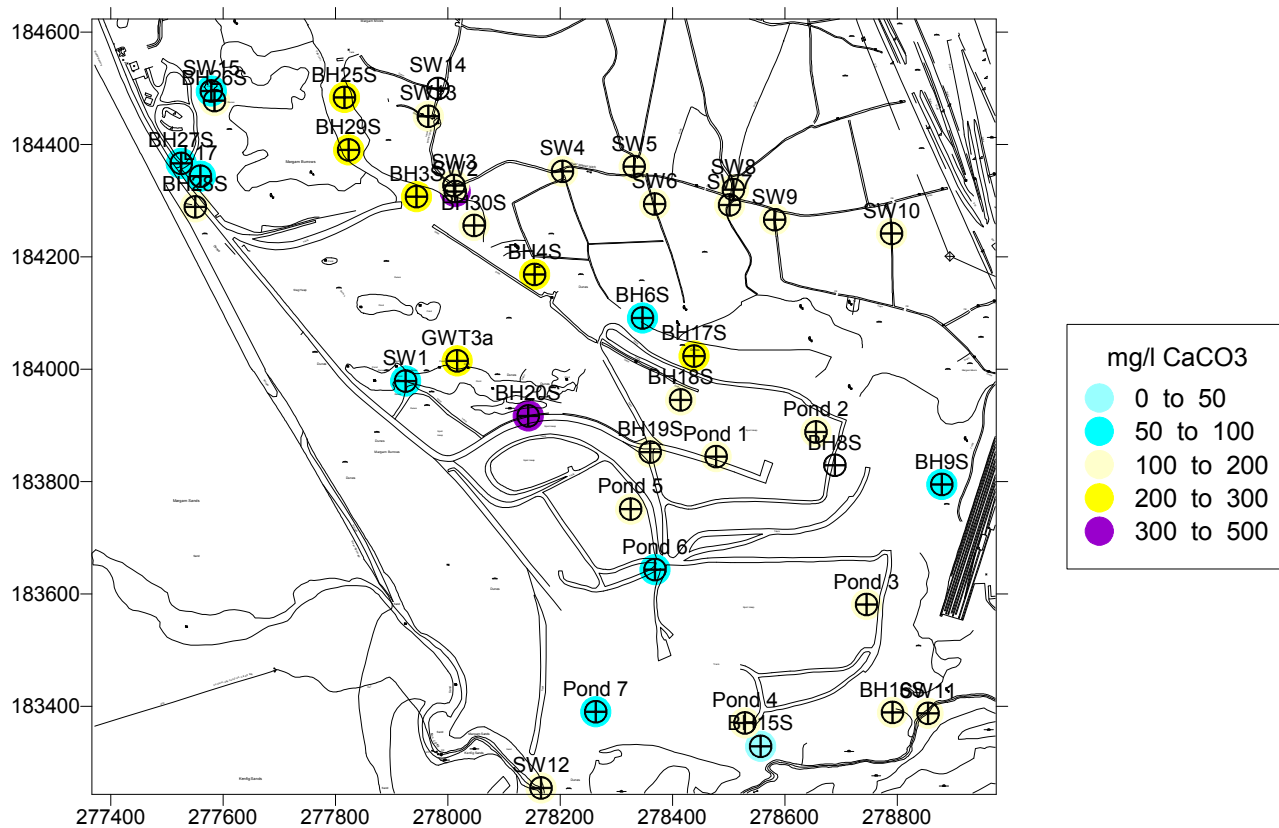


January 2014 Ammonia

Shallow Groundwater, Leachate and Surface Water Chemistry

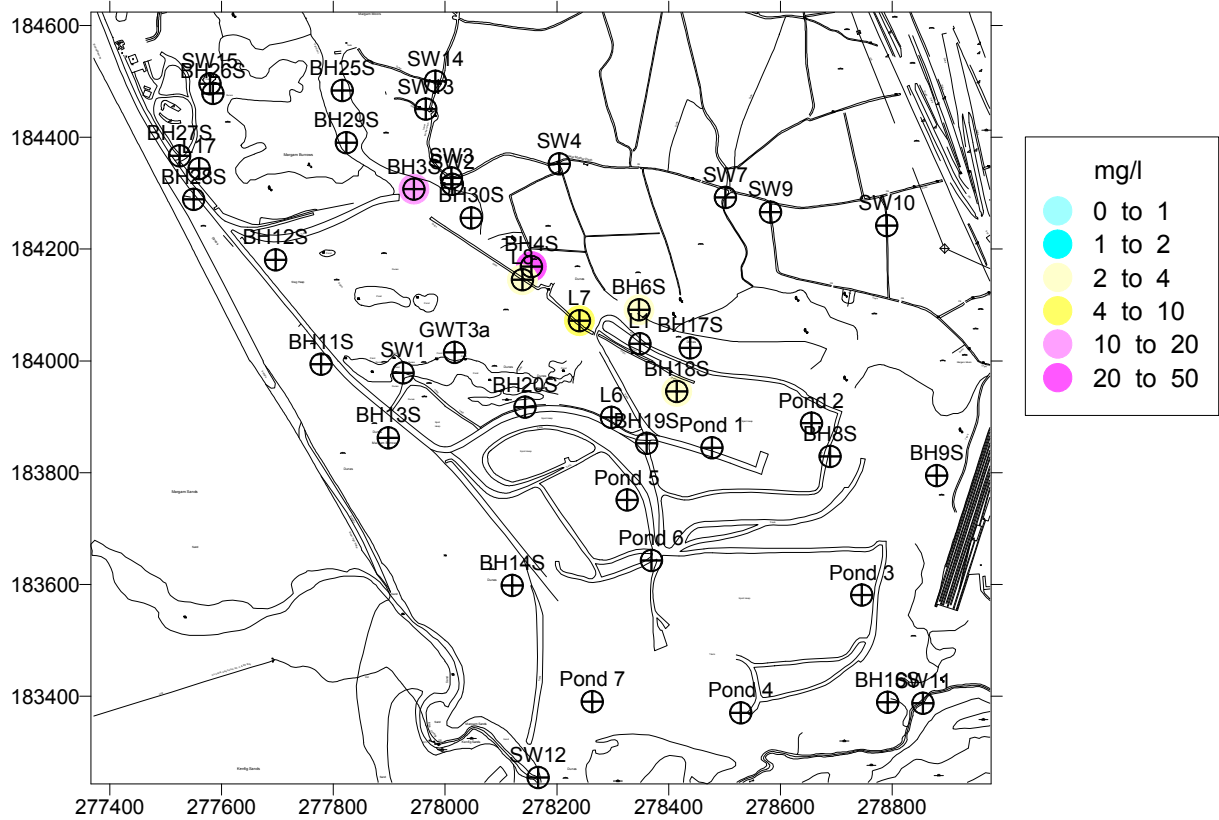


