

Drainage Service Department

Monthly Environmental Monitoring & Auditing report for

Contract No.DC/2006/11

Drainage Improvement in Southern Lantau

May 2010

Environmental Pioneers & Solutions Limited

8/F, Chaiwan Industrial Centre Building

20 Lee Chung Street, Chaiwan, Hong Kong

Tel: 2965 0828

Fax: 2856 2010

APPROVAL SHEET

Prepared and Certified by: ET Leader (Environmental Pioneers & Solutions Limited)

Signature: _____
Miss Patricia Chung
(ET* Leader)

Date: _____

Signature: _____
Mr. Vincent Lai
(Ecologist)

Date: _____

* ET – Environmental Team

TABLE of CONTENT

| | |
|---|----|
| TABLE of CONTENT | ii |
| EXECUTIVE SUMMARY | iv |
| 1. Introduction | 1 |
| 2. Project Information | 1 |
| 2.1 Construction program | 1 |
| 2.2 Project Organization | 2 |
| 2.3 Key Personal Contact information chart..... | 2 |
| 3. Construction Stage | 3 |
| 3.1 Construction Activities in the reporting month..... | 3 |
| 3.2 Construction Activities for the coming month..... | 3 |
| 3.3 Environmental Status | 3 |
| 4. Noise Monitoring | 4 |
| 4.1 Monitoring Parameters and Methodology | 4 |
| 4.2 Monitoring Equipment..... | 4 |
| 4.3 Monitoring Locations..... | 5 |
| 4.4 Monitoring Results and Interpretation | 7 |
| 4.5 Action and Limit level for Construction noise | 7 |
| 4.6 Noise Mitigation Measures | 9 |
| 5. Water Monitoring | 10 |
| 5.1 Water Quality Monitoring Parameters and methodology | 10 |
| 5.2 Monitoring Equipment..... | 10 |
| 5.3 Monitoring Locations..... | 11 |
| 5.4 Monitoring Frequency | 13 |
| 5.5 Monitoring Results and Interpretation | 13 |
| 5.6 Action and limit level for Water Quality..... | 15 |
| 5.7 Water Quality Mitigation Measures | 17 |
| 5.8 Water Monitoring Schedule for the Next reporting period..... | 17 |
| 6. Ecology Monitoring | 18 |
| 6.1 Ecological Monitoring Parameters | 18 |
| 6.2 Monitoring Equipment and Methodology | 19 |
| 6.3 Monitoring Locations..... | 20 |
| 6.4 Monitoring Frequency | 23 |
| 6.5 Monitoring results | 23 |
| 6.6 Action and Limit level for Monitoring of White-shouldered Starlings | 32 |

| | | |
|------|--|----|
| 6.7 | Ecological monitoring Schedule | 32 |
| 7. | Action taken in Event of Exceedence | 33 |
| 8. | Construction waste disposal..... | 34 |
| 9. | Status of Permits and Licenses obtained..... | 35 |
| 10. | Complaint Log | 36 |
| 11. | Site Environmental Audits | 36 |
| 11.1 | Site Inspection..... | 36 |
| 11.2 | Compliance with legal and Contractual requirement..... | 40 |
| 11.3 | Environmental Complaint and follow up actions..... | 40 |
| 12. | Future key issues..... | 40 |
| 13. | Conclusions..... | 42 |

APPENDIXES

| | |
|-------------|---|
| Appendix A | Construction Programme and location plan |
| Appendix B | Key Personal Contact information chart |
| Appendix C | Calibration Certificates for measuring instruments |
| Appendix D1 | Plant species recorded at Pak Ngan Heung River (N) |
| Appendix D2 | Plant species recorded at Pak Ngan Heung River (S) |
| Appendix D3 | Plant species recorded at Luk Tei Tong River |
| Appendix D4 | Ecological Water Monitoring results (on-site measurement) |
| Appendix D5 | Ecological Water Monitoring results (lab-report) |
| Appendix E | Construction Noise Monitoring Data Sheet |
| Appendix F1 | Water Quality Monitoring Data Sheet |
| Appendix F2 | Water Quality Monitoring Lab report |
| Appendix G | Monitoring Schedule for May 2010 |
| Appendix H | Implementation status of environmental protection / mitigation measures |
| Appendix I | Graphical plot of water quality monitoring results (SS, DO, turbidity) |
| Appendix J | Graphical plot of noise monitoring results |

EXECUTIVE SUMMARY

This is the twenty-second monthly environmental Monitoring and audit (EM&A) report for “Drainage Improvement in Southern Lantau Investigation”. The environmental permit number is “EP-237/2005/B”. The report concludes the impact monitoring for the activities undertaken during the period of 01 May 2010 to 31 May 2010. The major activities in this reporting month include site formation, construction of box culverts, retaining wall, gabion wall and sloping seawall at Pak Ngan Heung (PNH) and Luk Tei Tong (LTT) River.

Noise, water quality and ecological monitoring were performed. Results obtained were checked against the previously established Action / Limit (A/L) levels. Additionally, the implementation status of environmental mitigation measures, event / action plan and environmental complaint handling procedures were inspected during weekly site environmental audit.

In general, waste management was satisfactory during the reporting month.

Impact monitoring for construction noise was conducted in the reporting period. No exceedance of A/L level was reported.

Furthermore, impact monitoring for water quality was conducted. Total 76 non-compliance events of water quality criteria were recorded in this reporting period while 14 of them were believed to be mainly attributed to improper site practice and insufficient of water quality mitigation measures on site. As such, contractor was advised to implement necessary corrective actions and mitigation measures as to minimize further deterioration of water quality.

During ecological monitoring survey, no White-shouldered Starling was recorded breeding in the watch tower. There was no sign of disturbance from the Project to the watch tower. The watch tower may not be suitable for birds as nesting habitat. In addition, no disturbance on the flora and fauna in the river channels were observed during the ecological monitoring.

There was no complaint, notification of any summons and successful prosecutions against the project received during the reporting period.

Key construction activity in the coming month will include construction of box culvert, gabion wall, retaining wall and sloping seawall. It is expected that noise, air and water quality impacts will be resulted from the works. With reference to the EM&A manual and mitigation measure report, mitigation measures are proposed to be taken, if necessary.

The ET will continue to implement the environmental monitoring & audit programme in accordance with the EM&A Manual and Environmental Permit requirement.

1. Introduction

This is the twenty-second monthly Environmental Monitoring and Audit (EM&A) Report for “Drainage Improvement in Southern Lantau Investigation” project (Environmental Permit No. EP-237/2005/B)

2. Project Information

2.1 Construction program

The “Drainage Improvement in Southern Lantau Investigation” project will be completed by January 2011. The project comprises the following:

- Construction of approximately 80m long gabion with natural bed in Pak Ngan Heung River, approximately 180m of three cells 3m x 2m box culvert and approximately 100m of rectangular channel at Pak Ngan Heung River;
- Construction of approximately 250m of 0.75m wide U-Channel at Ling Tsui Tau Village in Mui Wo;
- Construction of bypass channel of about 350m and 240m long of gabion channels at Luk Tei Tong River respectively; and
- Widening three existing bottlenecks with gabion lined at Tai Tei Tong (TTT) River

Appendix A shows the construction program and location plan of the project.

2.2 Project organization

The Main Contractor, Yick Hing Construction Company Limited, has commissioned Environmental Pioneers & Solutions Limited and Ecosystems Limited as the Environmental Team, which comprises the environmental team leader, the ecologists and the environmental technicians to undertake the environmental monitoring and audit work for this project.

The environmental management structure and is shown in Fig 2.2.1.

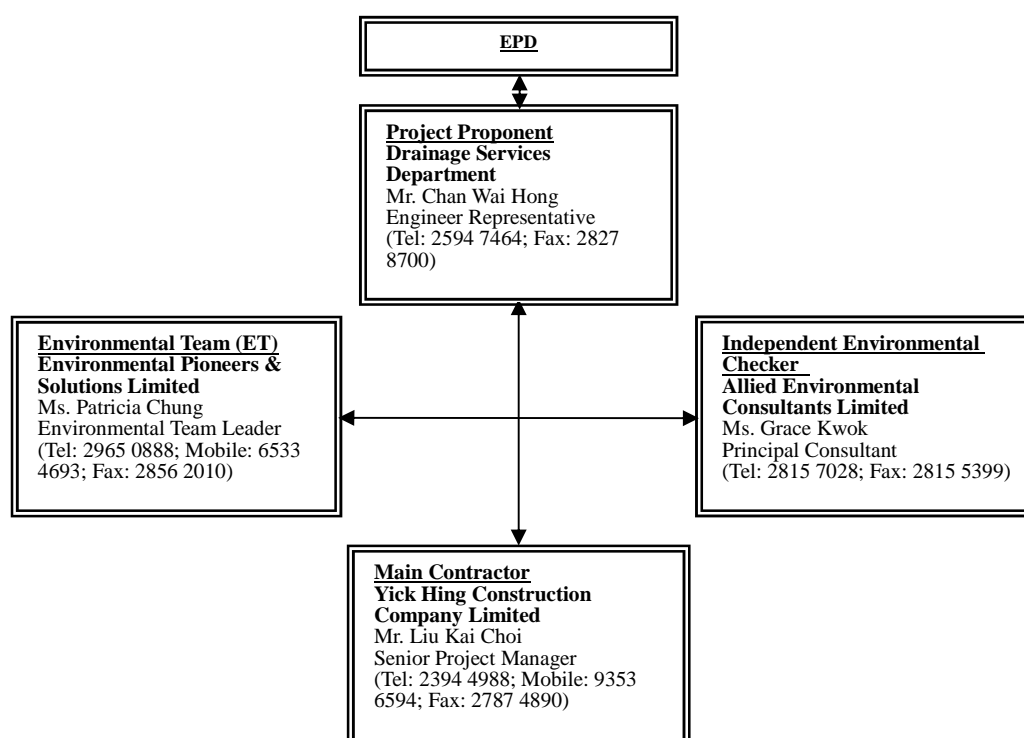


Figure. 2.2.1 Environmental Management structure for the project

2.3 Key personal contact information chart

Detailed contact of key persons involved in environmental aspect of the project is shown in Appendix B.

3. Construction Stage

3.1 Construction activities in the reporting month

Major activities in the reporting month included the followings:

1. Construction of fish ladder at upstream end of Pak Ngan Heung (PNH) River.
2. Construction of Alternative Mass Concrete Wall no.1 at PNH River.
3. Construction of Box Culvert A and inlet at Luk Tei Tong (LTT) Bypass Channel.
4. Construction of alternative mass concrete wall no.3 at LTT River.
5. Construction of riverwall around Yuen's compound at LTT River.

3.2 Construction activities for the coming month

Proposed key construction works in the coming month will include:

1. Construction of fish ladder at PNH River.
2. Construction of Alternative Mass Concrete Wall no.1 at PNH River.
3. Construction of inlet for LTT Bypass Channel.

3.3 Environmental Status

Appendix A shows the drawing of the project area.

Locations of the monitoring and control stations with environmental sensitive receivers are presented in Section 4.3, 5.3 and 6.3 for noise, water and ecological monitoring respectively.

4. Noise Monitoring

4.1 Monitoring Parameters and Methodology

The construction noise level was measured in terms of the A-weighted equivalent continuous sound pressure level (L_{eq}). $L_{eq(30minutes)}$ was used as the monitoring parameter for the impact monitoring in the time period between 0700 to 1900 hours on normal weekdays. For all other time period, $L_{eq(5minutes)}$ was employed for comparison with the Noise Control Ordinance (NCO) criteria.

Noise measurement results obtained from each monitoring location were recorded in the Construction Noise Monitoring Data Sheet (Appendix E) immediately after the measurement. As supplementary information for data auditing, statistical results L_{10} and L_{90} were also be recorded for reference.

In case of non-compliance with the construction noise criteria, more frequent monitoring, as specified in the Action plan in Table 4.5.2, shall be carried out. This additional monitoring shall be carried out until the recorded noise levels are rectified or proved to be irrelevant to the construction activities.

4.2 Monitoring Equipment

The sound level meters and calibrators comply with the International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications as referred to in the Technical Memorandum (TM) to the Noise Control Ordinance was deployed as monitoring equipment for noise measurement.

Noise measurement was not be made in the presence of fog, rain, wind with a steady speed exceeding $5ms^{-1}$ or wind with gust exceeding $10ms^{-1}$. Thus wind speed was checked by the portable wind speed indicator capable of measuring the wind speed in m/s. Table 4.2.1 summarizes the equipment list for noise monitoring

Table 4.2.1 Equipment List for Noise Monitoring

| Equipment | Manufacturer & Model No. | Precision Grade | Qty |
|---|---------------------------|----------------------------------|-----|
| Integrated sound level meter | ACO Japan, model 6224 | IEC 651 Type 1 IEC 804 Type 1 | 1 |
| Windscreen | Microtech gefell model W2 | N/A | 1 |
| Acoustical calibrator | B & K, model 4231 | IEC 942 Type 1 | 1 |
| Wind speed indicator | Kestrel K1000 | N/A | 1 |
| Remarks: Calibration details for the sound level meter is given in Appendix C for reference | | | |

4.3 Monitoring Locations

According to the Baseline Monitoring Report issued in May 2008 for the captioned project, four locations were alternative from the locations proposed in EM&A manual, were designated for baseline noise monitoring. For the data validation, impact noise monitoring was undertaken in the same locations during the construction phase of the project. The proposed monitoring locations are summarized in Table 4.3.1. Figure 4.3.1 shows the Noise Monitoring Locations

Noise measurement in each monitoring locations were taken at a point 1m from the exterior of the selected premises and at a height with no disturbance to the dweller and least obstructed view.

Table 4.3.1 Noise Monitoring Locations during Construction Phase

| Identification No. | Noise Monitoring Locations |
|--------------------|---|
| N1 | No. 73, Village House, Ling Tsui Tau Tsuen (ground level) |
| N2 | No. 31, Village House, Ling Tsui Tau Tsuen (ground level) |
| N3 | Fence wall outside No. 5 village house adjacent to Luk Tei Tong River Outlet (ground level) |
| N4 | No. 23, Village House, Tai Tei Tong River (ground level) |

In accordance with the requirements in the EM&A manual, weekly impact monitoring was conducted. For the time period between 0700 and 1900 hours on normal weekdays, and noise parameter of $L_{eq(30minutes)}$ was measured. As if the construction works were carried out during restricted period (ie. 1900-2300, 2300-0700 of next day and Sundays / general holiday), impact monitoring that comprises 3 consecutive $L_{eq(5minutes)}$ would be carried out.

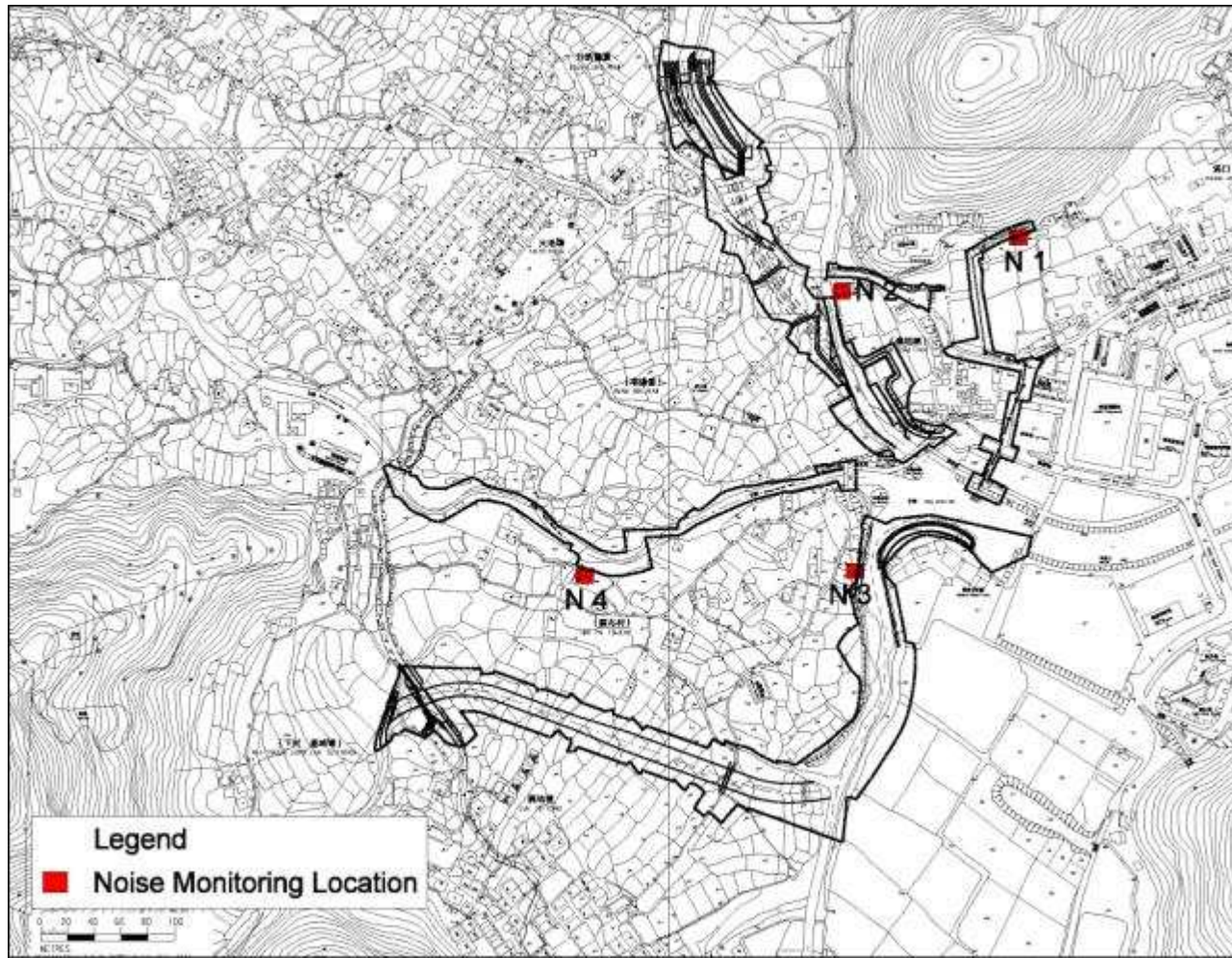


Figure 4.3.1 Impact noise monitoring locations

4.4 Monitoring Results and Interpretation

Relevant details of the noise monitoring results are presented in Table 4.4.1. The results, ranged between 46.3 dB(A) and 60.4 dB(A), were within the limit levels and therefore, no exceedance was found.

Table 4.4.1 Noise monitoring results

| Table 4.4.1 Noise Monitoring Results for the reporting month | | | | | | | |
|--|------------------------|-----------|-------|---------------------------|----------------|------------|---------|
| Location | Parameter | Date | Time | L _{Aeq} dB(A) | Limit dB(A) | Exceedance | Weather |
| N1 | L _{eq} 30mins | 3-May-10 | 14:45 | 53.1 | 75 | N | Sunny |
| N1 | L _{eq} 30mins | 12-May-10 | 12:30 | 46.3 | 75 | N | Sunny |
| N1 | L _{eq} 30mins | 17-May-10 | 13:45 | 60.4 | 75 | N | Sunny |
| N1 | L _{eq} 30mins | 24-May-10 | 16:10 | 52.3 | 75 | N | Sunny |
| N1 | L _{eq} 30mins | 1-Jun-10 | 14:35 | 57.3 | 75 | N | Sunny |
| N2 | L _{eq} 30mins | 3-May-10 | 14:10 | 55.9 | 75 | N | Sunny |
| N2 | L _{eq} 30mins | 12-May-10 | 11:52 | 47.8 | 75 | N | Sunny |
| N2 | L _{eq} 30mins | 17-May-10 | 13:10 | 55.8 | 75 | N | Sunny |
| N2 | L _{eq} 30mins | 24-May-10 | 15:30 | 52.6 | 75 | N | Sunny |
| N2 | L _{eq} 30mins | 1-Jun-10 | 14:00 | 51.3 | 75 | N | Sunny |
| N3* | L _{eq} 30mins | 3-May-10 | 13:35 | 58.8 | 75 | N | Sunny |
| N3* | L _{eq} 30mins | 12-May-10 | 10:38 | 60.3 | 75 | N | Sunny |
| N3* | L _{eq} 30mins | 17-May-10 | 12:30 | 55.4 | 75 | N | Sunny |
| N3* | L _{eq} 30mins | 24-May-10 | 14:50 | 57.8 | 75 | N | Sunny |
| N3* | L _{eq} 30mins | 1-Jun-10 | 12:30 | 53.7 | 75 | N | Sunny |
| N4 | L _{eq} 30mins | 3-May-10 | 13:00 | 53.3 | 75 | N | Sunny |
| N4 | L _{eq} 30mins | 12-May-10 | 11:15 | 54.7 | 75 | N | Sunny |
| N4 | L _{eq} 30mins | 17-May-10 | 11:55 | 50.3 | 75 | N | Sunny |
| N4 | L _{eq} 30mins | 24-May-10 | 14:15 | 59.7 | 75 | N | Sunny |
| N4 | L _{eq} 30mins | 1-Jun-10 | 11:00 | 53.2 | 75 | N | Sunny |

Remarks: Raw datasheet for noise monitoring are attached in Appendix E for reference.