January 2014 Chloride

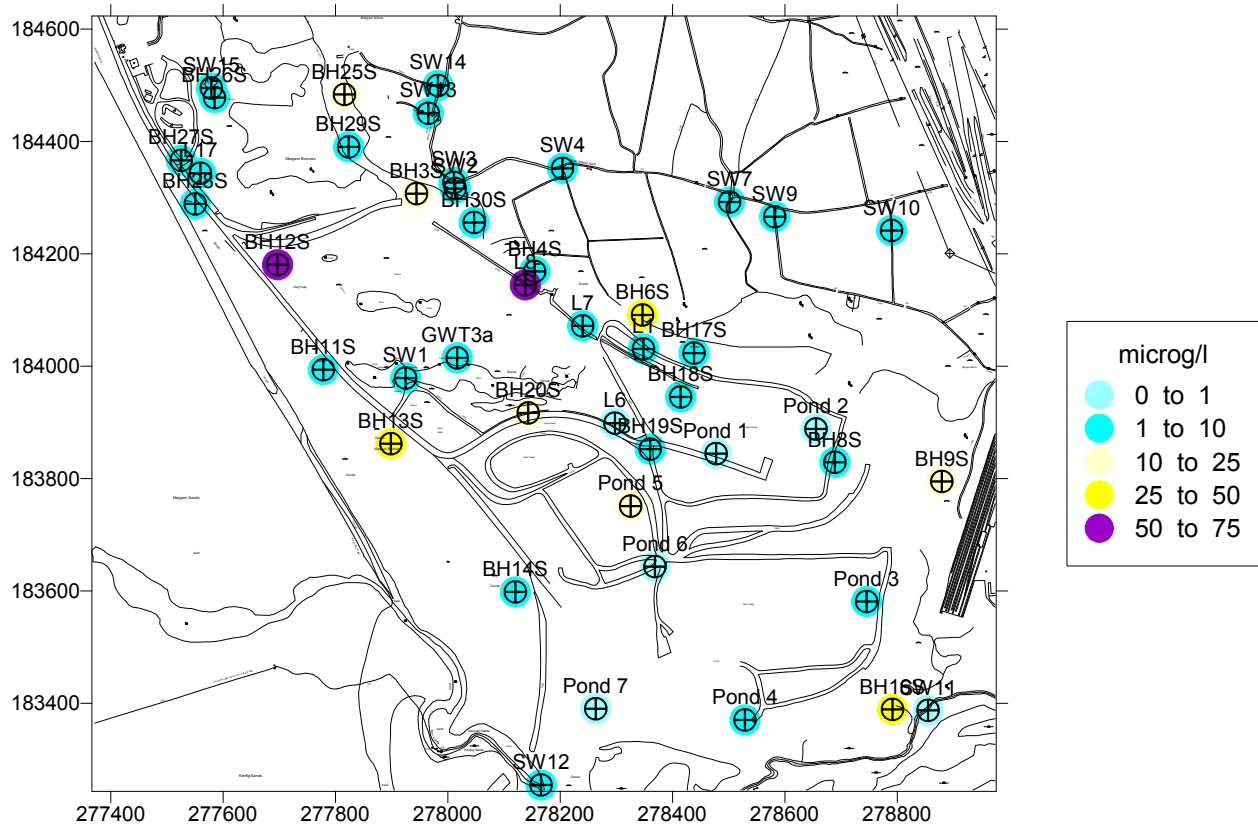


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Shallow Groundwater, Leachate and Surface Water Chemistry

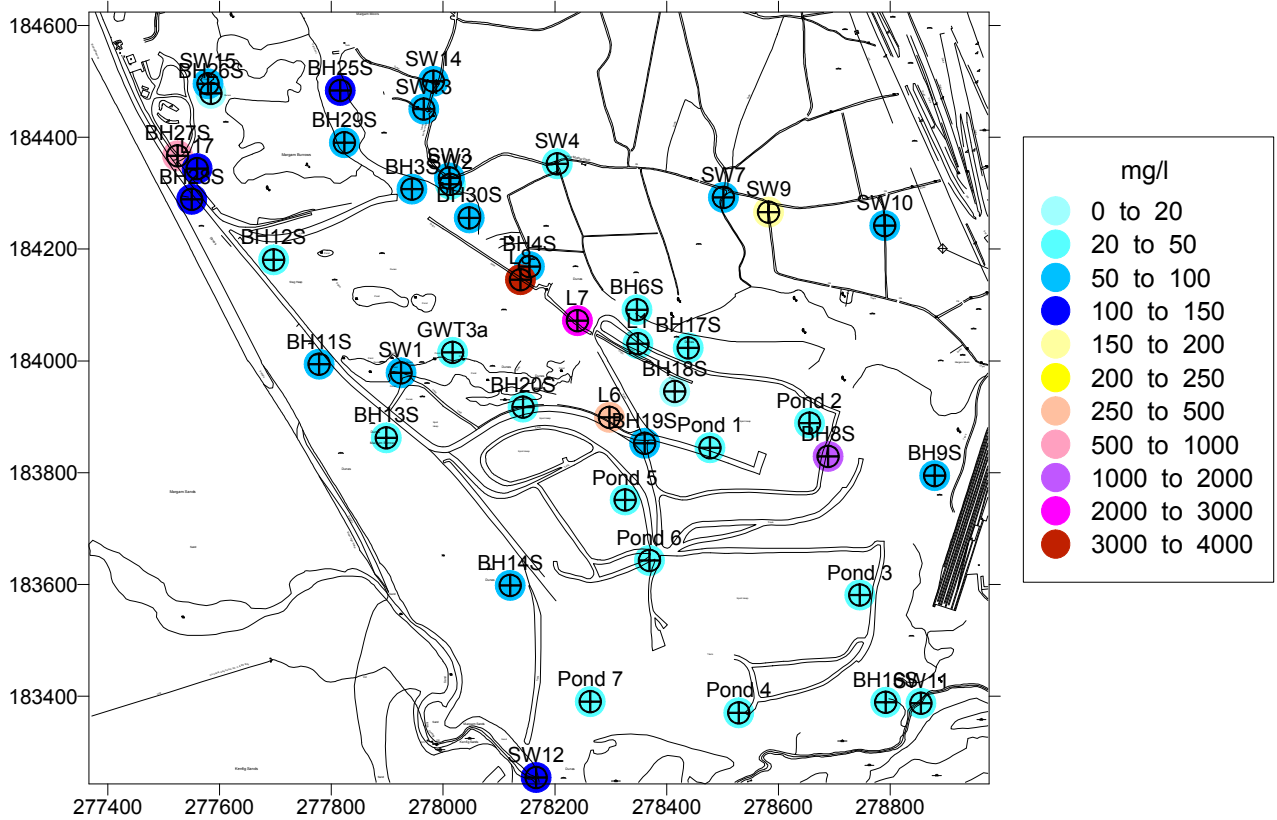


November 2014 Ammonia

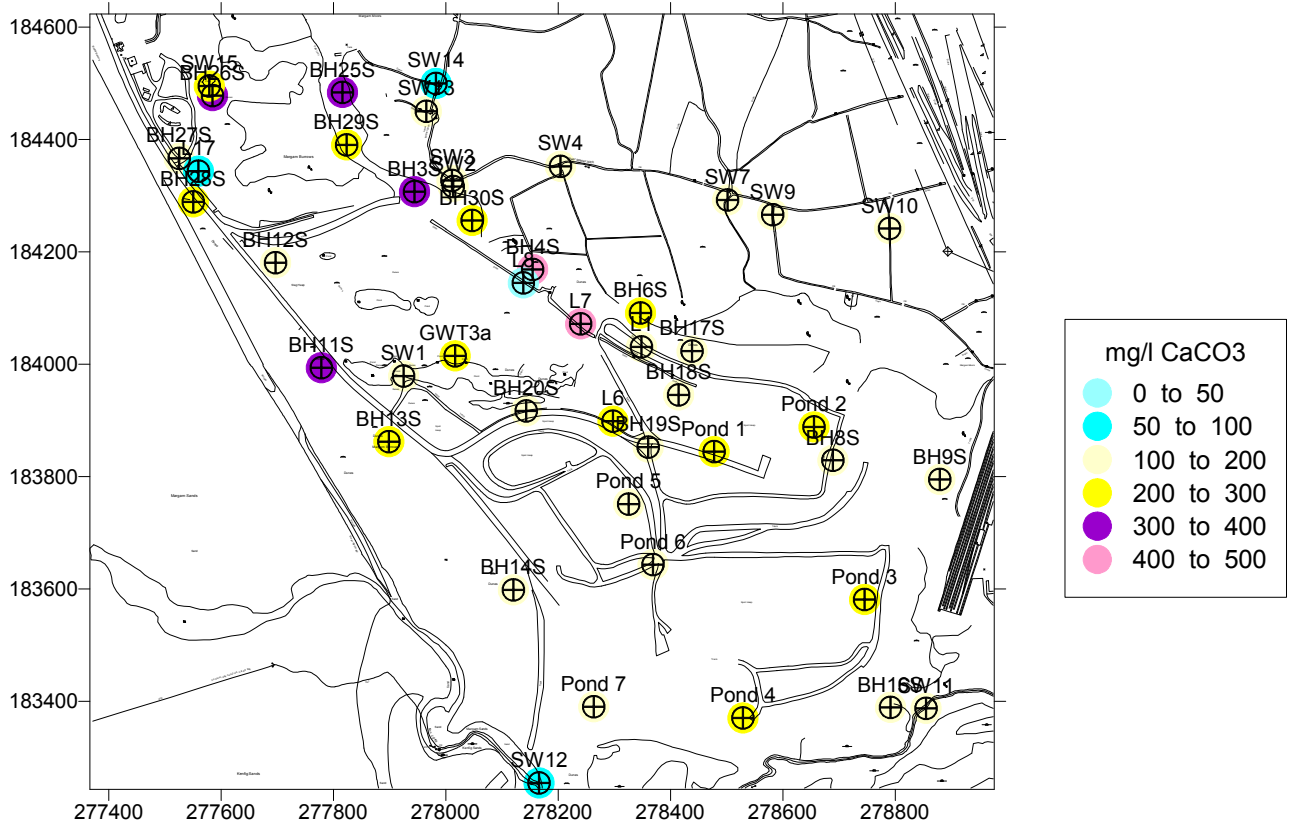


November 2014 Arsenic

Shallow Groundwater, Leachate and