Remark*: The equivalent noise level of N3 is corrected by +3 dB from the raw data result due to the fact that free field measurement was carried out in the location.

4.5 Action and Limit level for Construction noise

The Action and Limit (A/L) levels for construction noise are defined in Table 4.5.1. Should non-compliance of the criteria occur, action in accordance with the Action Plan in Table 4.5.2 should be carried out.

There was no exceedance recorded in the reporting month.

| Time Period | Action Level | Limit Level |
|--|---|-------------|
| 0700 – 1900 hours on normal weekdays | When one documented complaint is received | 75dB(A) |
| Remarks: If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed. | | |

Table 4.5.2 Event / Action Plan for Construction Noise

| EVENT | ACTION | | | |
|--------------|--|---|---|--|
| | ET | IC(E) | ER | Contractor |
| Action Level | <ol style="list-style-type: none"> 1. Notify IC(E) and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IC(E), ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness. | <ol style="list-style-type: none"> 1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise ER accordingly; 3. Supervise the implementation of remedial measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented. | <ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IC(E); 2. Implement Noise mitigation proposals. |
| Limit Level | <ol style="list-style-type: none"> 1. Identify source; 2. Inform IC(E), ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IC(E), ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results 8. If exceedance stops, cease additional monitoring | <ol style="list-style-type: none"> 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated | <ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IC(E) within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated |

4.6 Noise Mitigation Measures

The following mitigation measures were observed from the weekly site inspection in the reporting month:

- Use of quiet powered mechanical equipment (PME)
- Implementation of the following good site practices:
 - Only well-maintained and regularly serviced plant should be operated on site;
 - Silencers or mufflers on construction equipment;
 - Mobile plant, if any, should be sited as far from noise sensitive receivers as possible; and
 - Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.

5. Water Monitoring

5.1 Water Quality Monitoring Parameters and methodology

Turbidity in Nephelometric Turbidity Unit (NTU), Dissolved Oxygen (DO) in mg/L and Suspended Solids (SS) in mg/L are required to measure in this project. Turbidity, DO was measured in-situ while water samples were delivered to Accredited HOKLAS Laboratory for analysis of SS.

Other relevant data such as monitoring location, time, water depth, temperature, salinity, weather conditions and any other special phenomena and work underway at the construction site were recorded during sampling.

According to the requirement of the EM&A manual, two consecutive measurements for parameters of DO concentration, DO saturation and Turbidity are required to be taken at each monitoring location. When the difference in value between the first and second reading of DO or Turbidity is more than 25%, the reading would be discarded and further reading would be taken.

5.2 Monitoring Equipment

Turbidity, DO, Salinity, pH and temperature was measured by an instrument complied with the following requirements:

The instrument is a portable as well as weatherproof multimeter complete with cable and uses a DC power source. It is capable of measuring:

- A turbidity between 0-800NTU;
- A dissolved Oxygen level in the range of 0-20mg/L and 0-200% saturation;
- A temperature of 0-50°C;
- Salinity in the range of 0-40ppt;
- pH in the range of 0-14.

Suspended solid was determined by the water samples collected from the monitoring locations for further analysis in accredited HOKLAS laboratory. Water samples were contained by polythene bottles, packed in ice (cooled in 4°C without frozen) and delivered to the laboratory for analysis as soon as possible after collection. Duplicate samples from each independent sampling event were undertaken during impact monitoring.

Detailed calibration records of the multimeter were shown in Appendix C for reference.

5.3 Monitoring Locations

Seven locations included a control station in upstream of each stream/ river, a monitoring station at the end of each stream/ river of the works area and a monitoring station at Silver River were proposed for the impact water quality monitoring. Water samples were collected at mid-depth of each proposed monitoring stations for measurements and sample collection. The Location Plan is shown in Figure 5.3.1 for reference.

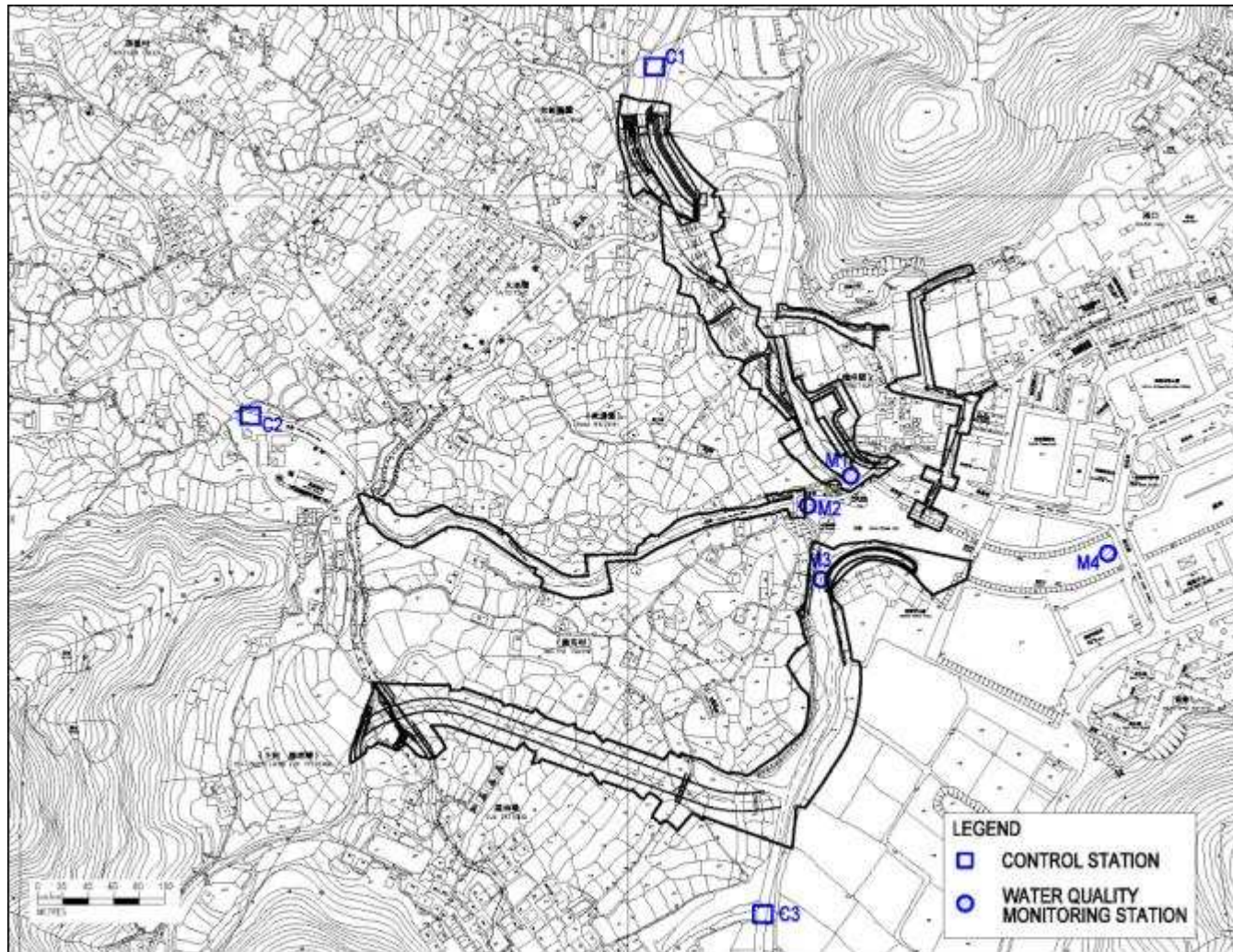


Figure 5.3.1 Water Quality Monitoring Locations

5.4 Monitoring Frequency

Impact water quality monitoring was undertaken three days per week and at ebb tides during the course of the construction river works. Upon the completion of the construction works, the monitoring exercises at the designated monitoring stations will be continued for four weeks in the same manner as the impact monitoring.

5.5 Monitoring Results and Interpretation

Water quality monitoring was carried out fifteen times during May. Detailed on-site measurements and laboratory analysis reports including QA/QC results are shown in Appendix F1 and F2 respectively, while Table 5.5.1 presents consolidated results throughout the reporting month.

Total 76 exceedance events on parameters of turbidity and suspended solids were recorded in this reporting month according to the established level. Findings from the investigations showed most of the exceedance events were mainly caused by natural fluctuation and deficiencies of site practice.

As 14 events were suspected to be related to improper site practices, contractor was seriously reminded to review the site conditions and implement corrective actions as well as mitigation measures as soon as possible to minimize further deterioration of water quality.

Detailed information of the exceedance events and action taken were presented in Section 7.

Table 5.5.1 Water quality monitoring results in May 2010

| | M1 | | | M2 | | | M3 | | | M4 | | |
|------------------------|-----|-------|------|-----|------|-----|-----|------|------|-----|------|------|
| | MIN | MAX | Ave | MIN | MAX | Ave | MIN | MAX | Ave | MIN | MAX | Ave |
| Turbidity (NTU) | 9.0 | 136.2 | 35.4 | 0.0 | 31.1 | 3.7 | 3.6 | 48.6 | 17.1 | 4.6 | 47.7 | 14.3 |
| DO (mg/l) | 5.4 | 8.2 | 7.0 | 6.7 | 9.0 | 7.7 | 5.8 | 10.8 | 7.4 | 6.5 | 10.1 | 7.6 |
| Suspended Solid (mg/l) | 8.1 | 143.6 | 29.7 | 1.7 | 39.8 | 5.2 | 9.1 | 50.0 | 16.9 | 4.9 | 29.7 | 13.1 |

| | C1 | | | C2 | | | C3 | | |
|------------------------|-----|------|-----|-----|------|-----|-----|------|------|
| | MIN | MAX | Ave | MIN | MAX | Ave | MIN | MAX | Ave |
| Turbidity (NTU) | 0.0 | 6.9 | 1.4 | 0.0 | 15.7 | 1.3 | 2.4 | 37.3 | 12.0 |
| DO (mg/l) | 6.4 | 8.0 | 7.3 | 6.9 | 8.9 | 7.7 | 3.3 | 7.6 | 6.0 |
| Suspended Solid (mg/l) | 1.0 | 14.0 | 3.1 | 1.0 | 20.0 | 2.6 | 5.6 | 39.4 | 11.2 |

* Remarks: Detection limit for Turbidity, DO and SS are 1 NTU, 0.1 mg/L and 1 mg/L respectively.

5.6 Action and limit level for Water Quality

Based on the criteria stipulated in EM&A manual Section 4.8 and baseline water quality monitoring data obtained, the A/L levels are shown in Table 5.6.1 and Table 5.6.2. If the water quality monitoring results at any impact stations exceeded the criteria, the actions in accordance with the Event and Action Plan in Table 5.6.3 should be taken.

Table 5.6.1 Water quality criteria for monitoring

| Parameters | Action | Limit |
|------------------------------|--|---|
| DO in mg/L (mid-depth) | - 5%-ile of baseline data | - 4mg/L |
| SS in mg/L (mid-depth) | - 95%-ile of baseline data; or - 120% of control station's SS on the same day of measurement | - 99%-ile of baseline; or - 130% of control station's SS on the same day of measurement |
| Turbidity in NTU (mid-depth) | - 95%-ile of baseline data; or - 120% of control station's turbidity on the same day of measurement | - 99%-ile of baseline; or - 130% of control station's turbidity on the same day of measurement |

Table 5.6.2 Action and Limit Levels established according to baseline data

| Parameters | Monitoring locations | | | | | | | |
|-----------------|----------------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| | M1 | | M2 | | M3 | | M4 | |
| | Action Level | Limit Level | Action Level | Limit Level | Action Level | Limit Level | Action Level | Limit Level |
| Turbidity (NTU) | 15.2 | 16.9 | 5.3 | 6.5 | 16.8 | 26.0 | 16.2 | 18.0 |
| DO (mg/L) | 5.7 | 4.0 | 6.2 | 4.0 | 5.9 | 4.0 | 5.9 | 4.0 |
| SS (mg/L) | 12.2 | 12.8 | 3.1 | 4.2 | 12.4 | 17.7 | 13.9 | 15.2 |

Remarks:

For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits

For SS and turbidity, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

Table 5.6.3 Event and action Plan for Water Quality

| EVENT | ACTION | | | |
|--|---|---|--|---|
| | ET | IC(E) | ER | Contractor |
| Action Level being exceed by one sampling day | <ol style="list-style-type: none"> 1. Repeat in <i>situ</i> measurement to confirm findings; 2. Identify reasons for non-compliance and source(s) of impact; 3. Inform IC(E) and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IC(E) and Contractor; 6. Repeat measurement on next day of exceedance. | <ol style="list-style-type: none"> 1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals in mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures. | <ol style="list-style-type: none"> 1. Discuss with IC(E) on the proposed mitigation measures; 2. make agreement on the mitigation measures to be implemented; 3. Assess the effectiveness of the implemented mitigation measures. | <ol style="list-style-type: none"> 1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET and IC(E) and propose mitigation measures to IC(E) and ER; 6. Implement the agreed mitigation measures. |
| Action level being exceed by more than two consecutive sampling days | <ol style="list-style-type: none"> 1. Repeat in <i>situ</i> measurement to confirm findings; 2. Identify reasons for non-compliance and source(s) of impact; 3. Inform IC(E) and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IC(E) and Contractor; 6. Ensure mitigation measures are implemented; prepare to increase the monitoring frequency to daily 7. Repeat measurement on next day of exceedance | <ol style="list-style-type: none"> 1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals in mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures. | <ol style="list-style-type: none"> 1. Discuss with IC(E) on the proposed mitigation measures; 2. make agreement on the mitigation measures to be implemented; 3. Assess the effectiveness of the implemented mitigation measures. | <ol style="list-style-type: none"> 1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET and IC(E) and propose mitigation measures to IC(E) and ER within three working days; 6. Implement the agreed mitigation measures. |
| Limit level being exceeded by one sampling day | <ol style="list-style-type: none"> 1. Repeat in <i>situ</i> measurement to confirm findings; 2. Identify reasons for non-compliance and source(s) of impact; 3. Inform IC(E) and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IC(E) and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit Level | <ol style="list-style-type: none"> 1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals in mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures. | <ol style="list-style-type: none"> 1. Discuss with IC(E) on the proposed mitigation measures; 2. make agreement on the mitigation measures to be implemented; 3. Assess the effectiveness of the implemented mitigation measures. | <ol style="list-style-type: none"> 1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET and IC(E) and propose mitigation measures to IC(E) and ER; 6. Implement the agreed mitigation measures. |

5.7 Water Quality Mitigation Measures

Construction Run-off and Drainage

The site practices outlined in ProPECC PN 1/94 ‘Construction Site Drainage’ should be followed as far as practicable during both construction and operation phase of the drainage improvement works in order to minimize surface runoff and the chance of erosion, and also to retain and reduce any suspended solids prior to discharge.

As recommended in the final EM&A manual, attention would be paid especially construction run-off and drainage, general construction activities, sewage discharged from construction workforce and river channel excavation works.

Contractor was recommended to provide sufficient water treatment facilities for accumulated site water and excavation activities carried out nearby river channel. Earth bunds should be provided to the construction site in / next to the river channel to form an enclosed, dry environment to minimize water quality impact.

5.8 Water Monitoring Schedule for the Next reporting period

Water monitoring scheduled for the next reporting period is 2, 4, 7, 9, 1, 14, 15, 18, 21, 23, 25, 28 and 30 June 2010.

6. Ecology Monitoring

6.1 Ecological Monitoring Parameters

According to the Final EM&A Manual, a specific ecological monitoring programme of the improved section of PNH and LTT Rivers is recommended. The monitoring parameters required to measure in this project and survey methodology are described below:

- (1) Avifauna species and abundance: Birds will be surveyed quantitatively using transect count method. Birds within the river channel and on the riverbank will be identified and their abundance will be recorded.
- (2) Aquatic macroinvertebrate community species composition and abundance: Survey on aquatic fauna will focus on determination of the diversity and abundance of stream aquatic communities. Sampling methods, such as active searching, direct observation, netting, and kick sampling, will be determined according to the site conditions during field survey.
- (3) Fish community species composition and abundance: Sampling methods, such as active searching, direct observation, and hand netting, will be determined according to the site conditions during field survey.
- (4) Adult odonate community species composition and abundance: Adult dragonfly will be surveyed quantitatively using transect count method. Adult dragonflies within the river channel and on the riverbank will be identified and their abundance will be recorded. Species requiring close examination will be netted.
- (5) Aquatic, emergent and riparian vegetation community species composition and abundance: The area will be walked through. Plant species composition and their relative abundance will be recorded.
- (6) Surveys of White-shouldered Starling *Sturnus sinensis* will be conducted at the disused watchtowers next to LTT river. Breeding of the White-shouldered Starlings will be determined by checking signs of attempt to breed or sign of breeding which include carrying nesting materials, to-and-fro movement of adults carrying food, presence of recently fledged juveniles, etc. The number of breeding pairs and the site observation will be recorded whenever possible.

Water Quality Monitoring along LTT and PNH River as well as LTT bypass channel was carried out. Water quality monitoring will include Turbidity in Nephelometric Turbidity Unit (NTU), Dissolved Oxygen (DO) in mg/L and Suspended Solids (SS) in mg/L are required to measure in this project. Moreover, additional water monitoring parameters will be taken for the purposes of ecological monitoring of water quality in this project. The added information will include: BOD, Ammonia, Nitrate and Phosphate concentrations. Turbidity, DO, pH and water flow will be measured in-situ while water samples will be delivered to Accredited HOKLAS Laboratory accredited laboratory and the analyses followed the standard methods according to APHA Standard Methods for the Examination of Water and Wastewater, 20th Edition, or equivalent for analysis of SS, BOD, Ammonia, Nitrate and Phosphate concentrations.

Other relevant data such as monitoring location, time, water depth, temperature, salinity, weather conditions and any other special phenomena and work underway at the construction site will be recorded during sampling.

According to the requirement of the EM&A manual, two consecutive measurements for parameters of DO concentration, DO saturation and Turbidity are required to be taken at each monitoring. When the difference in value between the first and second reading of DO or Turbidity is more than 25%, the reading will be discarded and further reading will be taken.

6.2 Monitoring Equipment and Methodology

Turbidity, DO, Salinity, pH and Temperature will be measured by a instrument complied with the following requirements:

The instrument is a portable as well as weatherproof multimeter complete with cable and uses a DC power source. It is capable of measuring:

- A turbidity between 0-800NTU;
- A dissolved Oxygen level in the range of 0-20mg/L and 0-200% saturation;
- A temperature of 0-50°C;
- Salinity in the range of 0-40ppt;
- pH in the range of 0-14.

Suspended solid was determined by the water samples collected from the

monitoring locations for further analysis in accredited HOKLAS laboratory. Water samples were contained by polythene bottles, packed in ice (cooled in 4°C without frozen) and delivered to the laboratory for analysis as soon as possible after collection. Duplicate samples from each independent sampling event were undertaken during impact monitoring.

6.3 Monitoring Locations

According to the Final EM&A Manual, the improved section of the river channels will be divided into 50m long sections, and ecological survey will be carried out in each of the 50m sections. A total of nine sections will be divided for the two rivers which include:

- Two sections for existing upstream of PNH river (i.e. the proposed 80m long trapezoidal channel)
- Two sections for existing downstream of PNH river (i.e. the proposed 100m long rectangular channel)
- Five sections for existing Luk Tei Tong River (i.e. the proposed 240m long trapezoidal channel)

The disused watchtowers are located at the confluence of the three rivers and next to LTT river.

The Location Plan for ecological is shown in Figure 6.1 for reference.

The improved sections of the river channels require to carrying out water quality monitoring for the ecological purpose. The sampling points for impact monitoring was undertaken in the same place as the baseline monitoring proposed, where include:

- Three points for existing of PNH river
- Three points for existing of Luk Tei Tong River

The Location Plan for ecological water monitoring is shown in Figure 6.2 for reference.