Surface Water Chemistry

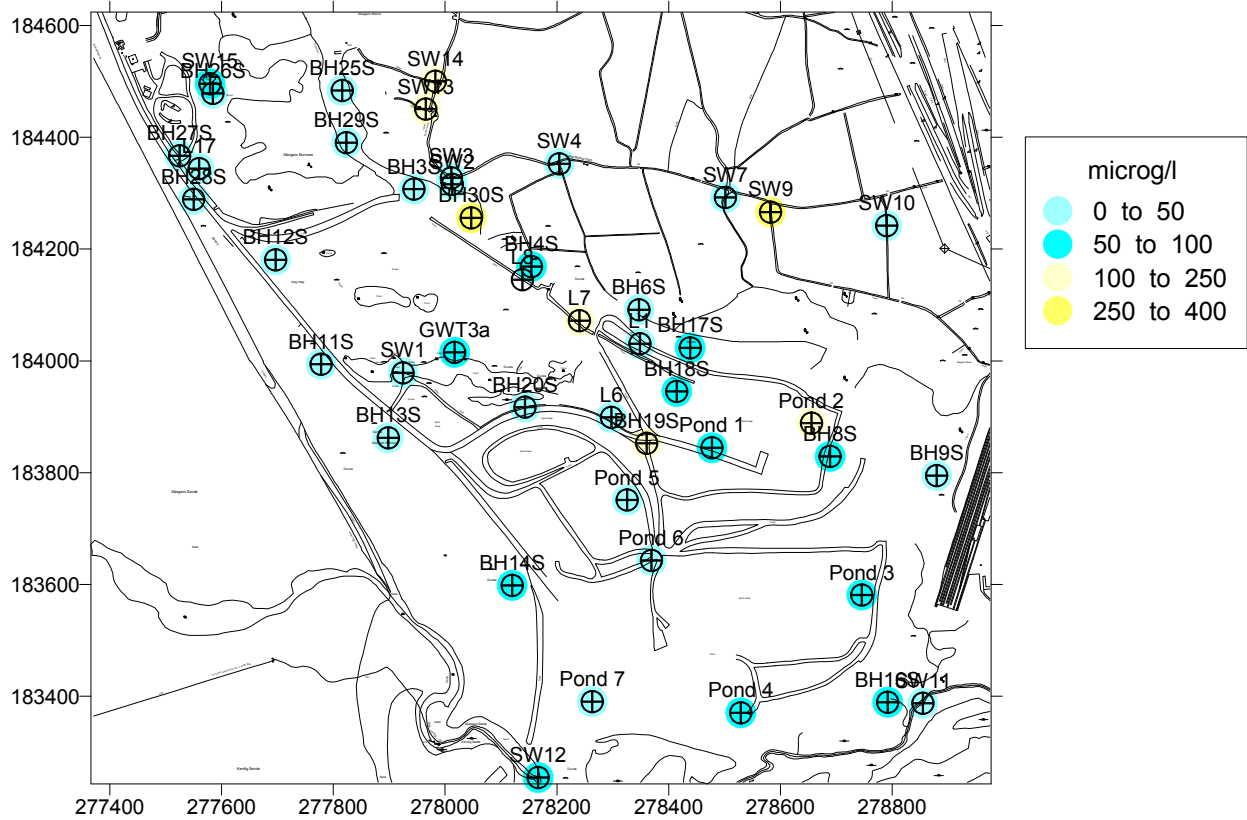


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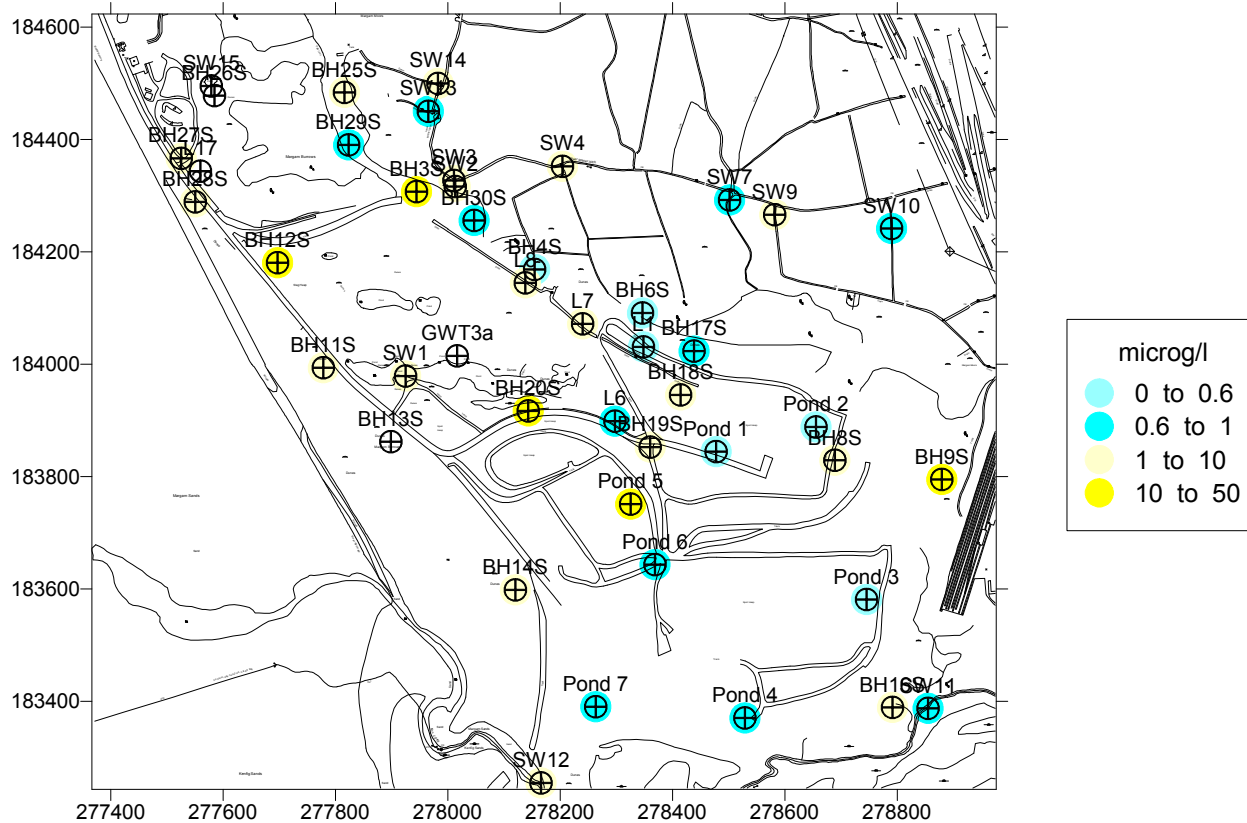


November 2014 Alkalinity

Shallow Groundwater, Leachate and Surface Water Chemistry



November 2014 Zinc



November 2014 Vanadium

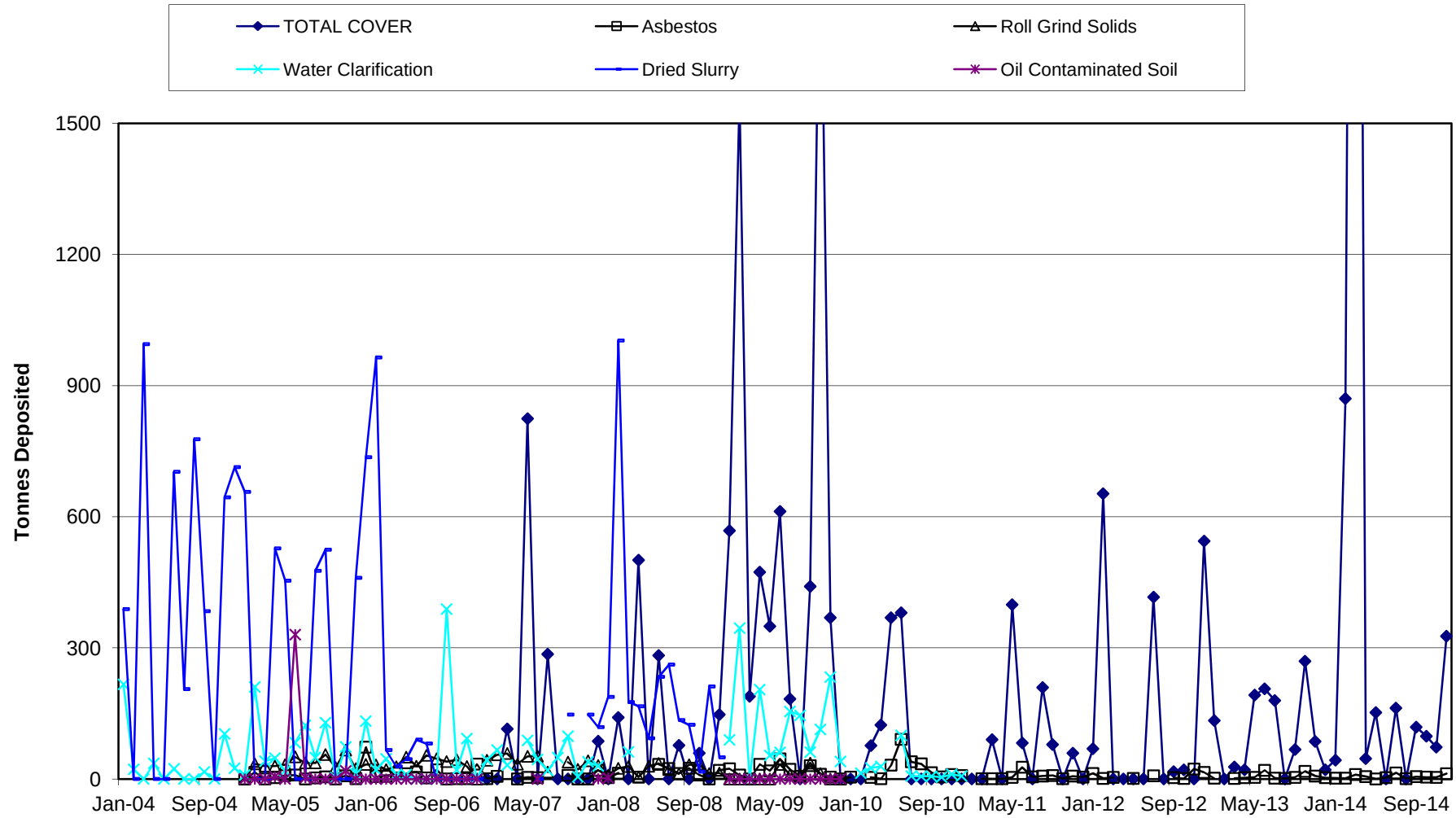
**MORFA HAZARDOUS
LANDFILL, PORT TALBOT**