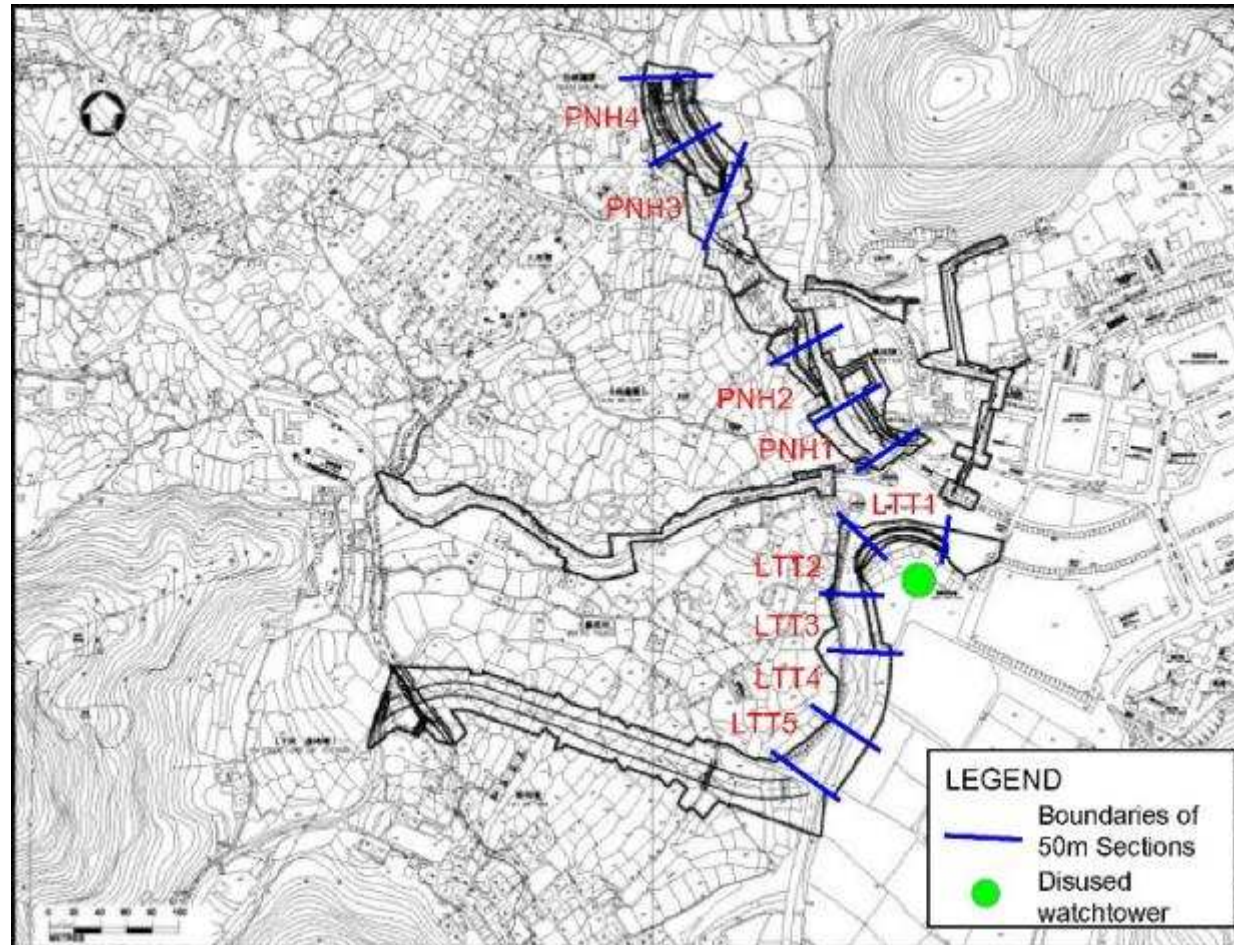


Figure 6.1 Ecological Monitoring Locations

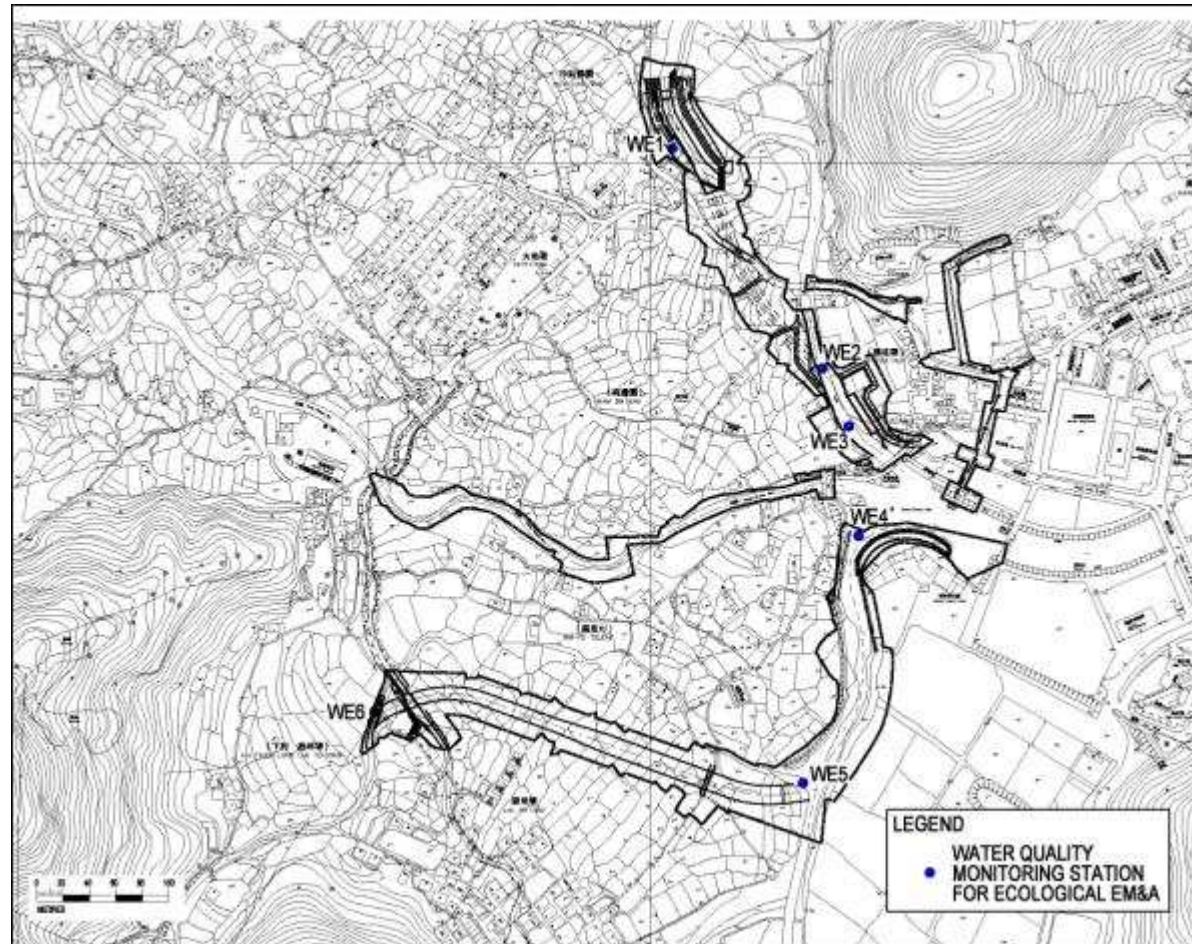


Figure 6.2 Ecological Water Quality monitoring locations

6.4 Monitoring Frequency

As proposed, ecological impact monitoring was carried out once for each monitoring location in the reporting month.

6.5 Monitoring results

Pak Ngan Heung Stream N and S sections

Vegetation

Surveys were conducted on 28 May 2010. During the current monitoring session, new rock gabion wall was under construction. Stream bank and stream bed of PNH3 was completely cleared. Stream bank of PNH4 was mostly cleared, while the weir is still intact.

The walk through survey recorded a total of 26 species, including 10 trees, 1 shrub, 7 herb and 4 grass species (Appendix D1) on PNH N section. 20 of the species recorded are natives, while 6 were exotics. Remnants of vegetation including native trees (e.g. *Ficus hispida*, *Macaranga tanarius*), aquatic floating plant (e.g. *Pistia stratioides*) and grasses species (e.g. *Microstegium ciliatum*) were still seen along the weir or retained at east stream bank. No species of conservation interest was recorded. No quantitative surveys were carried out on both PNH3 and PNH4 due to vegetation clearance and construction works on stream banks as part of the site clearance works under the project.

During the current monitoring session, construction work ongoing along PNH S section. Vegetation was only found on remnants of the old concrete bank. A total of 6 species recorded, 4 of which were native and 2 were exotic. It was composed of isolated individuals of mangrove (*Kandelia obovata*), exotic shrub (*Lantana camara*) and native trees (*Ficus supbera*, *Ficus microcarpa*) (Appendix D2). No species of conservation interest was recorded.

Terrestrial Fauna

Surveys were conducted on 7 May 2010.

Two species of birds were recorded in the proposed work area of the Pak Ngan Heung River (Table 6.5.2). Both are common in Hong Kong.

Table 6.5.2 Avifauna in Pak Ngan Heung

| Common names | Latin names | PNH 1 | PNH 2 | PNH 3 | PNH 4 | Commonness & distribution |
|--------------------|---------------------------|----------|----------|----------|----------|------------------------------|
| Magpie Robin | <i>Copsychus saularis</i> | 1 | | | | CW |
| Japanese White-eye | <i>Zosterops japonica</i> | | | 1 | | CW |

CW = common and widespread

No dragonfly was recorded in the proposed work area of the Pak Ngan Heung River in May 2010.

Aquatic fauna and fish

Sections of stream within the PNH3 boundary had been diverted to a bypass channel to facilitate the construction of the fish ladder. Therefore the PNH 3 was not covered by the present monitoring. In the remaining three survey section at PNH, 4 species of fish and 2 crustacean were recorded. All are common and widespread in Hong Kong. Though Predaceous Chub was observed, the another one fish species of conservation concern reported in the EIA report, i.e. Flagtail *Kuhlia marginata*, was not recorded in PNH during the present monthly monitoring survey.

Table 6.5.4 Aquatic Invertebrates and fish in Pak Ngan Heung

| Common names | Scientific names | PNH 1 | PNH 2 | PNH3 | PNH4 |
|------------------------------|------------------------------------|-------|-------|------|------|
| Invertebrates | | | | | |
| Atyid shrimp | <i>Caridina elongata</i> | | | \ | + |
| Palaemonid shrimp | <i>Macrobrachium hainanensis</i> | | | \ | |
| Crab | <i>Varuna litterata</i> | | | \ | |
| Mitten Crab | <i>Eriocheir japonica</i> | + | | \ | |
| Fish | | | | | |
| Mosquito fish | <i>Gamusia affinis</i> | | | \ | + |
| Goby | <i>Rhinogobius duospilus</i> | | | \ | |
| Barcheek Goby | <i>Rhinogobius giurinus</i> | | | \ | |
| Swordtail | <i>Xiphophorus hellerii</i> | | | \ | + |
| Six-banded Barb | <i>Puntius semifasciolatus</i> | | | \ | |
| Unidentified Cichlid fish | | | | \ | |
| Tilapia | | + | ++ | \ | |
| Predaceous Chub | <i>Parazacco spilurus</i> | | | \ | |
| Jarbug Terapon | <i>Terapon jarbug</i> | | | \ | |
| Common Silver-biddy | <i>Gerres oyena</i> | | | \ | |
| Mullet | <i>Mugil cephalus</i> | ++ | ++ | \ | |
| Broken-band Hillstream Loach | <i>Liniparhomaloptera disparis</i> | | | \ | |

+ = Occasional, less than 5 individuals were found; ++ = Common, 5 – 20 individuals were found; +++ = Abundant, more than 20 individuals were found.

Luk Tei Tong Stream Section

Vegetation

Surveys were conducted on 28 June 2010. During the current survey, site clearance was completed in most sections. Removal of old rock gabion at LLT1 was underway, while some remnants of vegetation and mangroves remained at both LLT1 and LLT2 respectively. Some vegetation cleared and trimmed on existing rocky bank of LLT1 in March 2010 for maintenance purpose resprouted or grew back.,

The walk through survey recorded a total of 14 species, including 6 tree, 3 herb and and 4 grass species (Appendix D3). Eight species recorded are natives, while 6 were exotics. No quantitative survey was carried out due to vegetation clearance on stream banks as part of the site clearance works under the project.

Terrestrial Fauna

The proposed work area of Luk Tei Tong River was divided into 5 sections.
All recorded avifauna and dragonfly species are common in Hong Kong

Surveys were conducted on 7 May 2010.

A total of five species of birds were recorded in these sections (Table 6.5.6).
All these species are common in Hong Kong.

Table 6.5.6 Avifauna in Luk Tei Tong River

| Common names | Latin names | LTT 1 | LTT 2 | LTT 3 | LTT 4 | LTT 5 | Commonness & distribution |
|---------------------|-----------------------------------|------------------|------------------|------------------|------------------|------------------|--|
| Little Egret | <i>Egretta garzetta</i> | 1 | | | 2 | 3 | CW |
| Grey Heron | <i>Ardea cinerea</i> | | | | 1 | | CL |
| Common Sandpiper | <i>Actitis hypoleucos</i> | 1 | | | | | CW |
| Greater Coucal | <i>Centropus sinensis</i> | 1 | | | | | CW |
| Spotted Dove | <i>Streptopelia chinensis</i> | 1 | | | | | CW |

CW = common and widespread, CL = common/uncommon and localised

Four species of dragonfly were recorded in the Luk Tei Tong River in May 2010 (Table 6.5.7). All are common in Hong Kong (Wilson 2004).

Table 6.5.7 Dragonfly in Luk Tei Tong River

| Common names | Latin names | LTT 1 | LTT 2 | LTT 3 | LTT 4 | LTT 5 | Commonness & distribution |
|------------------------|---------------------------|----------|----------|----------|----------|----------|------------------------------|
| Green Skimmer | <i>Orthetrum sabina</i> | | | 2 | | | C |
| Common Blue Skimmer | <i>Orthetrum glaucum</i> | | | 2 | | | A |
| Crimson Dropwing | <i>Trithemis aurora</i> | | | 3 | | | A |
| Wandering Glider | <i>Pantala flavescens</i> | 3 | 2 | | | | A |

A = abundant, C = common

Aquatic invertebrates and fish

4 species of fish, 2 species of crustacean and 4 species of mollusks were recorded in the 5 sections at LTT. All are common and widespread in Hong Kong. The two fish species of conservation concern reported in the EIA report, i.e. Flagtail *Kuhlia marginata* and Predaceous Chub *Parazacco spilurus* were not recorded in LTT during the present monitoring as well as the baseline monitoring survey.

Table 6.5.8 Aquatic invertebrates and fish in Luk Tei Tong River

| Common names | Scientific names | LTT1 | LTT2 | LTT3 | LTT4 | LTT5 |
|----------------------|-----------------------------------|------|------|------|------|------|
| Invertebrates | | | | | | |
| Mangrove clam | <i>Geloina erosa</i> | | | | | |
| Rock oyster | <i>Saccostrea cuculata</i> | | ++ | | | |
| Snail | <i>Melanoides tuberculata</i> | | | | ++ | ++ |
| Snail | <i>Terebralia</i> sp. | | | | | |
| Snail | <i>Nerita</i> sp. | | + | | | |
| Snail | <i>Littoraria articulata</i> | | + | | | |
| Crab | <i>Varuna litterata</i> | | + | | | |
| Fiddler crab | <i>Uca lactea</i> | | | | | |
| Fiddler crab | <i>Uca arcuata</i> | | | | | |
| Fiddler crab | <i>Uca crassipes</i> | | | | | |
| Crab | <i>Perisesarma bidens</i> | | + | + | | |
| Mangrove mud crab | <i>Scylla paramamosain</i> | | | | | |
| Mitten crab | <i>Eriocheir japonica</i> | | | | | |
| Fish | | | | | | |
| Common mudskipper | <i>Periophthalmus cantonensis</i> | | + | + | | |
| Tilapia | | ++ | + | | | |
| Jarboa terapon | <i>Terapon jarbua</i> | | | | | |
| Mullet | <i>Mugil cephalus</i> | ++ | ++ | + | | |
| Common Silver-biddy | <i>Gerres oyena</i> | | | | | |
| Barcheek Goby | <i>Rhinogobius giurinus</i> | | | | + | |

+ = Occasional, less than 5 individuals were found; ++ = Common, 5 – 20 individuals were found; +++ = Abundant, more than 20 individuals were found.

Ecological Water Quality Monitoring (EWQM)

EWQM was conducted on 12 May 2010. Monitoring results are summarized in Table 6.9. Detailed on-site measurements and laboratory report are presented in Appendix D4 and D5.

Table 6.10 shows the baseline results of Ecological Water Quality Monitoring, from the information given in Baseline Monitoring Report.

To review the results in Table 6.9 in general, the measured results of Suspended Solids and Turbidity measured in WE3 (PNH River) and WE4 (LTT River) was found higher than the previous months. Such facts were believed to be caused by disturbance of sediments, and site effluent discharge due to construction activities.

Table 6.9 Summarized Ecological water quality monitoring results (12 May 2010)

| Parameters | Limit of detection | WE1 | WE2 | WE3 | WE4 | WE5 | WE6 |
|---------------------------|--------------------|-------|--------|-------|-------|-------|-------|
| Suspended Solid (mg/l) | 1 | 3.40 | 38.40 | 16.15 | 10.40 | 8.50 | 1.00 |
| Nitrogen (Ammonia) (mg/l) | 0.01 | 0.03 | 0.05 | 0.10 | 0.52 | 1.83 | 0.03 |
| Nitrogen (Nitrate) (mg/l) | 0.01 | 0.36 | 0.45 | 0.46 | 0.35 | 0.29 | 0.34 |
| Phosphorous (mg/l) | 0.01 | 0.04 | 0.08 | 0.08 | 0.13 | 0.41 | 0.03 |
| BOD ₅ (mg/l) | 1 | 1.00 | 4.00 | 1.00 | 1.00 | 3.00 | 1.00 |
| DO (mg/l) | 0.01 | 7.59 | 8.30 | 7.56 | 6.11 | 5.00 | 7.52 |
| Turbidity (NTU) | 0.1 | 0.00 | 236.15 | 20.20 | 3.60 | 7.00 | 0.00 |
| Temperature (oC) | 0.1 | 23.5 | 24.7 | 239.0 | 24.7 | 24.2 | 23.2 |
| pH | 0.01 | 8.34 | 7.98 | 7.46 | 7.14 | 6.99 | 7.33 |
| Salinity (ppt) | 0.1 | 0.0 | 0.2 | 0.6 | 3.5 | 0.5 | 0.0 |
| Conductivity (ms/m) | 0.1 | 7.8 | 40.2 | 118.0 | 642.0 | 103.0 | 6.2 |
| Water Flow (m/s) | N/A | 0.090 | 0.220 | 0.180 | 0.070 | 0.050 | 0.060 |

Table 6.10 Baseline Results of Ecological water quality monitoring

| Parameters | WE1 | WE2 | WE3 | WE4 | WE5 | WE6 |
|---------------------------|------|------|------|------|------|------|
| Suspended Solid (mg/l) | 1.0 | 2.0 | 3.0 | 3.0 | <1 | <1 |
| Nitrogen (Ammonia) (mg/l) | 0.07 | 0.12 | 0.11 | 0.23 | 0.03 | 0.02 |
| Nitrogen (Nitrate) (mg/l) | 0.12 | 0.13 | 0.13 | 0.31 | 0.04 | 0.05 |
| Phosphorous (mg/l) | 0.04 | 0.06 | 0.06 | 0.09 | 0.06 | 0.05 |
| BOD ₅ (mg/l) | <2 | <2 | <2 | <2 | <2 | <2 |
| DO (mg/l) | 6.58 | 6.82 | 6.37 | 7.61 | 6.87 | 5.70 |
| Turbidity (NTU) | 4.44 | 5.12 | 5.93 | 6.96 | 4.65 | 2.73 |
| PH | 6.4 | 7.1 | 7.0 | 6.8 | 6.6 | 6.1 |
| Salinity (ppt) | <0.1 | 0.1 | 0.3 | 7.6 | 0.1 | <0.1 |

6.6 Action and Limit level for Monitoring of White-shouldered Starlings

A simple Event and Action Plan is shown in Table 6.6.1. Should the Event occur, action in accordance with the Action Plan should be carried out.

There was no recorded event in the reporting month.

Table 6.6.1 Event / Action Plan for Monitoring of White-shouldered Starlings

| EVENT | ACTION | |
|--|---|--|
| | ET Leader | Contractor |
| Identification of disturbance to breeding White-shouldered Starlings | 1. Increase frequency of monitoring to twice weekly | 1. Check all construction actions and working methods |
| | 2. Notify Site Engineer | 2. Submit proposals for remedial action to prevent abandonment of the breeding site. |
| | 3. Review construction activities of previous week. | 3. Implement remedial action. |
| | 4. Identify any changes in construction activities in previous week | 4. Liaise with ET regarding effectiveness of remedial actions. |
| | 5. Discuss remedial actions with Site Engineer | |

6.7 Ecological monitoring Schedule

The next ecological surveys are scheduled on 4 and 25 June 2010, while ecological water quality monitoring is scheduled on 7 June 2010.

7. Action taken in Event of Exceedence

If the measurements (Noise, Water, Ecology) exceed the action / limit level, exceedance details will be reported and follow-up actions will be taken by relevant parties involved.

During the reporting period there was no exceedance for noise, ecological measurements recorded; therefore no actions were taken.

Total 76 non-compliance events of water quality limits (Turbidity and Suspended Solids) were recorded in this reporting month according to the established level. ET has arranged site investigations for the exceedance events. Except the reasons of natural fluctuation, 14 events were identified to be substantially attributable to improper site practices. As such, the contractor was strongly recommended to review their sites condition and working method. Necessary as well as effective mitigation measures have to be implemented to minimize water quality impact from project site activities.

The summary of non-compliance events for water quality exceedance is listed in Table 7.1 for reference.

Table 7.1 Summary of Non-compliance for Water Quality

| Date | Location | Parameter | Level of exceedance | Main cause of exceedance |
|---------|----------|-----------------|---------------------|--|
| 6/5/10 | M1 | Turbidity, S.S. | Limit Level | Site water seepage caused by formation works of fish ladder |
| 12/5/10 | M1 | Turbidity, S.S. | Limit Level | Site water seepage caused by formation works of fish ladder |
| 14/5/10 | M1 | Turbidity, S.S. | Limit Level | Site water seepage caused by formation works of fish ladder |
| 17/5/10 | M1 | Turbidity, S.S. | Limit Level | Disturbance of sediment and soil runoff caused by river diversion works for construction of alternative mass concrete wall |
| 18/5/10 | M1 | Turbidity, S.S. | Limit Level | Disturbance of sediment and soil runoff caused by river diversion works for construction of alternative mass concrete wall |
| 19/5/10 | M1 | Turbidity, SS | Limit Level | Disturbance of sediment and soil runoff caused by river diversion works for construction of alternative mass concrete wall |
| 31/5/10 | M1 | Turbidity, S.S. | Limit Level | Site water seepage due to insufficient of protective measures at fish ladder site |

8. Construction waste disposal

It is the contractor's responsibility to ensure that all wastes produced during the construction phase for the drainage improvement works are handled, stored and disposed of in accordance with good waste management practices and EPD's regulation and requirement. Waste materials generated during construction activities, such as construction and demolition (C&D) material, chemical wastes and general refuse, are recommended to be audited at regular intervals to ensure that proper storage, transportation and disposal practices are being implemented.

Contractor has completed the registration of Waste Producer under the Waste Disposal (Chemical Waste)(General) Regulation. The Waste Producer Number, WPN 5213-950-Y2443-03 was assigned by EPD on 12 Aug 2008. The Contractor would be responsible for the implementation of any mitigation measure to minimize waste or redress problems arising from the waste materials.

Table 8.1 is a summary of figures of the construction wastes disposal provided by Contractor.

Table 8.1 Summary of Construction Waste Disposal

| Month | Amount of Construction Waste disposed | | |
|--|---------------------------------------|----------------------------------|--|
| | Inert Waste (to Public Fill) | Non-inert Waste (to Landfill) | Chemical Waste (to treatment plant) |
| 1 st to 31 st May 10 | 1079.90 (ton) | 5.20 (ton) | Nil |
| Total | 25543.46 (ton) | 188.03 (ton) | 0 |

9. Status of Permits and Licenses obtained

Table 9.1 is the updated status of environmental related permits/ license obtained for the construction activities

Table 9 .1 Status of Permits and Licenses Obtained

| Description | License / Permit No.# | Date of Issue | Date of Expiry | Remarks |
|------------------------------------|--|---------------|----------------|---------|
| Environmental Permit | EP-237/2005/A | 05 Mar 2007 | -- | Issued |
| Varied Environmental Permit | EP-237/2005/B | 23 April 2009 | -- | Issued |
| Registration of C&D Waste Producer | 7006521 | -- | -- | Issued |
| Chemical Waste Producer | 5213-950-Y2443-03 | 12 Aug 2008 | -- | Issued |
| Construction Noise Permit | N/A | N/A | N/A | N/A |
| Effluent Discharge License | EP890/W2/XG032 EP890/W2/XG033 EP890/W2/XG034 EP890/W2/XG035 EP890/W2/XG036 EP890/W2/XG037 EP890/W2/XG038 EP890/W2/XG039 EP890/W2/XG040 EP890/W2/XG041 | 23 Oct 2008 | 31 Oct 2013 | Issued |

The contractor implemented various environmental mitigation measures as recommended in the Environmental Permit and Final Mitigation Measures Report. The implemented schedule is presented in Appendix H.

10. Complaint Log

There was no formal complaint received during the reporting month.

| | Noise | Water | Ecology | Cultural | Others |
|----------|-------|-------|---------|----------|--------|
| May 2010 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 1 | 0 | 0 | 0 |

11. Site Environmental Audits

Site Inspection

With an intention to ensure that appropriate environmental protection and pollution control mitigation measures are properly implemented, regular environmental site inspections have been scheduled.

Within the reporting month, site inspections were conducted on 6, 13, 18 and 27 May 2010.

A detailed checklist of each site inspection together with comments, relevant photos and maps have been filed and kept. A summary of observation and follow-up action is shown in Table 11.1

Table 11.1 Summary of site inspection

| Date | Observations | Advice from ET | Action taken | Closing Date |
|---------------|--|---|--|--------------|
| 29 Apr 10 | Hoses diverting site water from LTT mass concrete wall site were damaged. Site water leakage from damaged hose caused accumulated of stagnant water on haul access | Contractor was recommended to replace or repair the damaged hoses to prevent leakage causing environmental impacts to the surrounding area | Follow up action was taken as advised prior to the inspection on 13 May 10 | 13 May 10 |
| 29 Apr 10 | Geo-textiles coverings for the earth bunds along LTTTR were found drifted during inspection | Contractor was advised to rectify such discrepancies as soon as possible to minimize erosion and runoff from causing pollution | Follow up action was taken as advised prior to the inspection on 6 May | 6 May 10 |
| 6 May 10 | Muddy water arisen from fish ladder formation, was overflowed to the box culvert and caused contamination to down stream area | Contractor was requested to implement corrective action immediately as to stop overflow of site water. Muddy water and waste water arising from construction activity should be treated by proper water treatment facility before discharge to public drainage. | Site water was diverted to de-silting tank and discharged to site surface. No muddy water was observed entering from the fish ladder site into the river channel | 13 May 10 |
| 6 & 13 May 10 | Accumulation of stagnant water was observed at the haul access and enclosure of earth bund at LTT mass concrete wall site. | Contractor was advised to rectify the temporary drainage system diverting site water from the site, as to minimize site water leakage from the hoses. Enclosure of earth bund should be backfilled, or removed to prevent accumulation of stagnant water. | Follow up action taken as advised prior to the inspection on 18 May 10 | 18 May 10 |
| 6 & 13 May 10 | Open stockpiles of earth materials were observed at haul access at LTT (opposite to Yuen's Compound) | Contractor was recommended to provided tarpaulin coverings to earthy stockpiles; earth materials should be dampened sufficiently prior to movement and tipping. | Follow up action taken as advised prior to the inspection on 18 May 10 | 18 May 10 |
| 6 & 18 May 10 | There was no proper measure implement to avoid grit and soil dropping into the river from the edges and gaps of temporary sheet pile crossing. | Contractor was advised to provide proper bunds at the edges of the crossing. Gaps between sheet piles should be filled also. | Still outstanding. To be followed in the next reporting period. | Ongoing |

Table 11.1 Summary of site inspection

| Date | Observations | Advice from ET | Action taken | Closing Date |
|-----------|--|---|--|--------------|
| 13 May 10 | Site water at LTT river wall site was found diverted to an under-designed de-silting tank and therefore causing contamination to downstream area of Silver River | Contractor was advised to implement necessary corrective actions immediately to rectify the conditions observed. | Additional soak-away ponds were provided prior to the inspection on 18 May. No further turbid water was observed at the concerned area | 18 May 10 |
| 13 May 10 | A fuel drum without secondary containment was placed at site area of BC15 | Contractor was advised to provide proper drip pans for all fuel and chemical containers using on site; idling fuel and chemicals should be relocated to designate chemical storage area to prevent spillage to the river streams and surrounding area. | The concerned fuel drum was removed from the concerned area prior to the inspection on 18 May | 18 May 10 |
| 18 May 10 | Reformation of haul access at PNHR was leading pollution to the downstream area during inspection | Contractor was recommended to provide proper enclosed environmental for any excavation and earth tipping activities carried out within the river channel. Also, earth bunds provided should be well covered with geo-textile materials to prevent erosion and therefore causing water quality impact. | Remedial actions including provision of floating barriers and geo-textile coverings were provided prior to the inspection on 27 May | 27 May 10 |
| 18 May 10 | There was no proper bund wall provided at the edge of haul access at PNH fish ladder site | Contractor was advised to rectify such discrepancy as soon as possible to prevent grit, soil and surface runoff from entering into the river channel. | Follow up action was taken as advised prior to the inspection on 27 May | 27 May 10 |
| 27 May 10 | Open stockpiles of earth materials were observed at haul access of PNH retaining wall site | Contractor was advised to provide tarpaulin coverings to the earthy stockpiles to prevent erosion and runoff. | To be followed in the next reporting period | Ongoing |
| 27 May 10 | Geo-textile coverings for the earth bund at LTT river site and temporary diversion channel for LTT Box Culvert A were found drifted during inspection. | Contractor was advised to rectify such discrepancies as soon as possible to avoid erosion and runoff from causing pollution to the river stream. | To be followed in the next reporting period | Ongoing |

Table 11.1 Summary of site inspection

| Date | Observations | Advice from ET | Action taken | Closing Date |
|-----------|---|---|---|--------------|
| 27 May 10 | Idling power generator without drip pan was observed at PNH retaining wall site | Contractor was reminded to provide proper drip pan to the equipment using on site; idling equipment should be remove from site area as soon as possible to prevent oil leakage to the surrounding area. | To be followed in the next reporting period | Ongoing |

11.2 Compliance with legal and Contractual requirement

ET leader has reviewed the progress and programme of the works to check any relevant environmental laws has not violated.

11.3 Environmental Complaint and follow up actions

During this reporting period, there was no documented complaint received. Therefore, follow up actions for the environmental complaint is not required.

Findings of monthly survey was still pending therefore relevant was not provided in this reporting month.

12. Future key issues

As informed by contractor major site activities in the upcoming will include construction of fish ladder, alternative mass concrete wall and inlet of LTT bypass channel on project sites. It is expected that several impacts on environmental aspects will be generated on-site. With reference to the EM&A manual, mitigation measure report as well as the environmental permit, proper mitigation measures are proposed to be taken, if necessary.

Contractor was reminded again to provide proper measures to mitigate water quality impacts to the river channels due to construction works. River based construction sites should be well enclosed by bunds in dry condition, as to prevent surface run-off and site water seepage to the stream. Bare soil surface, which is directly exposed to the river channel in the site area, should be completely covered with geo-textile to prevent soil erosion. For river-based and any construction activities carried at riverside, contractor should implement proper protection measures such as barriers and/or silt curtains to prevent surface run-off from entering water bodies.

Underground water and site water may be accumulated on site. Contractor is recommended to treat the accumulated site water by proper silt removal facilities before discharging to the designated discharge point; reuse of site water should be considered also. Channel, trench and manholes connected with project sites should be sealed to prevent site water and any construction materials entering public drainage and causing water quality impact.

Construction activities such as backfilling, earth movement may generate dust impact to the vicinity of sensitive receivers. Contractor is advised to provide regular water spraying for the dusty static area. Stockpiling may be found on site and those should be covered by tarpaulin to prevent erosion and run-off.

Heavy plants and vehicles may be deployed for the construction and those would generate certain noise impacts to the sensitive receivers. Noisy activities should be well planned and scheduled to avoid parallel operation of multiple plants, so as to minimize noise impacts to the nearby sensitive receivers.

Construction activities and operation of site equipments may require use of chemicals and fuel on site. Secondary containment and spillage preventative measures should be implemented to such chemicals using on site.

13. Conclusions

In this reporting month, major site activities included haul access formation, construction of retaining walls, gabion wall and box culvert at PNH River and LTT River respectively.

Regular site meetings and inspection audits led by the seniors for discussing site environmental matters were held among Project Proponent, Contractor and the ET on weekly basis. Also monthly site meeting and inspection audits with the above parties and IEC were carried out on 27 May 2009.

For noise level monitoring, all results were within the established A/L limits.

For water quality monitoring, total 76 non-compliance events of water quality criteria were recorded in this reporting month. Except the natural fluctuation, 14 events were believed to be caused by improper site practices. Hence, the contractor was urged to review the site condition and implement necessary mitigation measures and corrective actions as soon as possible to minimize water quality impact due to site works.

During ecological monitoring survey, no White-shouldered Starling was recorded breeding in the watch tower. Some drainage improvement works were on-going at a distance from the watchtower on inter-tidal areas at downstream of Luk Tei Tong River (LTT1). The works area was screened from the watchtower by tall plantations. The absence of nesting of White-shouldered Starling in the watch tower did not seem to be related to construction works in Luk Tei Tong River. A bird species nests in village houses should be to certain extent disturbance tolerant.

No bird was observed entering the watchtower since the monitoring surveys commenced in August 2008. Also, no breeding was recorded in the baseline survey in September 2007. It appears that the birds do not prefer to roost or nest in the watch tower.

Also, there were not any notifications of summons recorded during the reporting period. Furthermore, there were not any formal prosecution and complaints recorded.

Site water control was the major concern in this reporting month. Therefore,

ET recommended the contractor to implement sufficient and effective mitigation measures to minimize water quality impact from site works. Proper de-silting facilities should be provided for site water treatment. To prevent surface run-off and soil erosion from site activities, earth bunds with complete coverage of geo-textile materials should be formed at river-based and/or riverside project sites. Contractor should be cautious on change of river water quality, immediate corrective action was required once muddy effluent discharge, or disturbance of sediment was found from site works.

ET has reminded the contractor to provide environmental pollution control measures wherever necessary; and to keep a good environmental management at site practice.

The ET will continue to implement the environmental monitoring & audit programme in accordance with the EM&A Manual and Environmental Permit requirement.

Appendix A

Construction

Programmer and


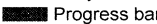




Location plan

| Act ID | Description | Orig Dur | Rem Dur | Early Start | Early Finish | % | Predecessors | 2008 | | | | | | | | | | | | 2009 | | | | | | | | | | | | 2010 | | | | | | | | | | | | 2011 | | | | | | | | | | | |
|--------|--|----------|---------|-------------|--------------|-----|--------------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | | | | | | | | | | |
| 7010 | Preparation for works (Minor Portion) | 131 | 0 | 18JAN2008 A | 27MAY2008 A | 100 | 0001 | Preparation for works (Minor Portion) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7020 | Non-working Period at TWT Beach (1) | 196 | 0 | 01APR2008 A | 13OCT2008 A | 100 | | Non-working Period at TWT Beach (1) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7030 | uPVC Sewer (DN160-400) M/H A16 - M/H A34 | 465 | 30 | 28MAY2008 A | 04SEP2009 | 94 | 7010 | uPVC Sewer (DN160-400) M/H A16 - M/H A34 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7040 | uPVC Sewer (DN160-400) M/H A15 - M/H A13 | 50 | 0 | 14OCT2008 A | 02DEC2008 A | 100 | 7020 | uPVC Sewer (DN160-400) M/H A15 - M/H A13 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7050 | uPVC Sewer (DN160-400) M/H A11 - M/H A7 | 50 | 0 | 03DEC2008 A | 21JAN2009 A | 100 | 7040 | uPVC Sewer (DN160-400) M/H A11 - M/H A7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7060 | uPVC Sewer (DN160-400) M/H A1 - M/H A3 | 65 | 0 | 22JAN2009 A | 27MAR2009 A | 100 | 7050 | uPVC Sewer (DN160-400) M/H A1 - M/H A3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8000 | Sewerage works at PNH (S4) | 772 | 206 | 18JAN2008 A | 27FEB2010 | 73 | 0001 | Sewerage works at PNH (S4) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8010 | Preparation of works | 168 | 0 | 07JAN2008 A | 22JUN2008 A | 100 | | Preparation of works | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8020 | uPVC Sewer (DN160-400) M/H ED2 -D28 - D118 | 320 | 0 | 23JUN2008 A | 08MAY2009 A | 100 | 8010 | uPVC Sewer (DN160-400) M/H ED2 -D28 - D118 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8030 | uPVC Sewer (DN160-400) M/H D1 - D27 | 280 | 191 | 09MAY2009 A | 12FEB2010 | 32 | 8020 | uPVC Sewer (DN160-400) M/H D1 - D27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9000 | Preservation & Protection of Exist Trees | 534 | 534 | 06AUG2009 | 21JAN2011 | 0 | 0001 | Preservation & Protection of Exist Trees | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9010 | Preparton for works | 100 | 0 | 07JAN2008 A | 15APR2008 A | 100 | | Preparton for works | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9020 | Protection & Transplanting Works | 1011 | 534 | 16APR2008 A | 21JAN2011 | 47 | 9010 | Protection & Transplanting Works | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Start date 07JAN2008
 Finish date 21JAN2011
 Data date 06AUG2009
 Run date 15AUG2009
 Page number 6A
 Primavera Systems, Inc.

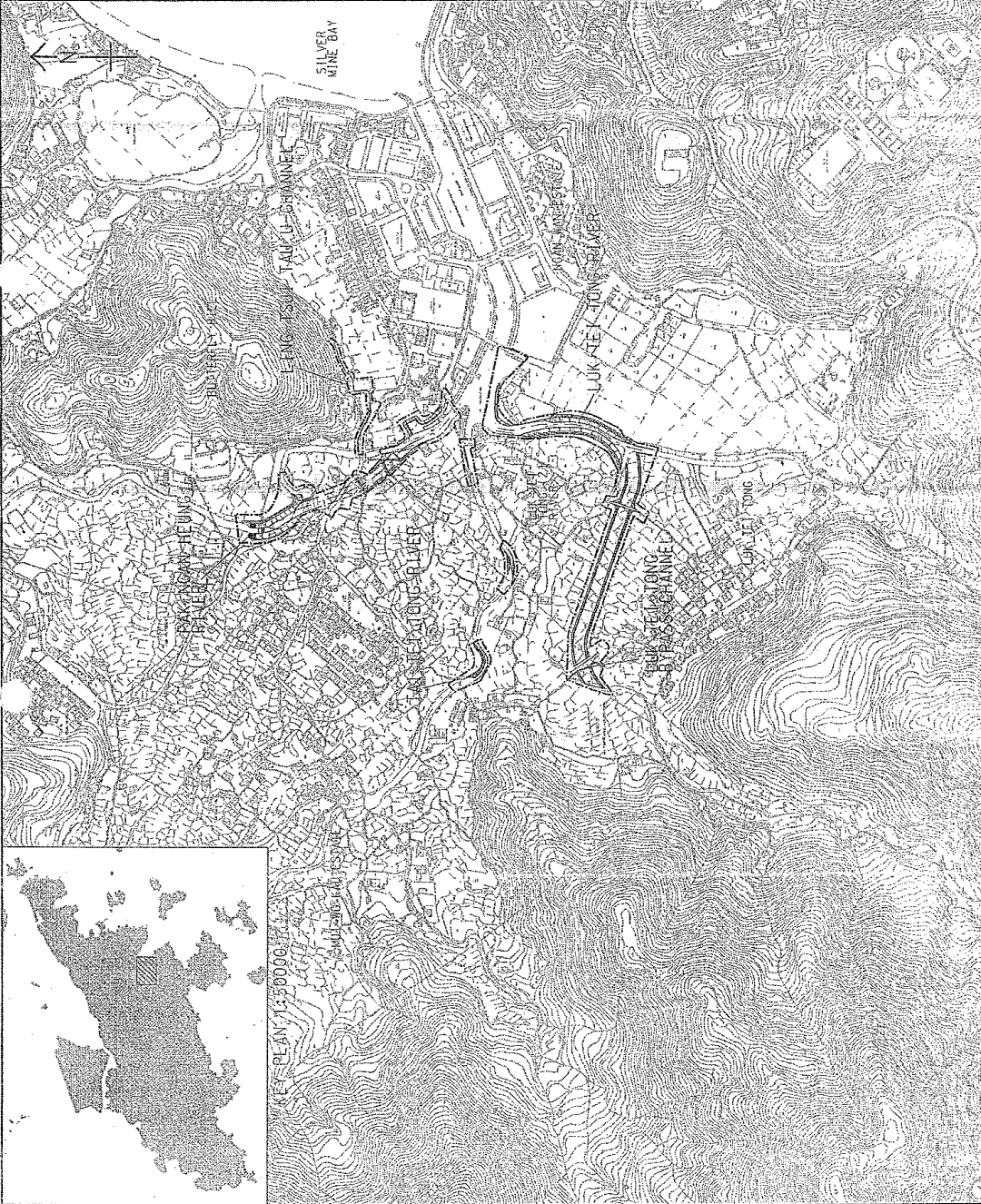
Yick Hing Construction Co. Ltd.