PERMIT BW2692IM

**2014 Annual Review of
Environmental
Monitoring**

**Appendix 8
Record of Landfilled
Waste**

Report Number 1393r1v1d0215

Hazardous Waste Deposition

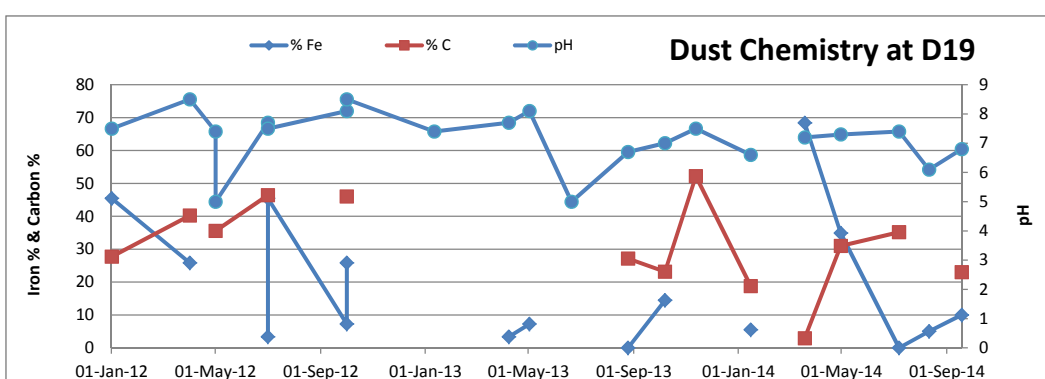
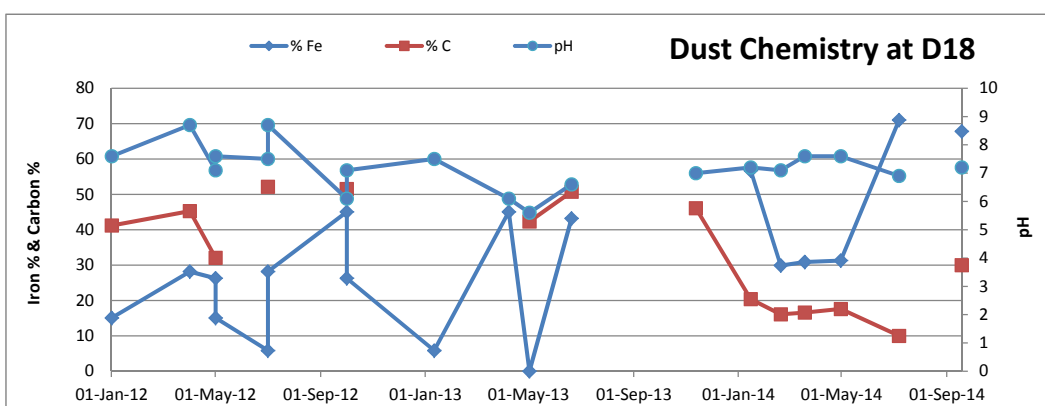
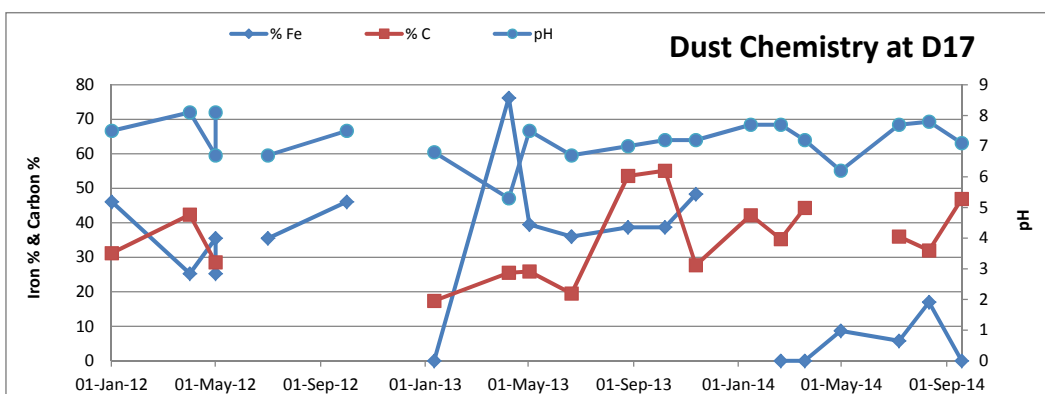
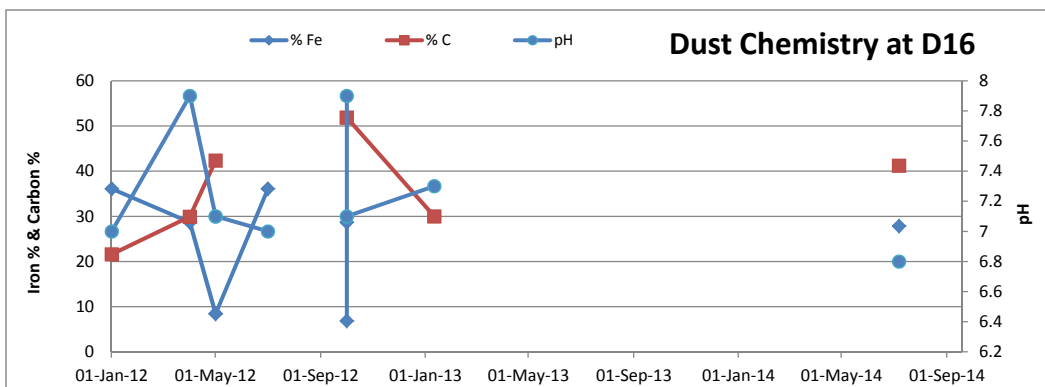
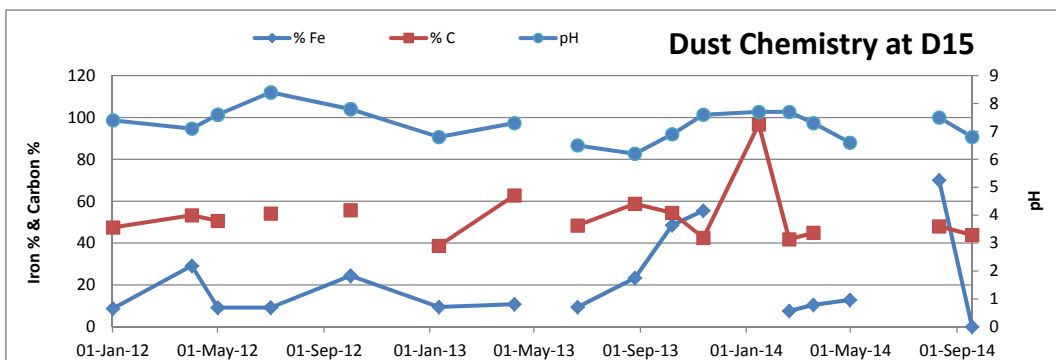
**MORFA HAZARDOUS
LANDFILL, PORT TALBOT**