Drainage Improvement Work in South Lantau
 and Construction of Mui Wo Village Sewerage Phase 1
 Master Programme (Rev.9b)

-  Early bar
-  Progress bar
-  Critical bar
-  Summary bar
-  Start milestone point
-  Finish milestone point

NOTES:

- 1. GRID LINES ARE MONG KONG GRID 1980
- 2. ALL LEVELS ARE IN METERS AND REFERRED TO M.S.D.



| | | | | | | | | |
|------|-----|----|------------|-------|-------------|-----------|--------------|--------------|
| DATE | NO. | BY | CHECKED BY | SCALE | PROJECT NO. | SHEET NO. | TOTAL SHEETS | PROJECT NAME |
| | | | | | | | | |

DESIGNED BY: **MERCATY & EDDY**
 DRAWN BY: **MERCATY & EDDY**
 PROJECT NO.: **CE/EA/AM/SD/0201**
 SHEET NO.: **01**
 TOTAL SHEETS: **03**
 PROJECT NAME: **CE/EA/AM/SD/0201**

LOCATION PLAN OF THE PROJECT

NOTES :

- 1. ALL LEVELS ARE IN METRES ABOVE P.D.H.A.
- 2. ALL GRIDS REFER TO HONG KONG 1980 GRID.

LEGENDS :

- SITE BOUNDARIES
- ▨ PORTION D1 - PAK NGAM HEUNG
- ▩ PORTION D2 - LUNG TAI TONG LAI
- ▧ PORTION D3 - LUNG TAI TONG (B)
- ▦ PORTION D4 - TAI TEI TONG RIVER
- ▥ PORTION D5 - LUK TEI TONG
- ▤ PORTION D6 - FU O
- ▣ PORTION D7 - LO UK TSEEN
- ▢ PORTION D8 - CHENG SHA SHEUNG YESHEN
- PORTION D9 - EMERGENCY VEHICULAR ACCESS (EVA) AT (U) NO

FOR TENDER PURPOSES ONLY

| NO. | DATE | DESCRIPTION | BY | CHKD | APP'D |
|-----|------------|------------------|------------|------------|-------|
| 1 | 15/07/2010 | ISSUE FOR TENDER | H. Y. CHAN | B. D. CHAN | |

| DESIGNED BY | DATE | DATE | DATE |
|-------------|------------|-------------|------|
| DESIGNED | H. Y. CHAN | 12 FEB 2006 | |
| DRAWN | B. D. CHAN | 23 MAR 2007 | |
| CHECKED | H. Y. CHAN | 10 MAY 2007 | |
| APPROVED | H. Y. CHAN | 17 MAY 2007 | |

DESIGNER: H. Y. CHAN 12 FEB 2006
 CHECKED: B. D. CHAN 23 MAR 2007
 APPROVED: H. Y. CHAN 17 MAY 2007

CONTRACT NO: DC/2006/11

FILE NO: DP/06/4128CD

PROJECT NO: 128CD

CONTRACT: DRAINAGE IMPROVEMENT IN SOUTHERN LANTAU

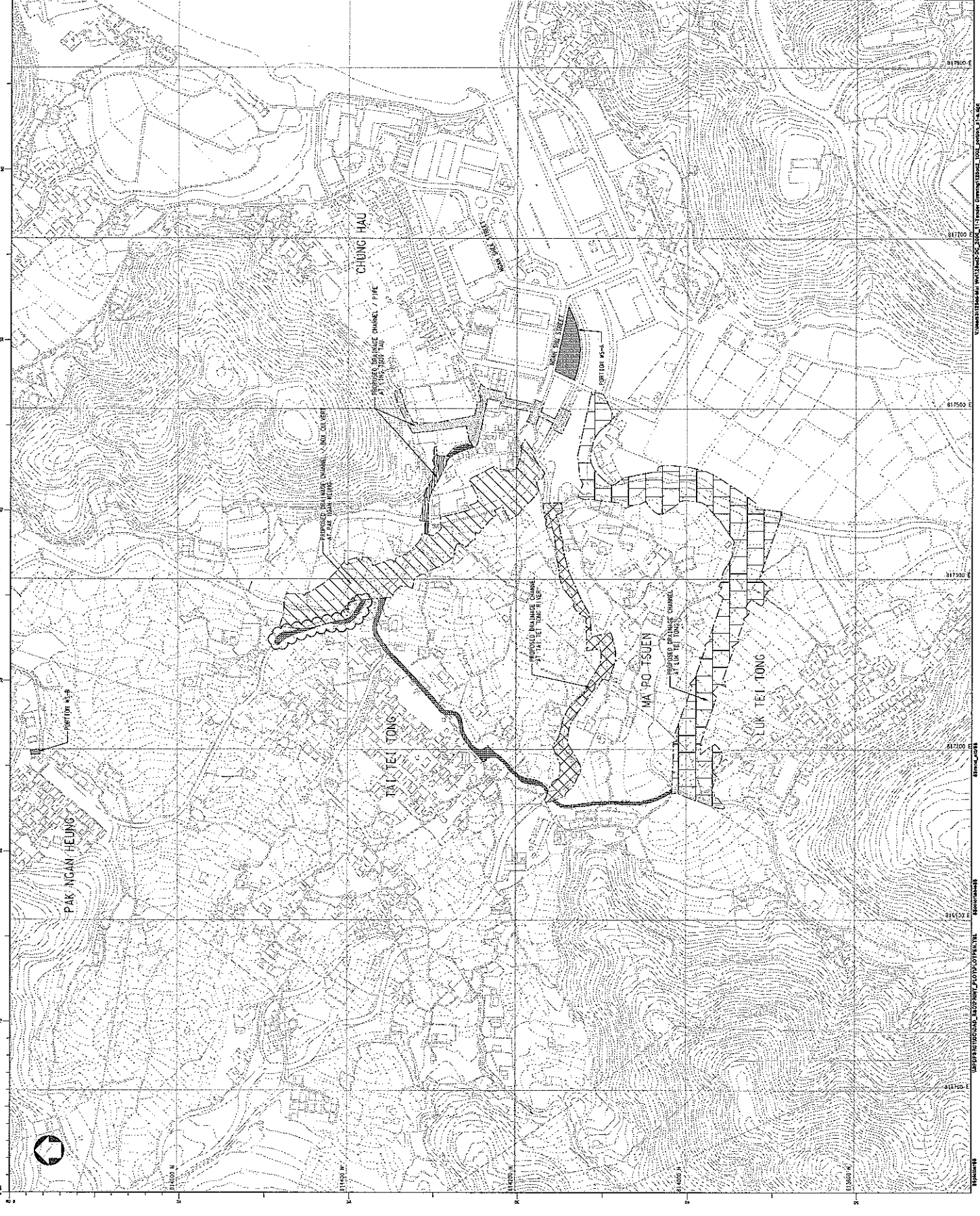
DRAWING TITLE: PORTIONS OF SITE - SOUTHERN LANTAU

SCALE: 1 : 2000

PROJECT NO: DRAINAGE IMPROVEMENT IN SOUTHERN LANTAU

DRAINAGE PROJECTS DIVISION

DRAINAGE SERVICES DEPARTMENT
 GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION



Vertical text on the right edge containing technical details and file paths, including: 'sheet: 1 of 2', 'DDN/128CD/1002A', 'COPYRIGHT RESERVED', 'DRAINAGE PROJECTS DIVISION', 'DRAINAGE SERVICES DEPARTMENT GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION', and a date 'AT 14/03/2010'.

Appendix B Key Personal Contact information chart

| Organization Name | Role | Title | Name | Telephone | Fax Number |
|--|---|----------------------------|--------------------|------------------|-------------------|
| Drainage Service Department | Project Proponent | Engineering Representative | Mr. Chan Wai Hong | 2594 7464 | 2827 8700 |
| Ellied Environmental Consultants Limited | Independent Environmental Checker (IEC) | Principal Consultant | Ms. Grace Kwok | 2815 7028 | 2815 5399 |
| Yick-Hing Construction Company Limited | Main Contractor | Senior Project Manager | Mr. Liu Kai Choi | 2394 4988 | 2787 4890 |
| Environmental Pioneers & Solutions Limited | Environmental Team (ET) | Environmental Team Leader | Ms. Patricia Chung | 2965 0888 | 2856 2010 |

Appendix C

Calibration Certificates for Measuring Equipments

校正証明書

CALIBRATION CERTIFICATE

品名 PRODUCT NAME : 積分形精密騒音計
Integrating Precision Sound Level Meter
型式 TYPE : 6224
器物番号 PRODUCT NUMBER : 060166
マイク MICROPHONE : 34733
製造者 MANUFACTURER : 株式会社アコー ACO CO., LTD.

※特記事項

[基準器、校正機器のトレーサビリティ証明]

校正に使用した基準器、校正機器は国家基準にトレーサブル
であることを証明致します。

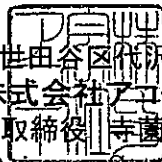
※Special notes

[Traceability certificate of standard instruments and calibration equipment.]

We certify that the standard instruments and calibration equipment
are traceable to the national standards.

平成21年11月16日

November 16, 2009



東京都世田谷区代沢2-6-10
株式会社アコー
代表取締役 寺園信一
2-6-10 Daizawa Setagaya-ku
Tokyo Japan
President : Shinichi Terazono
ACO CO., LTD.

1 試験成績 Test Results

別紙試験成績表添付 Test results are attached as an exhibit.

2 試験条件 Test Requirements

試験日 Test date : 平成21年11月16日 November 16, 2009

温度 Temperature : 22 °C

湿度 Humidity : 73 %

気圧 Barometric pressure : 980 hPa

3 使用機器 Used Equipment

デジタルマルチメーター Digital multimeter VP-2661B No. 780010E122

(有効期間 : 平成21年3月から平成22年3月)

(Effective life : from March, 2009 to March, 2010)

アッテネーター Attenuator STA-115 No. 11075

(有効期間 : 平成21年3月から平成22年3月)

(Effective life : from March, 2009 to March, 2010)

周波数カウンター Frequency counter VP-4545A No. 700008E122

(有効期間 : 平成21年3月から平成22年3月)

(Effective life : from March, 2009 to March, 2010)

オーディオアナライザー Audio Analyzer VP-7721A No. 740039D125

(有効期間 : 平成21年3月から平成22年3月)

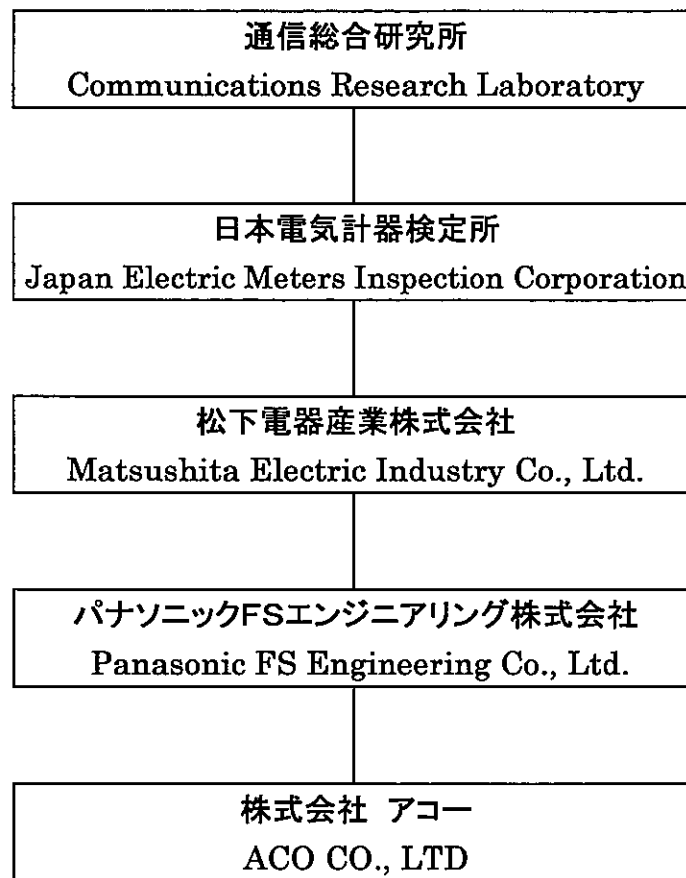
(Effective life : from March, 2009 to March, 2010)

コンデンサマイクロホン Condenser Microphone 4160 No. 1248087

(有効期間 : 平成21年2月から平成23年2月)

(Effective life : from February, 2009 to February, 2011)

デジタルマルチメーター、アッテネーター
周波数カウンター、オーディオアナライザー
トレーサビリティ体系図
Traceability Flow Chart
of
Digital Multimeters, Attenuators,
Frequency Counters, and Audio Analyzers



基準静電型マイクロホン
トレーサビリティ体系図
Traceability Flow Chart
of
Standard Electrostatic Microphones



積分形精密騒音計
Integrating Precision Sound Level Meter
TYPE 6224

検査成績書
INSPECTION CERTIFICATE

本体製造番号 060166
Serial No. of body: _____
マイクロホン製造番号 34733
Serial No. of Microphone: _____
Ver:1.6D-06-10

年月日: 平成21年11月16日

Date: November 16, 2009

| 承認 Approved | 点検 Passed | 担当 Inspected |
|----------------|--------------|-----------------|
| J. Yasukage | T. Matsumoto | S. Imoue |

株式会社 アコー
ACO CO., LTD.

1. 検査年月日 Inspection Date

平成21年11月16日 November 16, 2009

2. 検査条件 Inspection Condition

- 1) 温度 Temperature : 22 °C
- 2) 湿度 Humidity : 73 %
- 3) 気圧 Barometric pressure : 980 hPa

3. 検査項目及び結果 Inspection Results

1) RANGE 切換誤差検査 The RANGE Shifting Error

RANGE : 20-100dB 70dB 入力基準 ±0.5dB以下

Within ±0.5dB of the value at 70dB input, Range 20-100dB.

| RANGE (dB) | 入力レベル Input level (dB) | 周波数 Frequency (Hz) | | |
|---------------|---------------------------|--------------------|------|------|
| | | 31.5 | 1000 | 8000 |
| 20-80 | 50 | -0.1 | -0.1 | -0.1 |
| 20-90 | 60 | 0.0 | 0.0 | -0.1 |
| 20-100 | 70 | 0.0 | 0.0 | 0.0 |
| 20-110 | 80 | 0.0 | 0.0 | 0.0 |
| 30-120 | 90 | 0.0 | 0.0 | 0.0 |
| 40-130 | 100 | 0.0 | 0.0 | 0.0 |
| 判定 | Passed | Pass | | |

2) 安定性特性検査 Stability Characteristic

RANGE : 20-100dB 1分後基準 ±0.5dB以下

Within ±0.5dB of the value one minute later, Range 20-100dB.

| | 10分後 ten minutes later |
|---------------|---------------------------|
| 誤差 Error (dB) | 0.0 |
| 判定 Passed | Pass |

3) 目盛誤差特性検査 The Scale Error

RANGE : 20-110dB 65dB入力基準

Error of the value at 65dB input, Range 20-110dB.

| 入力 Input (dB) | 規格 Standard (dB) | 周波数 Frequency (Hz) | | |
|---------------------|------------------------|-----------------------|------|------|
| | | 31.5 | 1000 | 8000 |
| 110 | ±0.7 | 0.0 | 0.0 | -0.1 |
| 105 | ±0.7 | -0.1 | -0.1 | -0.1 |
| 100 | ±0.7 | -0.1 | -0.1 | 0.0 |
| 95 | ±0.7 | -0.1 | -0.1 | -0.1 |
| 90 | ±0.7 | 0.1 | 0.1 | 0.0 |
| 85 | ±0.7 | 0.1 | 0.1 | 0.0 |
| 80 | ±0.7 | 0.0 | 0.0 | 0.0 |
| 75 | ±0.7 | 0.0 | 0.0 | 0.0 |
| 70 | ±0.7 | 0.0 | 0.0 | 0.0 |
| 65 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60 | ±0.7 | 0.0 | 0.0 | 0.0 |
| 55 | ±0.7 | 0.0 | 0.0 | -0.1 |
| 50 | ±0.7 | 0.0 | 0.0 | 0.0 |
| 45 | ±0.7 | 0.0 | 0.0 | 0.0 |
| 40 | ±0.7 | 0.0 | 0.0 | 0.0 |
| 35 | ±0.7 | 0.0 | 0.0 | 0.0 |
| 30 | ±0.7 | 0.0 | 0.0 | 0.0 |
| 25 | ±0.7 | 0.2 | 0.2 | 0.2 |
| 判定 | Passed | Pass | | |

4) 動特性検査 Dynamic Characteristic

RANGE : 20-100dB 100dB、1kHz 入力基準

When 100dB input, Range 20-100dB at 1kHz.

| | 規格 Standard | 測定値 Measured Value |
|------|-----------------------|-----------------------|
| FAST | -1.0+0.5 -1.0 (dB) | -1.5 |
| SLOW | -4.0±1.0 (dB) | -4.5 |
| 判定 | Passed | Pass |

5) 周波数特性検査 Frequency Response

RANGE : 20-100dB 95dB入力基準(マイクを含む)

When 95dB input, including Microphone value, Range 20-100dB.

| 周波数 Frequency (Hz) | A特性 | | | C特性 | | | FLAT(Z)特性 | 許容差 Tolerance |
|--------------------------|------------------------|---------------------------|-------------------------|------------------------|---------------------------|-------------------------|---------------------------|------------------|
| | 規格 Standard (dB) | レスポンス Response (dB) | 偏差 Deviation (dB) | 規格 Standard (dB) | レスポンス Response (dB) | 偏差 Deviation (dB) | レスポンス Response (dB) | |
| 20 | -50.5 | -50.0 | 0.5 | -6.2 | -5.8 | 0.4 | -0.9 | ±3.0 |
| 40 | -34.6 | -34.3 | 0.3 | -2.0 | -1.9 | 0.1 | -0.1 | ±1.5 |
| 100 | -19.1 | -18.9 | 0.2 | -0.3 | -0.3 | 0.0 | 0.1 | ±1.0 |
| 250 | -8.6 | -8.4 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 | ±1.0 |
| 500 | -3.2 | -3.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | ±1.0 |
| 1000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | ±1.0 |
| 2k | 1.2 | 1.1 | -0.1 | -0.2 | -0.3 | -0.1 | 0.0 | ±1.0 |
| 4k | 1.0 | 0.8 | -0.2 | -0.8 | -0.9 | -0.1 | 0.2 | ±1.0 |
| 5k | 0.5 | 0.5 | 0.0 | -1.3 | -1.2 | 0.1 | 0.3 | ±1.5 |
| 6.3k | -0.1 | -0.1 | 0.0 | -2.0 | -1.8 | 0.2 | 0.3 | +1.5 -2 |
| 8k | -1.1 | -1.1 | 0.0 | -3.0 | -3.5 | -0.5 | 0.3 | +1.5 -3 |
| 10k | -2.5 | -2.5 | 0.0 | -4.4 | -4.2 | 0.2 | -0.1 | +2 -4 |
| 12.5k | -4.3 | -3.5 | 0.8 | -6.2 | -5.2 | 1.0 | 0.2 | +3 -6 |
| 16k | | | | | | | 0.1 | |
| 20k | | | | | | | -0.9 | |
| 判定 Passed | | Pass | | | | | | |

6) 実効値指示誤差検査 Effective Value Error

RANGE : 20-100dB 波高率3のバースト信号に対して1.0dB以内

Within 1.0dB on the Burst signal of the peak factor 3, Range 20-100dB.

周波数 Frequency 2kHz、繰り返し周波数 Repeat frequency 40Hz

| | |
|--|--------------|
| 実効値指示誤差 Effective value Error (dB) | 判定 Passed |
| 0.3 | Pass |

7) 自己雑音特性検査 Self-noise

RANGE : 20-80dB (マイクを含む)

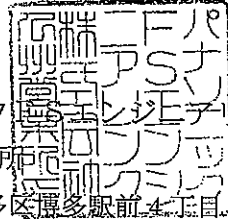
RANGE : 20-80dB (Including Microphone value)

| RANGE : 20-80dB (Including Microphone value) | A特性 | C特性 | FLAT(Z)特性 |
|---|------------------|------------------|------------------|
| 規格 Standard (dB) | 18以下 Below 18 | 29以下 Below 29 | 32以下 Below 32 |
| 自己雑音 Self-noise (dB) | 16.6 | 22.1 | 25.3 |
| 判定 Passed | Pass | | |

校正証明書

株式会社 アコー 殿

パナソニック エレクシテリ ング株式会社
九州営業所
福岡市博多区博多駅前4丁目9番2号



品 名： デジタルマルチメータ

型 番： VP-2661B

製造会社： 松下通信工業株式会社

管理番号： EMC-10004

製造番号： 780010E122

校正日： 2009年 3月

温 湿 度： 温度 23℃ 湿度 42%

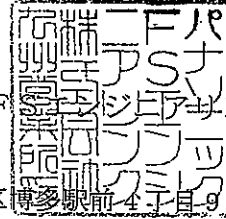
上記の測定器は、当社が運用する標準器により校正した結果、所定の基準に適合していることを証明致します。尚、使用標準器は当社管理規定により管理され、また、トレーサビリティ体系に基づき国家標準（日本電気計器検定所・日本品質保証機構）にトレーサされております。

| 品 名 | 型 名 | 製造会社 | 製造番号 | 管理番号 | 校正有効月 |
|---------|-------|------|---------|---------|---------|
| キャリブレータ | 5700A | フルク | 5440004 | KNK1007 | 2009/06 |

校正証明書

株式会社 アコー 殿

パナソニック F
九州営業所
福岡市博多区博多駅前4丁目9番2号



品 名 : アッテネータ
型 番 : STA-115
製造会社 : 東京光音電波株式会社
管理番号 : EMC-1 0006
製造番号 : 11075
校正日 : 2009年 3月
温湿度 : 温度 23℃ 湿度 40%

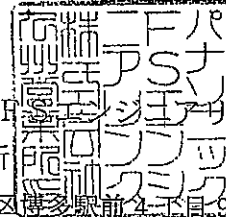
上記の測定器は、当社が運用する標準器により校正した結果、所定の基準に適合していることを証明致します。尚、使用標準器は当社管理規定により管理され、また、トレーサビリティ体系に基づき国家標準（日本電気計器検定所・日本品質保証機構）にトレーサされております。

| 品 名 | 型 名 | 製造会社 | 製造番号 | 管理番号 | 校正有効月 |
|-----------|----------|--------|------------|---------|---------|
| オーディオアライザ | VP-7723A | 松下通信工業 | 101417B122 | KNK1006 | 2009/06 |

校正証明書

株式会社 アコー 殿

パナソニックエンジニアリング株式会社
九州営業所
福岡市博多区博多駅前2丁目9番2号



品 名 : 周波数カウンタ
型 番 : VP-4545A
製造会社 : 松下通信工業株式会社
管理番号 : EMC-1 0005
製造番号 : 700008E122
校正日 : 2009年 3月
温湿度 : 温度 23℃ 湿度 42%

上記の測定器は、当社が運用する標準器により校正した結果、所定の基準に適合していることを証明致します。尚、使用標準器は当社管理規定により管理され、また、トレーサビリティ体系に基づき国家標準（日本電気計器検定所・日本品質保証機構）にトレースされております。

| 品 名 | 型 名 | 製造会社 | 製造番号 | 管理番号 | 校正有効月 |
|---------|-------|--------|----------|---------|---------|
| 周波数カウンタ | R5363 | アドバンテス | 40260090 | KNK1016 | 2010/01 |

校正証明書

株式会社 アコー 殿

パナソニックシステムズリング株式会社
九州営業所
福岡市博多区博多駅前4丁目9番2号

品 名 : オーディオアナライザー

型 番 : VP-7721A

製造会社 : 松下通信工業株式会社

管理番号 : EMC-1 0007

製造番号 : 740039D125

校正日 : 2009年 3月

温湿度 : 温度 23 °C 湿度 40 %

上記の測定器は、当社が運用する標準器により校正した結果、所定の基準に適合していることを証明致します。
尚、使用標準器は当社管理規定により管理され、また、トレーサビリティ体系に基づき国家標準（日本電気計
器検定所・日本品質保証機構）にトレーサされております。

| 品 名 | 型 名 | 製造会社 | 製造番号 | 管理番号 | 校正有効月 |
|-------------|----------|---------|------------|---------|---------|
| キャリブレータ | 5700A | フルク | 5440004 | KNK1007 | 2009/06 |
| 周波数カウンタ | R5363 | アドバンテスト | 40260090 | KNK1016 | 2010/01 |
| オーディオアナライザー | VP-7723A | 松下通信工業 | 101417B122 | KNK1006 | 2009/06 |

基準器検査成績書

09SL第4号

騒音基準器

種類 基準静電型マイクロホン

器物番号 1248087 (BK4160)

(1) 音圧感度の周波数特性

(音圧感度レベルは1V/Paを0dBとする)

| 測定周波数 (Hz) | 音圧感度レベル (dB) | 測定周波数 (Hz) | 音圧感度レベル (dB) |
|---------------|-----------------|---------------|-----------------|
| 20 | -27.1 | 3000 | -26.9 |
| 30 | -27.2 | 4000 | -26.7 |
| 50 | -27.2 | 5000 | -26.6 |
| 100 | -27.3 | 6000 | -26.7 |
| 150 | -27.2 | 7000 | -27.0 |
| 200 | -27.3 | 8000 | -27.9 |
| 300 | -27.3 | 9000 | -29.1 |
| 500 | -27.3 | 10000 | -30.6 |
| 700 | -27.3 | 11000 | -32.3 |
| 1000 | -27.2 | 12000 | -34.1 |
| 1500 | -27.2 | 12500 | -34.8 |
| 2000 | -27.1 | | |

(2) 測定条件 温度 23℃、湿度 27%、気圧 1012 hPa、バイアス電圧 200V

(3) 有効期間 平成21年2月17日から平成23年2月16日まで

(4) その他

平成21年2月16日

独立行政法人 産業技術総合研究所





华南国家计量测试中心
广东省计量科学研究院
SOUTH CHINA NATIONAL CENTER OF METROLOGY
GUANGDONG INSTITUTE OF METROLOGY



检定证书

VERIFICATION CERTIFICATE

证书编号: SSD20093126
Certificate No.

第 1 页 共 3 页
Page of

委托方
Client

委托方地址
Add. of Client

计量器具名称: Sound Level Calibrator
Description

型号规格: 4231
Model/Type

制造厂: B & K
Manufacturer

出厂编号: 1820929/E-028-4
Serial No.

接收日期: 2009年 9月 21日
Date of Receipt Y M D

结论: 1级合格 (Class 1)
Conclusion

检定日期: 2009年 9月 22日
Date of Verification Y M D

依据检定规程, 被检仪器检定周期为 壹 年
The verification period is 1 Year(s)

批准人: [Signature]
Approved Signatory

核 验: [Signature]
Inspected by

检 定: [Signature]
Verified by

证书专用章

本中心地址: 中国广州市广园中路松柏东街30号 邮政编码: 510405
电话: (8620)86594172 传真: (8620)86590743 E-mail: scm@scm.com.cn
Add: No.30, Songbaidong Street, Guangyuanzhong Road, Guangzhou, P. R. China
Post Code: 510405 Tel: (8620)86594172 Fax: (8620)86590743

090921P01 2



华南国家计量测试中心
广东省计量科学研究院
SOUTH CHINA NATIONAL CENTER OF METROLOGY
GUANGDONG INSTITUTE OF METROLOGY



说 明

证书编号: SSD20093126
Certificate No.:

DIRECTIONS

第 2 页 共 3 页
Page of

1. 本中心是国家质量监督检验检疫总局在华南地区设立的国家法定计量检定机构, 计量授权证书号是(国)法计(2007)01043号, (国)法计(2007)01032号。
This laboratory is the National Legal Metrological Verification Institution in southern China set up by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China (AQSIQ) under authorization certificates No. (2007)01043 & (2007)01032.
2. 本中心所出具的数据均可溯源至保存在中国计量科学研究院的国家计量基准和国际单位制(SI)。中国计量科学研究院于1999年代表中国签署了“国家计量基准及国家计量研究院出具的校准和测量证书相互承认协议”。
All data issued by this laboratory are traceable to national primary standards maintained in National Institute of Metrology (NIM) and International System of Units (SI). NIM is the signatory to the Mutual Recognition Arrangement (MRA) for national measurement standards and for calibration and measurement certificates issued by national metrology institutes.
3. 本次检定的技术依据
Reference documents for the verification:
JJG 176-2005 声校准器检定规程 V.R. of Sound Calibrators.

4. 本次检定所使用的主要计量标准器具
Major standards of measurement used in the verification:

| 设备名称/型号 Name of Equipment (Model) | 编号 Serial No. | 证书号/有效期 Certificate No. (Due Date) | 计量特性 Metrological Characteristic |
|---|------------------|--|---|
| 电声标准装置 Sound Level Meters Verification Device | 声01 | [1992] 国量标证字第085号 /2010-01-08 | 声压级: (0.4~110) dB(k=2) 在参考频率上: 0.08 dB(k=2) (压力场) Sound Level Meters: 0.3 dB(k=2); Sound Calibrator 0.15 dB(k=2) |

5. 检定地点、环境条件

Place and environmental conditions of the verification:

地点: 声学/振动实验室 温度: (23±3) °C 相对湿度: (40~80) %
Place: Acoustics/Vibration Lab. Temperature RH

6. 被检仪器限制使用条件:

Limiting condition of the instrument verified:

注: 1. 本证书检定结果只与受检仪器有关。

2. 未经本中心书面批准, 不得部分复制此证书。

Note: 1. The results relate only to the items verified.

2. This certificate shall not be reproduced except in full, without the written approval of our laboratory.



检定结果 RESULTS OF VERIFICATION

证书编号: SSD20093126
Certification No.

原始记录编号: 220093126
Record No.

第 3 页, 共 3 页
Page of

1. 外观检查: 合格
Check on appearance: pass

2. 声压级 (dB): 见表1
Sound Pressure Level: The value showed in table 1

表1 Table 1

| 标称值 (dB) Nominal Value | 实测值 (dB) Measured Value | 允差 (dB) Tolerance | 结论 Conclusion | 稳定度 (dB) Stabilization | 稳定度允差 (dB) Stabilization Tolerance | 结论 Conclusion |
|---------------------------|----------------------------|----------------------|------------------|---------------------------|---------------------------------------|------------------|
| 94 | 94.06 | ±0.40 | 合格(Pass) | 0.02 | 0.10 | 合格(Pass) |
| 114 | 114.07 | ±0.40 | 合格(Pass) | 0.02 | 0.10 | 合格(Pass) |

3. 频率: 见表2
Frequency: The value showed in table 2

表2 Table 2

| 标称值 (Hz) Nominal Value | 实测值 (Hz) Measured Value | 允差 (%) Tolerance | 结论 Conclusion |
|---------------------------|----------------------------|---------------------|------------------|
| 1000 | 999.84 | ±1.0 | 合格(Pass) |

4. 总失真: 见表3
Total harmonic distortion: The value showed in table 3

表3 Table 3

| 声压级 (dB) Sound Pressure Level | 失真度 (%) THD | 允差 (%) Tolerance | 结论 Conclusion |
|----------------------------------|----------------|---------------------|------------------|
| 94 | 0.6 | ≤3 | 合格(Pass) |
| 114 | 0.5 | ≤3 | 合格(Pass) |

说明(Note)

1. 声压级测量结果扩展不确定度:

Expanded uncertainty of measurement in Sound Pressure Level Calibration:

$U=0.15$ dB, $k=2$

(依据JJF1059-1999测量不确定度评定与表示)

(According to JJF1059-1999 Evaluation and Expression of Uncertainty in Measurement)



Report for Calibration of Hand-held Water Quality Meter WQC-24

Calibration Reference No. : GCE/CAL/2009/MW/WQM/C4

Client : ENVIRONMENTAL PIONEER AND SOLUTION LIMITED

Equipment No. : WQC-24 Location : Mui Wo Site

Manufacturer : DKK-TOA Serial No.: 640274

Calibration Date : 16 to 20-3-2010 Due Date : 15-06-2010

Criterion: (Repeatabilty, Linearity)

pH : Both within ± 0.05 pH
 Dissolved oxygen : Both within ± 0.1 mg/L
 Electric conductivity : Both within $\pm 1\%$ FS
 Turbidity : Repeatability : within $\pm 3\%$ FS
 Temperature : Repeatability $\pm 0.25^\circ\text{C}$; Linearity $\pm 0.5^\circ\text{C}$; (Ambient $5\sim 45^\circ\text{C}$)

Electric Conductivity (Salinity converted from EC):

(Reference : APHA 20ed 2510 B, ISO 7888 - 1985 (E) and DKK-TOA Hand-held Water Quality Meter WQC-24 Instruction Manual)

| Concentration of KCl Standard Solution (M) | Reference conductivity value at 25.0 °C | Indicated value by meter | Linearity (R^2) |
|--|---|--------------------------|--|
| 0 | 0.0 mS/m* | 0.0 mS/m | 1.0000 |
| 0.001 | 14.7 mS/m | 14.3 mS/m | |
| 0.005 | 71.8 mS/m | 71.2mS/m | Acceptance Criterion $R^2 > 0.995$ Within $\pm 1\%$ F.S. against calibration standard value 71.8 mS/m, 0.667 S/m and 5.87 S/m. |
| 0.01 | 0.141 S/m | 0.143 S/m | |
| 0.05 | 0.667 S/m | 0.661 S/m | |
| 0.1 | 1.29 S/m | 1.29 S/m | |
| 0.5 | 5.87 S/m | 5.87 S/m | |
| Repeatability | 1 st time | 0.00 , 5.87 S/m | Within $\pm 1\%$ F.S. against average value |
| | 2 nd time | 0.00 , 5.87 S/m | |
| | 3 rd time | 0.00 , 5.87 S/m | |
| | 0.00 , 5.87 S/m | Ave.: 0.00 , 5.87 | |

* 1 S/m = 10^4 $\mu\text{mhos/cm}$ = 10^3 mS/m

Remark: For repeatability, the maximum difference from the average value of 3 measurements was taken.



Dissolved Oxygen:

(Reference : APHA 20ed 4500-O B&C, ISO 5814:1990(E) and DKK-TOA Hand-held Water Quality Meter WQC-24 Instruction Manual)

| DO value evaluated by Iodometric Method (mg/L) | | Indicated value by meter (mg/L) | Linearity (R ²) |
|--|----------------------|---------------------------------|--|
| 0.00 | | 0.00 | 0.9999 |
| 2.94 | | 3.01 | |
| 5.28 | | 5.22 | Acceptance Criterion |
| 8.24 | | 8.30 | R ² > 0.995 Within ± 0.1 mg/L against standard value |
| 10.56 | | 10.53 | |
| 13.22 | | 13.30 | |
| Repeatability | 1 st time | 0.00 , 8.28 | Within ± 0.1 mg/L against average value |
| | 2 nd time | 0.00 , 8.30 | |
| | 3 rd time | 0.00 , 8.31 | |
| | 0.00 , 8.24 | Ave.: 0.00 , 0.03 | |

Remark: For repeatability, the maximum difference from the average value of 3 measurements was taken.

pH Value:

(Reference : APHA 20ed 4500-H⁺ B, ISO 10523:1994(E) and DKK-TOA Hand-held Water Quality Meter WQC-24 Instruction Manual)

| Calibration pH buffer (20°C) | Input value (pH buffer) (20°C) | Indicated pH value by meter (20°C) | Linearity (R ²) |
|------------------------------|--------------------------------|------------------------------------|---|
| pH = 1.67 | 1.67 | 1.70 | 1.0000 |
| pH = 6.88 | 4.00 | 4.01 | Acceptance Criterion |
| pH = 7.43 | 7.00 | 6.98 | R ² > 0.995 Within ± 0.05 pH against standard value |
| pH = 9.22 | 10.00 | 10.03 | |
| pH = 12.64 | 12.64 | 12.60 | |
| Repeatability | 1 st time | 4.01 , 10.03 | Within ± 0.05 pH against average value |
| | 2 nd time | 4.02 , 10.02 | |
| | 3 rd time | 4.01 , 10.03 | |
| | pH 4.00 , 10.00 | Ave.: 4.01 , 10.03 | |

Remark: For repeatability, the maximum difference from the average value of 3 measurements was taken.



Temperature:

(Reference : APHA 20ed 2550 B, In-house method and DKK-TOA Hand-held Water Quality Meter WQC-24 Instruction Manual)

| Setting Temperature (°C) | Indicated value by meter (°C) | | Linearity (R ²) |
|--------------------------|-------------------------------|-------------------|---|
| 5.0 | 4.7 | | 0.9999 |
| 15.0 | 14.8 | | |
| 25.0 | 24.8 | | Acceptance Criterion R ² > 0.995 Within ± 0.5°C against standard value |
| 35.0 | 34.7 | | |
| 45.0 | 45.2 | | |
| 55.0 | 55.4 | | |
| Repeatability | 1 st time | 14.8 , 45.1 | Within ± 0.25°C against average value |
| | 2 nd time | 14.9 , 45.2 | |
| | 3 rd time | 14.7 , 45.4 | |
| | 15.0 , 45.0 | Ave.: 14.8 , 45.2 | |

Remark: For repeatability, the maximum difference from the average value of 3 measurements was taken.

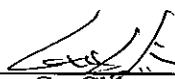
Turbidity:

(Reference : APHA 20ed 2130 B and DKK-TOA Hand-held Water Quality Meter WQC-24 Instruction Manual)

| Formazin Standards (NTU) | Indicated value by meter (NTU) | | Linearity (R ²) |
|--------------------------|--------------------------------|-------------------|---|
| 0.0 | 0.0 | | 1.0000 |
| 20.0 | 19.5 | | Acceptance Criterion R ² > 0.995 Within ± 3% F.S. against span calibration value 100.0 and 400.0 NTU |
| 100.0 | 98.7 | | |
| 400.0 | 397.9 | | |
| 800.0 | 796.8 | | |
| Repeatability | 1 st time | 0.0 , 797.4 | Within ± 3% F.S. against average value |
| | 2 nd time | 0.0 , 796.0 | |
| | 3 rd time | 0.0 , 796.9 | |
| | 0.0 , 800.0 | Ave.: 0.0 , 796.8 | |

Remark: For repeatability, the maximum difference from the average value of 3 measurements was taken.