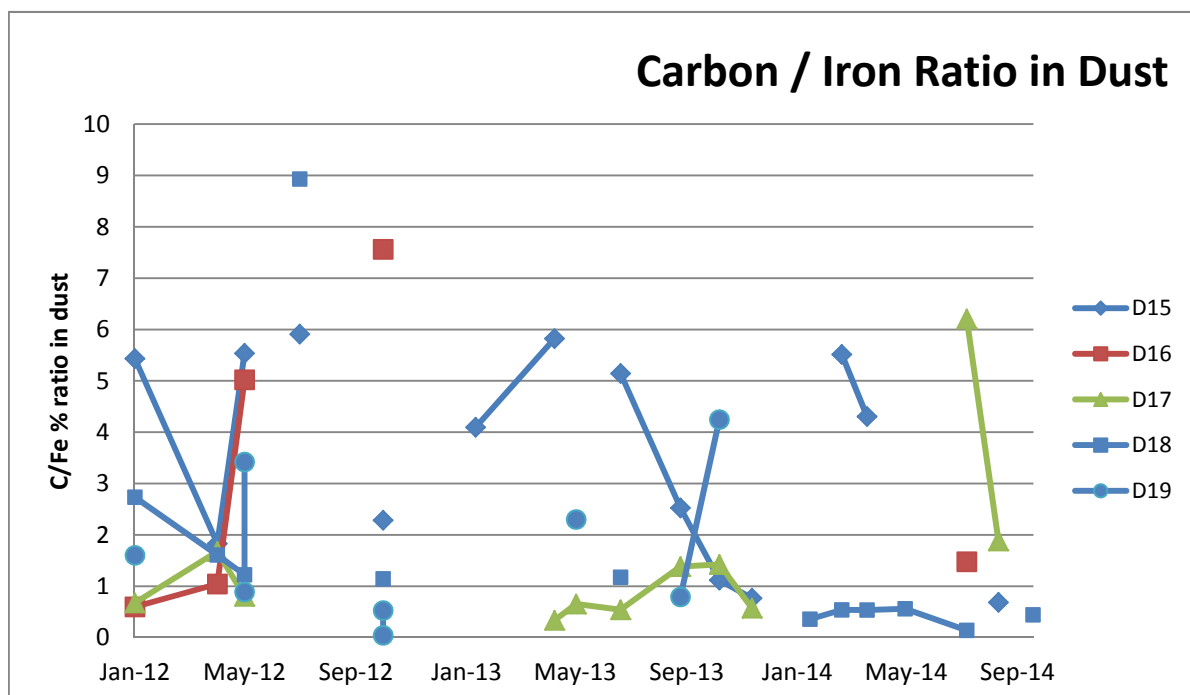
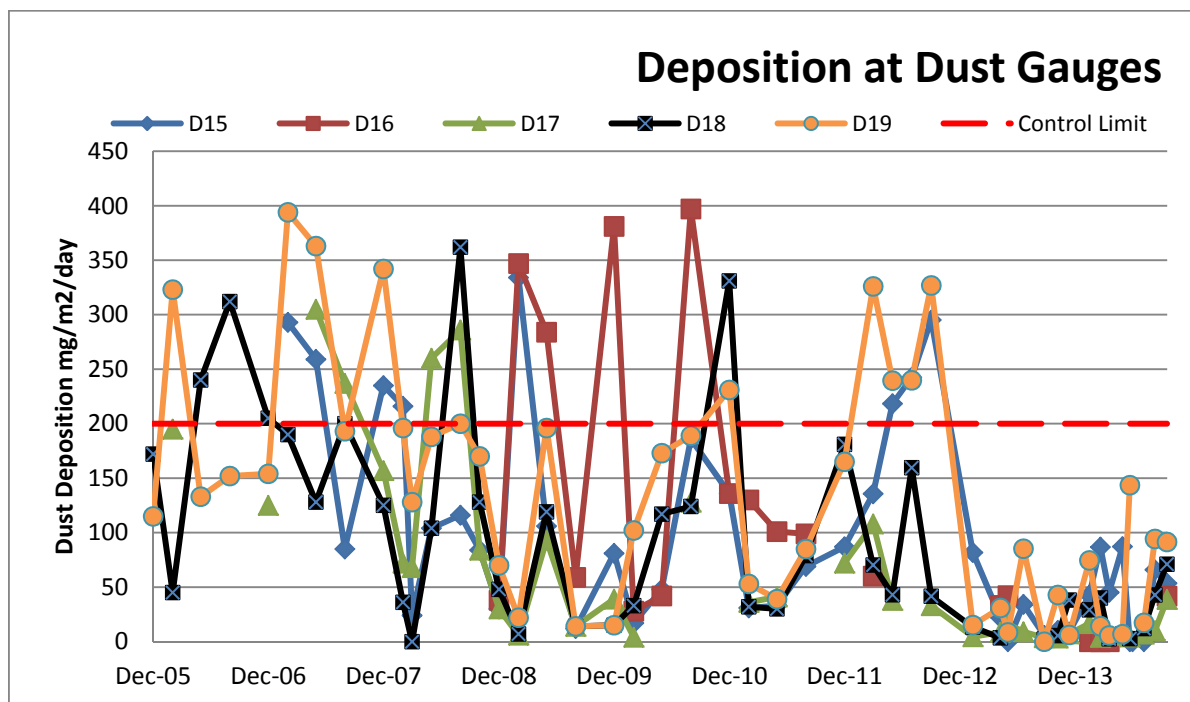
PERMIT BW2692IM

**2014 Annual Review of
Environmental
Monitoring**

**Appendix 9
Results from dust
monitoring gauges**

Report Number 1393r1v1d0215





**MORFA HAZARDOUS
LANDFILL, PORT TALBOT**

PERMIT BW2692IM

**2014 Annual Review of
Environmental
Monitoring**

**Appendix 10
Compliance Assessment
Reports from NRW**

Report Number 1393r1v1d0215

	EPR Compliance Assessment Report	Report ID: 5516	
This form will report compliance with your permit as determined by an NRW officer			
Site	Morfa Non-Hazardous Landfill & Hazardous Landfill	Permit Ref	BV7311IE & BW2692IM
Operator/ Permit holder	Tata UK Ltd		
Date	10 th March 2014	Time in	-- Out -
What parts of the permit were assessed	Relocation of the Fforestfach fire wastes from the Non Hazardous Landfill to the Hazardous Landfill		
Assessment	Inspection	EPR Activity:	Installation: X Waste Op: Water Discharge:
Recipient's name/position	Owain Lloyd		
Officer's name	Neil Herbert	Date issued	20 th March 2014

Section 1 - Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations. A detailed explanation and any action you may need to take are given in the "Detailed Assessment of Compliance" (section 3). This summary details where we believe any non-compliance with the permit has occurred, the relevant condition and how the non-compliance has been categorised using our [Compliance Classification Scheme](#) (CCS). CCS scores can be consolidated or suspended, where appropriate, to reflect the impact of some non-compliances more accurately. For more details of our CCS scheme, contact your [local office](#).

Permit Conditions and Compliance Summary			Condition(s) breached
a) Permitted activities	1. Specified by permit	A	
b) Infrastructure	1. Engineering for prevention & control of pollution	N	
	2. Closure & decommissioning	N	
	3. Site drainage engineering (clean & foul)	N	
	4. Containment of stored materials	N	
	5. Plant and equipment	N	
c) General management	1. Staff competency/ training	N	
	2. Management system & operating procedures	A	
	3. Materials acceptance	N	
	4. Storage handling, labelling, segregation	N	
d) Incident management	1. Site security	N	
	2. Accident, emergency & incident planning	N	
e) Emissions	1. Air	A	
	2. Land & Groundwater	N	
	3. Surface water	N	
	4. Sewer	N	
	5. Waste	N	
f) Amenity	1. Odour	N	
	2. Noise	N	
	3. Dust/fibres/particulates	A	
	4. Pests, birds & scavengers	N	
	5. Deposits on road	N	
g) Monitoring and records, maintenance and reporting	1. Monitoring of emissions & environment	N	
	2. Records of activity, site diary, journal & events	N	
	3. Maintenance records	N	
	4. Reporting & notification	N	
h) Resource efficiency	1. Efficient use of raw materials	N	
	2. Energy	N	