Comments : Pass, (comply with the criteria)

Tested by : Ho Tin Kau Certified by : 
 Gu Chin
 Chemist

Checked by : Gu Chin Date : 20-3-2010

Appendix D1 Plant species recorded at Pak Ngan Heung River (N)

| <i>Species</i> | Habit | Native | Relative Abundance | Occurrence | |
|------------------------------|--------------|---------------|-------------------------------|-------------------|-------------|
| | | | | PNH3 | PNH4 |
| <i>Acacia confusa</i> | tree | no | occasional | | + |
| <i>Achyranthes aspera</i> | herb | yes | scarce | | + |
| <i>Acorus gramineus</i> | herb | yes | occasional | | + |
| <i>Alangium chinensis</i> | tree | yes | scarce | | + |
| <i>Alocasia macrorrhiza</i> | herb | yes | occasional | | + |
| <i>Bidens pilosa</i> | herb | no | occasional | | + |
| <i>Celtis sinensis</i> | tree | yes | scarce | | + |
| <i>Christella parasitica</i> | fern | yes | occasional | | + |
| <i>Dimocarpus longan</i> | tree | no | occasional | | + |
| <i>Ficus hispida</i> | tree | yes | occasional | | + |
| <i>Ficus superba</i> | tree | yes | occasional | | + |
| <i>Hedychium coronarium</i> | herb | no | occasional | | + |
| <i>Litsea glutinosa</i> | tree | yes | scarce | | + |
| <i>Macaranga tanarius</i> | tree | yes | occasional | | + |
| <i>Mallotus paniculatus</i> | tree | yes | scarce | | + |
| <i>Microstegium ciliatum</i> | grass | yes | common | | + |
| <i>Mikania micrantha</i> | climber | no | occasional | | + |
| <i>Oxalis corymbosa</i> | herb | yes | occasional | | + |
| <i>Panicum maximum</i> | grass | no | scarce | | + |
| <i>Phyllanthus urinaria</i> | shrub | yes | scarce | | + |
| <i>Pistia stratiotes</i> | herb | yes | scarce | | + |
| <i>Pogonatherum crinitum</i> | grass | yes | scarce | | + |
| <i>Pteris vittata</i> | fern | yes | scarce | | + |
| <i>Pueraria phaseoloides</i> | climber | yes | occasional | | + |
| <i>Sporobolus fertilis</i> | grass | yes | scarce | | + |
| <i>Sterculia lanceolata</i> | tree | yes | scarce | | + |

Appendix D2 Plant species recorded at Pak Ngan Heung River (S)

| Species | Habit | Native | Relative Abundance | Occurrence | |
|-------------------------|---------|--------|--------------------|------------|------|
| | | | | PNH1 | PNH2 |
| <i>Ficus microcarpa</i> | tree | yes | scarce | | + |
| <i>Ficus superba</i> | tree | yes | occasional | | + |
| <i>Ipomoea cairica</i> | climber | yes | occasional | | + |
| <i>Kandelia obovata</i> | tree | yes | scarce | + | |
| <i>Lantana camara</i> | shrub | no | scarce | | + |
| <i>Panicum maximum</i> | grass | no | common | | + |

Appendix D3 Plant species recorded at Luk Tei Tong River

| Species | Habit | Native | Relative Abundance | Occurrence | | | | |
|-------------------------------|-------|--------|--------------------|------------|------|------|------|------|
| | | | | LLT1 | LLT2 | LLT3 | LLT4 | LLT5 |
| <i>Bidens pilosa</i> | herb | no | scarce | + | | | | |
| <i>Celtis sinensis</i> | tree | yes | scarce | + | | | | |
| <i>Cyperus malaccensis</i> | sedge | yes | scarce | | + | | | |
| <i>Eupatorium catarium</i> | herb | no | scarce | | + | | | |
| <i>Euphorbia hirta</i> | herb | no | scarce | | + | | | |
| <i>Ficus microcarpa</i> | tree | yes | scarce | + | | | | |
| <i>Ficus superba</i> | tree | yes | scarce | + | | | | |
| <i>Hibiscus tiliaceus</i> | tree | yes | scarce | + | + | | | |
| <i>Kandelia obovata</i> | tree | yes | scarce | | + | | | |
| <i>Leucaena leucocephala</i> | tree | no | scarce | + | | | | |
| <i>Panicum maximum</i> | grass | no | scarce | + | + | | | |
| <i>Panicum repens</i> | grass | yes | scarce | | + | | | |
| <i>Rhynchelytrum repens</i> | grass | no | scarce | + | | | | |
| <i>Saccharum arundinaceum</i> | grass | yes | scarce | + | | | | |

Appendix D4

Ecological Water Monitoring Results (on-site measurements)

Environmental Pioneers & Solutions Limited
Ecological Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 12/5/2010

Weather Condition: Sunny

| Monitoring Location | WE1 | | | WE2 | | | WE3 | | | WE4 | | | WE5 | | | WE6 | | |
|---------------------|--------|------|---------|-------|-------|---------|-------|------|---------|--------|------|---------|--------|------|---------|--------|------|---------|
| Time (hhmm) | 1045 | | | 1215 | | | 1140 | | | 1200 | | | 1120 | | | 1100 | | |
| Tide Mode | ebb | | | ebb | | | ebb | | | ebb | | | ebb | | | ebb | | |
| River Condition | Normal | | | Muddy | | | Muddy | | | Normal | | | Normal | | | Normal | | |
| Water Depth (m) | < 1.0 | | | < 1.0 | | | < 1.0 | | | < 1.0 | | | < 1.0 | | | < 1.0 | | |
| pH value | 8.34 | | | 7.98 | | | 7.46 | | | 7.14 | | | 6.99 | | | 7.33 | | |
| Temperature (oC) | 23.5 | | | 24.7 | | | 239.0 | | | 24.7 | | | 24.2 | | | 23.2 | | |
| Salinity (ppt) | 0.0 | | | 0.2 | | | 0.6 | | | 3.5 | | | 0.5 | | | 0.0 | | |
| Conductivity (ms/m) | 7.8 | | | 40.2 | | | 118.0 | | | 642.0 | | | 103.0 | | | 6.2 | | |
| Water flow (m/s) | 0.090 | | | 0.220 | | | 0.180 | | | 0.070 | | | 0.050 | | | 0.060 | | |
| Turbidity (NTU) | 0.0 | 0.0 | Average | 236.1 | 236.2 | Average | 20.2 | 20.2 | Average | 3.6 | 3.6 | Average | 7.0 | 7.0 | Average | 0.0 | 0.0 | Average |
| | | | 0.00 | | | 236.15 | | | 20.20 | | | 3.6 | | | 7.00 | | | 0.0 |
| DO (mg/l) | 7.59 | 7.58 | Average | 8.31 | 8.29 | Average | 7.56 | 7.55 | Average | 6.11 | 6.11 | Average | 4.99 | 5.00 | Average | 7.53 | 7.51 | Average |
| | | | 7.59 | | | 8.30 | | | 7.56 | | | 6.11 | | | 5.00 | | | 7.52 |
| DO Saturation (%) | 91 | 91 | Average | 101 | 101 | Average | 90 | 90 | Average | 73 | 73 | Average | 63 | 63 | Average | 89 | 89 | Average |
| | | | 91 | | | 101 | | | 90 | | | 73 | | | 63 | | | 89 |

Name
Prepared By: Jimmy Cheng

Signature


Date
12/5/2010

remark or observation: Overflow of site water arisen from the project site at upper stream course, where formation of fish ladder structure was being carried out.

Appendix D5

Ecological Water Monitoring Results **(lab report)**



TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Page 1 of 1

Report No. : GCC100400132 Date of Issue : 19-05-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.
 DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 12-05-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 13-05-2010

GCE Serial No. : WQM052010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

| Analysis Description | Test Method | Units | Quality Control Results | | | | | |
|-----------------------|--------------------|---------------------|-------------------------|---------------------------|---------------|---------------------|---------------|-------|
| | | | Method Blank | QC 500 mg/L | QC Duplicate | RPD% | Spike 25 mg/L | |
| Suspended Solids (SS) | APHA 20ed 2540 D | mg/L | < 1.0 | 496 | 502 | -1.2 | 24.9 | |
| Acceptance Criteria | | | < 2.5 mg/L | 475 ≤ Control Limit ≤ 514 | | ≤ ±5% | 21 ≤ R ≤ 29 | |
| TEST RESULTS | Sample ID | WE1 | WE1 Duplicate | WE2 | WE2 Duplicate | WE3 | WE3 Duplicate | |
| | Sampling Date/Time | 12 May 2010 / 10:45 | | 12 May 2010 / 12:15 | | 12 May 2010 / 11:40 | | |
| | LOD | Units | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 3.5 | 3.3 | 38.6 | 38.2 | 16.0 | 16.3 |
| TEST RESULTS | Sample ID | WE4 | WE4 Duplicate | WE5 | WE5 Duplicate | WE6 | WE6 Duplicate | |
| | Sampling Date/Time | 12 May 2010 / 12:00 | | 12 May 2010 / 11:20 | | 12 May 2010 / 11:00 | | |
| | LOD | Units | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 10.5 | 10.3 | 8.8 | 8.2 | < 1.0 | < 1.0 |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : Location M1 & WE3 and Location M3 & WE4 are the same location.

---- End ----

Tested By : K.L FONG

Approved Signatory :

Name : GU CHIN

Checked By : GU CHIN

Post : Chemist



TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Report No. : GCC100500467 Date of Issue : 31-05-2010

Client* : Environmental Pioneers & Solutions Limited Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.
 DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 12-05-2010

W.O. No.* : -- Contract No.* : -- Date Completed : 28-05-2010

GCE Serial No. : WQM052010 Sampling Date* : 12-05-2010 / 10:45 Sample Type* : River Water

GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258 Sample I.D.* : WE1

Description : River Water

| DESCRIPTION | TEST REFERENCE (In-House Method based on) | TEST RESULT |
|--|---|-----------------------------------|
| Appearance | APHA 20ed 2110 | -- |
| Odour | APHA 20ed 2150 B | Odour Characteristics : -- |
| | | Threshold Odour Number (TON) : -- |
| pH Value at temperature [] °C | APHA 20ed 4500-H ⁺ B | -- |
| Colour TCU | APHA 20ed 2120 B | -- |
| Turbidity NTU | APHA 20ed 2130 B | -- |
| Conductivity at 25°C μS/cm | APHA 20ed 2510 B | -- |
| Salinity g/L | APHA 20ed 2520 B | -- |
| Nitrogen (Ammonia) mg/L | APHA 20ed 4500-NH ₃ D | 0.03 |
| | APHA 20ed 4500-NH ₃ E | -- |
| | APHA 18ed 4500-NH ₃ C | -- |
| Nitrogen (Nitrate) mg/L | APHA 20ed 4500-NO ₃ ⁻ E | 0.36 |
| Phosphorus mg/L | APHA 20ed 4500-P D | 0.04 |
| Biochemical Oxygen Demand (BOD ₅) mg/L | APHA 20ed 5210 B | 1 |
| Chemical Oxygen Demand (COD) mg/L | APHA 20ed 5220 D | -- |
| Total Suspended Solid mg/L | APHA 20ed 2540 D | -- |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 12 May 2010.

REMARKS : Sample Location WE1.

----- End -----

Tested By : T.W. Lam, K.L. Fong

Certified By : 
 Name : Gu Chin

Checked By : Gu Chin

Post : Chemist



TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Page 1 of 1

Report No. : GCC100500475

Date of Issue : 31-05-2010

Client* : Environmental Pioneers & Solutions Limited

Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon.

Date Started : 12-05-2010

W.O. No.* : --

Contract No.* : --

Date Completed : 28-05-2010

GCE Serial No. : WQM052010

Sampling Date* : 12-05-2010 / 10:45

Sample Type* : River Water

GCE Reg. No. : GCE 081096

Test Unit No. : CH 08258

Sample I.D.* : WE1 Duplicate

Description : River Water

| DESCRIPTION | TEST REFERENCE (In-House Method based on) | TEST RESULT |
|--|---|-----------------------------------|
| Appearance | APHA 20ed 2110 | -- |
| Odour | APHA 20ed 2150 B | Odour Characteristics : -- |
| | | Threshold Odour Number (TON) : -- |
| pH Value at temperature [] °C | APHA 20ed 4500-H ⁺ B | -- |
| Colour TCU | APHA 20ed 2120 B | -- |
| Turbidity NTU | APHA 20ed 2130 B | -- |
| Conductivity at 25°C μS/cm | APHA 20ed 2510 B | -- |
| Salinity g/L | APHA 20ed 2520 B | -- |
| Nitrogen (Ammonia) mg/L | APHA 20ed 4500-NH ₃ D | 0.02 |
| | APHA 20ed 4500-NH ₃ E | -- |
| | APHA 18ed 4500-NH ₃ C | -- |
| Nitrogen (Nitrate) mg/L | APHA 20ed 4500-NO ₃ ⁻ E | 0.36 |
| Phosphorus mg/L | APHA 20ed 4500-P D | 0.04 |
| Biochemical Oxygen Demand (BOD ₅) mg/L | APHA 20ed 5210 B | 1 |
| Chemical Oxygen Demand (COD) mg/L | APHA 20ed 5220 D | -- |
| Total Suspended Solid mg/L | APHA 20ed 2540 D | -- |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 12 May 2010.

REMARKS : Sample Location WE1.

----- End -----

Tested By : T.W. Lam, K.L. Fong

Certified By

Name

Gu Chin

Checked By : Gu Chin

Post

Chemist



TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Page 1 of 1

Report No. : GCC100500483

Date of Issue : 31-05-2010

Client* : Environmental Pioneers & Solutions Limited

Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon.

Date Started : 12-05-2010

W.O. No.* : --

Contract No.* : --

Date Completed : 28-05-2010

GCE Serial No. : WQM052010

Sampling Date* : 12-05-2010 / 12:15

Sample Type* : River Water

GCE Reg. No. : GCE 081096

Test Unit No. : CH 08258

Sample I.D.* : WE2

Description : River Water

| DESCRIPTION | TEST REFERENCE (In-House Method based on) | TEST RESULT |
|--|---|-----------------------------------|
| Appearance | APHA 20ed 2110 | -- |
| Odour | APHA 20ed 2150 B | Odour Characteristics : -- |
| | | Threshold Odour Number (TON) : -- |
| pH Value at temperature [] °C | APHA 20ed 4500-H ⁺ B | -- |
| Colour TCU | APHA 20ed 2120 B | -- |
| Turbidity NTU | APHA 20ed 2130 B | -- |
| Conductivity at 25°C μS/cm | APHA 20ed 2510 B | -- |
| Salinity g/L | APHA 20ed 2520 B | -- |
| Nitrogen (Ammonia) mg/L | APHA 20ed 4500-NH ₃ D | 0.05 |
| | APHA 20ed 4500-NH ₃ E | -- |
| | APHA 18ed 4500-NH ₃ C | -- |
| Nitrogen (Nitrate) mg/L | APHA 20ed 4500-NO ₃ ⁻ E | 0.45 |
| Phosphorus mg/L | APHA 20ed 4500-P D | 0.08 |
| Biochemical Oxygen Demand (BOD ₅) mg/L | APHA 20ed 5210 B | 4 |
| Chemical Oxygen Demand (COD) mg/L | APHA 20ed 5220 D | -- |
| Total Suspended Solid mg/L | APHA 20ed 2540 D | -- |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 12 May 2010.

REMARKS : Sample Location WE2.

----- End -----

Tested By : T.W. Lam, K.L. Fong

Certified By

Name

Gu Chin

Checked By : Gu Chin

Post

Chemist



TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Report No. : GCC100500491

Date of Issue : 31-05-2010

Client* : Environmental Pioneers & Solutions Limited

Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon.

Date Started : 12-05-2010

W.O. No.* : --

Contract No.* : --

Date Completed : 28-05-2010

GCE Serial No. : WQM052010

Sampling Date* : 12-05-2010 / 12:15

Sample Type* : River Water

GCE Reg. No. : GCE 081096

Test Unit No. : CH 08258

Sample I.D.* : WE2 Duplicate

Description : River Water

| DESCRIPTION | TEST REFERENCE (In-House Method based on) | TEST RESULT |
|--|---|-----------------------------------|
| Appearance | APHA 20ed 2110 | -- |
| Odour | APHA 20ed 2150 B | Odour Characteristics : -- |
| | | Threshold Odour Number (TON) : -- |
| pH Value at temperature [] °C | APHA 20ed 4500-H ⁺ B | -- |
| Colour TCU | APHA 20ed 2120 B | -- |
| Turbidity NTU | APHA 20ed 2130 B | -- |
| Conductivity at 25°C μS/cm | APHA 20ed 2510 B | -- |
| Salinity g/L | APHA 20ed 2520 B | -- |
| Nitrogen (Ammonia) mg/L | APHA 20ed 4500-NH ₃ D | 0.05 |
| | APHA 20ed 4500-NH ₃ E | -- |
| | APHA 18ed 4500-NH ₃ C | -- |
| Nitrogen (Nitrate) mg/L | APHA 20ed 4500-NO ₃ ⁻ E | 0.44 |
| Phosphorus mg/L | APHA 20ed 4500-P D | 0.08 |
| Biochemical Oxygen Demand (BOD ₅) mg/L | APHA 20ed 5210 B | 4 |
| Chemical Oxygen Demand (COD) mg/L | APHA 20ed 5220 D | -- |
| Total Suspended Solid mg/L | APHA 20ed 2540 D | -- |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 12 May 2010.

REMARKS : Sample Location WE2.

----- End -----

Tested By : T.W. Lam, K.L. Fong

Certified By

Name

Gu Chin

Checked By : Gu Chin

Post

Chemist



TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Page 1 of 1

Report No. : GCC100500506 Date of Issue : 31-05-2010

Client* : Environmental Pioneers & Solutions Limited Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.
 DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 12-05-2010

W.O. No.* : -- Contract No.* : -- Date Completed : 28-05-2010

GCE Serial No. : WQM052010 Sampling Date* : 12-05-2010 / 11:40 Sample Type* : River Water

GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258 Sample I.D.* : WE3

Description : River Water

| DESCRIPTION | TEST REFERENCE (In-House Method based on) | TEST RESULT |
|--|---|-----------------------------------|
| Appearance | APHA 20ed 2110 | -- |
| Odour | APHA 20ed 2150 B | Odour Characteristics : -- |
| | | Threshold Odour Number (TON) : -- |
| pH Value at temperature [] °C | APHA 20ed 4500-H ⁺ B | -- |
| Colour TCU | APHA 20ed 2120 B | -- |
| Turbidity NTU | APHA 20ed 2130 B | -- |
| Conductivity at 25°C μS/cm | APHA 20ed 2510 B | -- |
| Salinity g/L | APHA 20ed 2520 B | -- |
| Nitrogen (Ammonia) mg/L | APHA 20ed 4500-NH ₃ D | 0.10 |
| | APHA 20ed 4500-NH ₃ E | -- |
| | APHA 18ed 4500-NH ₃ C | -- |
| Nitrogen (Nitrate) mg/L | APHA 20ed 4500-NO ₃ ⁻ E | 0.46 |
| Phosphorus mg/L | APHA 20ed 4500-P D | 0.08 |
| Biochemical Oxygen Demand (BOD ₅) mg/L | APHA 20ed 5210 B | 1 |
| Chemical Oxygen Demand (COD) mg/L | APHA 20ed 5220 D | -- |
| Total Suspended Solid mg/L | APHA 20ed 2540 D | -- |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 12 May 2010.

REMARKS : Sample Location WE3.

----- End -----

Tested By : T.W. Lam, K.L. Fong

Certified By : 

Name : Gu Chin

Checked By : Gu Chin

Post : Chemist



TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Page 1 of 1

Report No. : GCC100500514

Date of Issue : 31-05-2010

Client* : Environmental Pioneers & Solutions Limited

Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon.

Date Started : 12-05-2010

W.O. No.* : --

Contract No.* : --

Date Completed : 28-05-2010

GCE Serial No. : WQM052010

Sampling Date* : 12-05-2010 / 11:40

Sample Type* : River Water

GCE Reg. No. : GCE 081096

Test Unit No. : CH 08258

Sample I.D.* : WE3 Duplicate

Description : River Water

| DESCRIPTION | TEST REFERENCE (In-House Method based on) | TEST RESULT |
|--|---|-----------------------------------|
| Appearance | APHA 20ed 2110 | -- |
| Odour | APHA 20ed 2150 B | Odour Characteristics : -- |
| | | Threshold Odour Number (TON) : -- |
| pH Value at temperature [] °C | APHA 20ed 4500-H ⁺ B | -- |
| Colour TCU | APHA 20ed 2120 B | -- |
| Turbidity NTU | APHA 20ed 2130 B | -- |
| Conductivity at 25°C μS/cm | APHA 20ed 2510 B | -- |
| Salinity g/L | APHA 20ed 2520 B | -- |
| Nitrogen (Ammonia) mg/L | APHA 20ed 4500-NH ₃ D | 0.10 |
| | APHA 20ed 4500-NH ₃ E | -- |
| | APHA 18ed 4500-NH ₃ C | -- |
| Nitrogen (Nitrate) mg/L | APHA 20ed 4500-NO ₃ ⁻ E | 0.46 |
| Phosphorus mg/L | APHA 20ed 4500-P D | 0.07 |
| Biochemical Oxygen Demand (BOD ₅) mg/L | APHA 20ed 5210 B | 1 |
| Chemical Oxygen Demand (COD) mg/L | APHA 20ed 5220 D | -- |
| Total Suspended Solid mg/L | APHA 20ed 2540 D | -- |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 12 May 2010.

REMARKS : Sample Location WE3.

----- End -----

Tested By : T.W. Lam, K.L. Fong

Certified By

Name

Gu Chin

Checked By : Gu Chin

Post

Chemist



TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Page 1 of 1

Report No. : GCC100500522

Date of Issue : 31-05-2010

Client* : Environmental Pioneers & Solutions Limited

Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon.