KEY: C1, C2, C3, C4 = CCS breach category (* suspended scores are marked with an asterisk), A = Assessed or assessed in part (no evidence of non-compliance), N = Not assessed, NA = Not Applicable

Number of breaches recorded	0	Total compliance score (see section 5 for scoring scheme)	0
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If the Total No Breaches is greater than zero, then please see Section 3 for details of our proposed enforcement response

Section 2 – Compliance Assessment Report Detail

This section contains a report of our findings and will usually include information on:

- the part(s) of the permit that were assessed (e.g. maintenance, training, combustion plant, etc)
- where the type of assessment was 'Data Review' details of the report/results triggering the assessment
- any non-compliances identified
- any non-compliances with directly applicable legislation
- details of any multiple non-compliances
- information on the compliance score accrued inc. details of suspended or consolidated scores.
- details of advice given
- any other areas of concern
- all actions requested
- any examples of good practice.
- a reference to photos taken

The visit was undertaken in order to inspect the relocation of the Fforestfach fire waste (currently in temporary storage within Cell 2) from the Non Hazardous Landfill to the Morfa Hazardous Landfill.

Prior to the site visit I examined the available asbestos monitoring data undertaken at the site during the material transfer. The results indicate that asbestos levels were compliant.

We were accompanied around site by Mr Owain Lloyd who explained that the areas had been cordoned off and a strict vehicle movement system was in place. Asbestos monitoring experts were on site during the works undertaking aerial emission monitoring.

Hazardous Landfill

Waste delivered to site appeared to be appropriately covered on transfer and deposit and a thick cover layer applied following deposit. This appeared compliant.

Non Hazardous Landfill

I observed the waste being carefully removed from the storage area in cell 2 and noted the presence of staff applying water to damp down the area under excavation. The work appeared compliant.

I attach to this report a series of photographs showing the works in progress.

	EPR Compliance Assessment Report	Report ID: 5516
This form will report non-compliance with your permit as determined by an NRW officer		
Site	Morfa Non-Hazardous Landfill & Hazardous Landfill	Permit BV7311IE & BW2692IM
Operator/ Permit	Tata UK Ltd	Date 10 th March 2014

Section 3- Enforcement Response		Only one of the boxes below should be ticked
You must take immediate action to rectify any non-compliance and prevent repetition. Non-compliance with your permit conditions constitutes an offence and can result in criminal prosecutions and/or suspension or revocation of a permit. Please read the detailed assessment in Section 2 and the steps you need to take in Section 4 below.		
Other than the provision of advice and guidance, at present we do not intend to take further enforcement action in respect of the non-compliance identified above. This does not preclude us from taking enforcement action if further relevant information comes to light or advice isn't followed.	N/A	
In respect of the above non-compliance you have been issued with a warning. At present we do not intend to take further enforcement action. This does not preclude us from taking additional enforcement action if further relevant information comes to light or offences continue.	N/A	
We will now consider what enforcement action is appropriate and notify you, referencing this form.	N/A	

Section 4- Action(s)			
Where a non - compliance has been detected and an enforcement response has been selected above, this section summarises the steps you need to take to return to compliance and also provides timescales for this to be done.			
Criteria Ref.	CCS Category	Action Required/Advised	Due Date
See Section 1 above			
N/A	N/A		N/A

Section 5 - Compliance notes for the Operator

To ensure you correct actual or potential non-compliance we may

- advise on corrective actions verbally or in writing
- require you to take specific actions in writing
- issue a notice
- require you to review your procedures or management system
- change some of the conditions of your permit
- decide to undertake a full review of your permit

Any breach of a permit condition is an offence and we may take legal action against you.

- We will normally provide advice and guidance to assist you to come back into compliance either after an offence is committed or where we consider that an offence is likely to be committed. This is without prejudice to any other enforcement response that we consider may be required.
- Enforcement action can include the issue of a formal caution, prosecution, the service of a notice and or suspension or revocation of the permit.

See our Enforcement and Civil Sanctions guidance for further information

This report does not relieve the site operator of the responsibility to

- ensure you comply with the conditions of the permit at all times and prevent pollution of the environment
- ensure you comply with other legislative provisions which may apply.

Non-compliance scores and categories

CCS category	Description	Score
C1	A non-compliance which could have a major environmental effect	60
C2	A non-compliance which could have a significant environmental effect	31
C3	A non-compliance which could have a minor environmental effect	4
C4	A non-compliance which has no potential environmental effect	0.1

Operational Risk Appraisal (Opra) - Compliance assessment findings may affect your Opra score and/or your charges. This score influences the resource we use to assess permit compliance.

Section 6 – General Information

Data protection notice

The information on this form will be processed by Natural Resources Wales (NRW) to fulfill its regulatory and monitoring functions and to maintain the relevant public register(s). NRW may also use and/or disclose it in connection with:

- offering/providing you with its literature/services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law and taking any resulting action
- preventing breaches of environmental law
- assessing customer service satisfaction and improving its service
- Freedom of Information Act/Environmental Information Regulations request.

NRW may pass it on to its agents/representatives to do these things on its behalf. You should ensure that any persons named on this form are informed of the contents of this data protection notice.

Disclosure of information

NRW will provide a copy of this report to the public register(s). However, if you consider that any information contained in this report should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within twenty working days of receipt of this form indicating which information it concerns and why it should not be released, giving your reasons in full.

Customer charter

What can I do if I disagree with this compliance assessment report?

If you are unable to resolve the issue with your site officer, you should firstly discuss the matter with the officer's line managers. If you wish to raise your dispute further through our official **Complaints** and **Commendations** procedure, phone our general enquiry number **0300 065 3000** (Mon to Fri **08.00–18.00**) and ask for the **Customer Contact team** or send an email to enquiries@naturalresourceswales.gov.uk. If you are still dissatisfied you can make a complaint to the Public Services Ombudsman for Wales. For advice on how to complain to the Ombudsman phone their helpline on **(0845) 601 0987**.



Photograph showing the fire deposit with a thick cover layer (arrow). Hazardous Landfill



Asbestos decontamination unit.



Fire wastes being carefully removed from the Non Hazardous cell for transfer top the Hazardous landfill