Date Started : 12-05-2010

W.O. No.* : --

Contract No.* : --

Date Completed : 28-05-2010

GCE Serial No. : WQM052010

Sampling Date* : 12-05-2010 / 12:00

Sample Type* : River Water

GCE Reg. No. : GCE 081096

Test Unit No. : CH 08258

Sample I.D.* : WE4

Description : River Water

| DESCRIPTION | TEST REFERENCE (In-House Method based on) | TEST RESULT |
|--|---|-----------------------------------|
| Appearance | APHA 20ed 2110 | -- |
| Odour | APHA 20ed 2150 B | Odour Characteristics : -- |
| | | Threshold Odour Number (TON) : -- |
| pH Value at temperature [] °C | APHA 20ed 4500-H ⁺ B | -- |
| Colour TCU | APHA 20ed 2120 B | -- |
| Turbidity NTU | APHA 20ed 2130 B | -- |
| Conductivity at 25°C μS/cm | APHA 20ed 2510 B | -- |
| Salinity g/L | APHA 20ed 2520 B | -- |
| Nitrogen (Ammonia) mg/L | APHA 20ed 4500-NH ₃ D | 0.52 |
| | APHA 20ed 4500-NH ₃ E | -- |
| | APHA 18ed 4500-NH ₃ C | -- |
| Nitrogen (Nitrate) mg/L | APHA 20ed 4500-NO ₃ ⁻ E | 0.34 |
| Phosphorus mg/L | APHA 20ed 4500-P D | 0.13 |
| Biochemical Oxygen Demand (BOD ₅) mg/L | APHA 20ed 5210 B | 1 |
| Chemical Oxygen Demand (COD) mg/L | APHA 20ed 5220 D | -- |
| Total Suspended Solid mg/L | APHA 20ed 2540 D | -- |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 12 May 2010.

REMARKS : Sample Location WE4.

----- End -----

Tested By : T.W. Lam, K.L. Fong

Certified By

Name

Post

Checked By : Gu Chin

Gu Chin

Chemist



TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Page 1 of 1

Report No. : GCC100500530

Date of Issue : 31-05-2010

Client* : Environmental Pioneers & Solutions Limited

Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon.

Date Started : 12-05-2010

W.O. No.* : --

Contract No.* : --

Date Completed : 28-05-2010

GCE Serial No. : WQM052010

Sampling Date* : 12-05-2010 / 12:00

Sample Type* : River Water

GCE Reg. No. : GCE 081096

Test Unit No. : CH 08258

Sample I.D.* : WE4 Duplicate

Description : River Water

| DESCRIPTION | TEST REFERENCE (In-House Method based on) | TEST RESULT |
|--|---|-----------------------------------|
| Appearance | APHA 20ed 2110 | -- |
| Odour | APHA 20ed 2150 B | Odour Characteristics : -- |
| | | Threshold Odour Number (TON) : -- |
| pH Value at temperature [] °C | APHA 20ed 4500-H ⁺ B | -- |
| Colour TCU | APHA 20ed 2120 B | -- |
| Turbidity NTU | APHA 20ed 2130 B | -- |
| Conductivity at 25°C µS/cm | APHA 20ed 2510 B | -- |
| Salinity g/L | APHA 20ed 2520 B | -- |
| Nitrogen (Ammonia) mg/L | APHA 20ed 4500-NH ₃ D | 0.52 |
| | APHA 20ed 4500-NH ₃ E | -- |
| | APHA 18ed 4500-NH ₃ C | -- |
| Nitrogen (Nitrate) mg/L | APHA 20ed 4500-NO ₃ ⁻ E | 0.35 |
| Phosphorus mg/L | APHA 20ed 4500-P D | 0.13 |
| Biochemical Oxygen Demand (BOD ₅) mg/L | APHA 20ed 5210 B | 1 |
| Chemical Oxygen Demand (COD) mg/L | APHA 20ed 5220 D | -- |
| Total Suspended Solid mg/L | APHA 20ed 2540 D | -- |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 12 May 2010.

REMARKS : Sample Location WE4.

----- End -----

Tested By : T.W. Lam, K.L. Fong

Certified By

Name

Gu Chin

Checked By : Gu Chin

Post

Chemist



TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Page 1 of 1

Report No. : GCC100500548

Date of Issue : 31-05-2010

Client* : Environmental Pioneers & Solutions Limited

Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon.

Date Started : 12-05-2010

W.O. No.* : --

Contract No.* : --

Date Completed : 28-05-2010

GCE Serial No. : WQM052010

Sampling Date* : 12-05-2010 / 11:20

Sample Type* : River Water

GCE Reg. No. : GCE 081096

Test Unit No. : CH 08258

Sample I.D.* : WE5

Description : River Water

| DESCRIPTION | TEST REFERENCE (In-House Method based on) | TEST RESULT |
|--|---|-----------------------------------|
| Appearance | APHA 20ed 2110 | -- |
| Odour | APHA 20ed 2150 B | Odour Characteristics : -- |
| | | Threshold Odour Number (TON) : -- |
| pH Value at temperature [] °C | APHA 20ed 4500-H ⁺ B | -- |
| Colour TCU | APHA 20ed 2120 B | -- |
| Turbidity NTU | APHA 20ed 2130 B | -- |
| Conductivity at 25°C μS/cm | APHA 20ed 2510 B | -- |
| Salinity g/L | APHA 20ed 2520 B | -- |
| Nitrogen (Ammonia) mg/L | APHA 20ed 4500-NH ₃ D | 1.83 |
| | APHA 20ed 4500-NH ₃ E | -- |
| | APHA 18ed 4500-NH ₃ C | -- |
| Nitrogen (Nitrate) mg/L | APHA 20ed 4500-NO ₃ ⁻ E | 0.29 |
| Phosphorus mg/L | APHA 20ed 4500-P D | 0.41 |
| Biochemical Oxygen Demand (BOD ₅) mg/L | APHA 20ed 5210 B | 3 |
| Chemical Oxygen Demand (COD) mg/L | APHA 20ed 5220 D | -- |
| Total Suspended Solid mg/L | APHA 20ed 2540 D | -- |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 12 May 2010.

REMARKS : Sample Location WE5.

----- End -----

Tested By : T.W. Lam, K.L. Fong

Certified By

Name

Post

Gu Chin

Chemist



TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Page 1 of 1

Report No. : GCC100500556

Date of Issue : 31-05-2010

Client* : Environmental Pioneers & Solutions Limited

Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon.

Date Started : 12-05-2010

W.O. No.* : --

Contract No.* : --

Date Completed : 28-05-2010

GCE Serial No. : WQM052010

Sampling Date* : 12-05-2010 / 11:20

Sample Type* : River Water

GCE Reg. No. : GCE 081096

Test Unit No. : CH 08258

Sample I.D.* : WE5 Duplicate

Description : River Water

| DESCRIPTION | TEST REFERENCE (In-House Method based on) | TEST RESULT |
|--|---|-----------------------------------|
| Appearance | APHA 20ed 2110 | -- |
| Odour | APHA 20ed 2150 B | Odour Characteristics : -- |
| | | Threshold Odour Number (TON) : -- |
| pH Value at temperature [] °C | APHA 20ed 4500-H ⁺ B | -- |
| Colour TCU | APHA 20ed 2120 B | -- |
| Turbidity NTU | APHA 20ed 2130 B | -- |
| Conductivity at 25°C μS/cm | APHA 20ed 2510 B | -- |
| Salinity g/L | APHA 20ed 2520 B | -- |
| Nitrogen (Ammonia) mg/L | APHA 20ed 4500-NH ₃ D | 1.82 |
| | APHA 20ed 4500-NH ₃ E | -- |
| | APHA 18ed 4500-NH ₃ C | -- |
| Nitrogen (Nitrate) mg/L | APHA 20ed 4500-NO ₃ ⁻ E | 0.28 |
| Phosphorus mg/L | APHA 20ed 4500-P D | 0.40 |
| Biochemical Oxygen Demand (BOD ₅) mg/L | APHA 20ed 5210 B | 3 |
| Chemical Oxygen Demand (COD) mg/L | APHA 20ed 5220 D | -- |
| Total Suspended Solid mg/L | APHA 20ed 2540 D | -- |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 12 May 2010.

REMARKS : Sample Location WE5.

----- End -----

Tested By : T.W. Lam, K.L. Fong

Certified By

Name

Gu Chin

Checked By : Gu Chin

Post

Chemist



TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Page 1 of 1

Report No. : GCC100500564

Date of Issue : 31-05-2010

Client* : Environmental Pioneers & Solutions Limited

Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon.

Date Started : 12-05-2010

W.O. No.* : --

Contract No.* : --

Date Completed : 28-05-2010

GCE Serial No. : WQM052010

Sampling Date* : 12-05-2010 / 11:00

Sample Type* : River Water

GCE Reg. No. : GCE 081096

Test Unit No. : CH 08258

Sample I.D.* : WE6

Description : River Water

| DESCRIPTION | TEST REFERENCE (In-House Method based on) | TEST RESULT |
|--|---|-----------------------------------|
| Appearance | APHA 20ed 2110 | -- |
| Odour | APHA 20ed 2150 B | Odour Characteristics : -- |
| | | Threshold Odour Number (TON) : -- |
| pH Value at temperature [] °C | APHA 20ed 4500-H ⁺ B | -- |
| Colour TCU | APHA 20ed 2120 B | -- |
| Turbidity NTU | APHA 20ed 2130 B | -- |
| Conductivity at 25°C μS/cm | APHA 20ed 2510 B | -- |
| Salinity g/L | APHA 20ed 2520 B | -- |
| Nitrogen (Ammonia) mg/L | APHA 20ed 4500-NH ₃ D | 0.02 |
| | APHA 20ed 4500-NH ₃ E | -- |
| | APHA 18ed 4500-NH ₃ C | -- |
| Nitrogen (Nitrate) mg/L | APHA 20ed 4500-NO ₃ ⁻ E | 0.34 |
| Phosphorus mg/L | APHA 20ed 4500-P D | 0.03 |
| Biochemical Oxygen Demand (BOD ₅) mg/L | APHA 20ed 5210 B | <1 |
| Chemical Oxygen Demand (COD) mg/L | APHA 20ed 5220 D | -- |
| Total Suspended Solid mg/L | APHA 20ed 2540 D | -- |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 12 May 2010.

REMARKS : Sample Location WE6.

----- End -----

Tested By : T.W. Lam, K.L. Fong

Certified By

Name

Gu Chin

Checked By : Gu Chin

Post

Chemist



TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Page 1 of 1

Report No. : GCC100500572

Date of Issue : 31-05-2010

Client* : Environmental Pioneers & Solutions Limited

Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon.

Date Started : 12-05-2010

W.O. No.* : --

Contract No.* : --

Date Completed : 28-05-2010

GCE Serial No. : WQM052010

Sampling Date* : 12-05-2010 / 11:00

Sample Type* : River Water

GCE Reg. No. : GCE 081096

Test Unit No. : CH 08258

Sample I.D.* : WE6 Duplicate

Description : River Water

| DESCRIPTION | TEST REFERENCE (In-House Method based on) | TEST RESULT |
|--|---|-----------------------------------|
| Appearance | APHA 20ed 2110 | -- |
| Odour | APHA 20ed 2150 B | Odour Characteristics : -- |
| | | Threshold Odour Number (TON) : -- |
| pH Value at temperature [] °C | APHA 20ed 4500-H ⁺ B | -- |
| Colour TCU | APHA 20ed 2120 B | -- |
| Turbidity NTU | APHA 20ed 2130 B | -- |
| Conductivity at 25°C μS/cm | APHA 20ed 2510 B | -- |
| Salinity g/L | APHA 20ed 2520 B | -- |
| Nitrogen (Ammonia) mg/L | APHA 20ed 4500-NH ₃ D | 0.03 |
| | APHA 20ed 4500-NH ₃ E | -- |
| | APHA 18ed 4500-NH ₃ C | -- |
| Nitrogen (Nitrate) mg/L | APHA 20ed 4500-NO ₃ ⁻ E | 0.33 |
| Phosphorus mg/L | APHA 20ed 4500-P D | 0.03 |
| Biochemical Oxygen Demand (BOD ₅) mg/L | APHA 20ed 5210 B | <1 |
| Chemical Oxygen Demand (COD) mg/L | APHA 20ed 5220 D | -- |
| Total Suspended Solid mg/L | APHA 20ed 2540 D | -- |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 12 May 2010.

REMARKS : Sample Location WE6.

----- End -----

Tested By : T.W. Lam, K.L. Fong

Certified By

Name

Gu Chin

Checked By : Gu Chin

Post

Chemist

Appendix E

Construction Noise

Monitoring Data Sheet



大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

| | | | |
|--|-------------|---|--|
| Monitoring Location | | N1 | N2 |
| Description of Location | | Façade | Façade |
| Date of Monitoring | | 3/5/2010 | |
| Measurement Start Time (hhmm) | | 14:45 | 14:10 |
| Measurement Time Length (mins.) | | 30 mins | |
| Noise Meter Model/ Identification | | ACO Japan, model 6224 | |
| Calibrator Model/ Identification | | Castle Group, GA607 | |
| Wind Speed (m/s) | | 0.7 | 0.9 |
| Measurement Results | L90 (dB(A)) | 47.2 | 44.7 |
| | L10 (dB(A)) | 56.8 | 57.8 |
| | Leq (dB(A)) | 53.1 | 55.9 |
| Weather condition: | | Sunny | |
| Major Construction Noise Source(s) During Monitoring | | No construction works are being carried out during measurement. | 1. Construction truck noise measurement. |
| Other Noise Source(s) During Monitoring | | 1. Public noise 2. Traffic noise | 1. Public noise 2. Traffic noise |
| Remarks | | | |

Name & Designation

Signature

Date:

Prepared by:

Jimmy Cheng

3/5/2010



大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

| | | | |
|--|-------------|--|---|
| Monitoring Location | | N3 | N4 |
| Description of Location | | Freefield | Facade |
| Date of Monitoring | | 3/5/2010 | |
| Measurement Start Time (hhmm) | | 13:35 | 13:00 |
| Measurement Time Length (mins.) | | 30 mins | |
| Noise Meter Model/ Identification | | ACO Japan, model 6224 | |
| Calibrator Model/ Identification | | Castle Group, GA607 | |
| Wind Speed (m/s) | | 0.8 | 0.7 |
| Measurement Results | L90 (dB(A)) | 55.9 | 46.1 |
| | L10 (dB(A)) | 60.2 | 56.2 |
| | Leq (dB(A)) | 55.8 | 53.3 |
| Weather condition: | | Sunny | |
| Major Construction Noise Source(s) During Monitoring | | 1. Excavator noise 2. Cutting machine noise 3. Power generator noise 4. Concrete curing noise | No construction works are being carried out during measurement. |
| Other Noise Source(s) During Monitoring | | 1. Public noise 2. Traffic noise | 1. Public noise |
| Remarks | | | |

Name & Designation

Signature

Date:

Prepared by:

Jimmy Cheng

3/5/2010



大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

| | | | |
|--|-------------|---|---|
| Monitoring Location | | N1 | N2 |
| Description of Location | | Façade | Façade |
| Date of Monitoring | | 12/5/2010 | |
| Measurement Start Time (hhmm) | | 12:30 | 11:52 |
| Measurement Time Length (mins.) | | 30 mins | |
| Noise Meter Model/ Identification | | ACO Japan, model 6224 | |
| Calibrator Model/ Identification | | Castle Group, GA607 | |
| Wind Speed (m/s) | | 0.2 | 0.2 |
| Measurement Results | L90 (dB(A)) | 42.0 | 40.6 |
| | L10 (dB(A)) | 49.3 | 50.4 |
| | Leq (dB(A)) | 46.3 | 47.8 |
| Weather condition: | | Sunny | |
| Major Construction Noise Source(s) During Monitoring | | No construction works are being carried out during measurement. | No construction works are being carried out during measurement. |
| Other Noise Source(s) During Monitoring | | 1. Public noise 2. Traffic noise | 1. Public noise 2. Traffic noise |
| Remarks | | Delay from 10/5/2010 to 12/5/2010 due to rainy | |

Name & Designation

Signature

Date:

Prepared by:

Jimmy Cheng

12/5/2010



大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

| | | | |
|--|-------------|---|--------------------|
| Monitoring Location | | N3 | N4 |
| Description of Location | | Freefield | Facade |
| Date of Monitoring | | 12/5/2010 | |
| Measurement Start Time (hhmm) | | 10:38 | 11:15 |
| Measurement Time Length (mins.) | | 30 mins | |
| Noise Meter Model/ Identification | | ACO Japan, model 6224 | |
| Calibrator Model/ Identification | | Castle Group, GA607 | |
| Wind Speed (m/s) | | 0.3 | 0.3 |
| Measurement Results | L90 (dB(A)) | 59.4 | 48.6 |
| | L10 (dB(A)) | 61.6 | 55.1 |
| | Leq (dB(A)) | 57.3 | 54.7 |
| Weather condition: | | Sunny | |
| Major Construction Noise Source(s) During Monitoring | | 1. Excavator noise 2. Power generator noise 3. Hammer noise | 1. Excavator noise |
| Other Noise Source(s) During Monitoring | | 1. Public noise 2. Traffic noise | 1. Public noise |
| Remarks | | Delay from 10/5/2010 to 12/5/2010 due to rainy | |

Name & Designation

Signature

Date:

Prepared by:

Jimmy Cheng

12/5/2010



大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

| | | | |
|--|-------------|-------------------------------------|--|
| Monitoring Location | | N1 | N2 |
| Description of Location | | Façade | Façade |
| Date of Monitoring | | 17/5/2010 | |
| Measurement Start Time (hhmm) | | 13:45 | 13:10 |
| Measurement Time Length (mins.) | | 30 mins | |
| Noise Meter Model/ Identification | | ACO Japan, model 6224 | |
| Calibrator Model/ Identification | | Castle Group, GA607 | |
| Wind Speed (m/s) | | 0.2 | 0.2 |
| Measurement Results | L90 (dB(A)) | 45.1 | 47.0 |
| | L10 (dB(A)) | 64.8 | 58.8 |
| | Leq (dB(A)) | 60.4 | 55.8 |
| Weather condition: | | Sunny | |
| Major Construction Noise Source(s) During Monitoring | | 1. Construction trucks noise | 1. Excavator noise 2. Construction trucks noise |
| Other Noise Source(s) During Monitoring | | 1. Public noise 2. Traffic noise | 1. Public noise 2. Traffic noise |
| Remarks | | | |

Name & Designation

Signature

Date:

Prepared by:

Jimmy Cheng

17/5/2010



大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

| | | | |
|--|-------------|--|---|
| Monitoring Location | | N3 | N4 |
| Description of Location | | Freefield | Facade |
| Date of Monitoring | | 17/5/2010 | |
| Measurement Start Time (hhmm) | | 12:30 | 11:55 |
| Measurement Time Length (mins.) | | 30 mins | |
| Noise Meter Model/ Identification | | ACO Japan, model 6224 | |
| Calibrator Model/ Identification | | Castle Group, GA607 | |
| Wind Speed (m/s) | | 0.3 | 0.3 |
| Measurement Results | L90 (dB(A)) | 43.9 | 42.4 |
| | L10 (dB(A)) | 57.6 | 53.1 |
| | Leq (dB(A)) | 52.4 | 50.3 |
| Weather condition: | | Sunny | |
| Major Construction Noise Source(s) During Monitoring | | 1. Excavator noise 2. Power generator noise | No construction works are being carried out during measurement. |
| Other Noise Source(s) During Monitoring | | 1. Public noise 2. Traffic noise | 1. Public noise |
| Remarks | | | |

Name & Designation

Signature

Date:

Prepared by:

Jimmy Cheng

17/5/2010



大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

| | | | |
|--|-------------|-------------------------------------|-------------------------------------|
| Monitoring Location | | N1 | N2 |
| Description of Location | | Façade | Façade |
| Date of Monitoring | | 24/5/2010 | |
| Measurement Start Time (hhmm) | | 16:10 | 15:30 |
| Measurement Time Length (mins.) | | 30 mins | |
| Noise Meter Model/ Identification | | ACO Japan, model 6224 | |
| Calibrator Model/ Identification | | Castle Group, GA607 | |
| Wind Speed (m/s) | | 0.3 | 0.3 |
| Measurement Results | L90 (dB(A)) | 46.4 | 45.3 |
| | L10 (dB(A)) | 54.6 | 53.0 |
| | Leq (dB(A)) | 52.3 | 52.6 |
| Weather condition: | | Sunny | |
| Major Construction Noise Source(s) During Monitoring | | 1. Construction trucks noise | 1. Construction trucks noise |
| Other Noise Source(s) During Monitoring | | 1. Public noise 2. Traffic noise | 1. Public noise 2. Traffic noise |
| Remarks | | | |

Name & Designation

Signature

Date:

Prepared by:

Jimmy Cheng

24/5/2010



大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

| | | | |
|--|-------------|--|-------------------------------------|
| Monitoring Location | | N3 | N4 |
| Description of Location | | Freefield | Facade |
| Date of Monitoring | | 24/5/2010 | |
| Measurement Start Time (hhmm) | | 14:50 | 14:15 |
| Measurement Time Length (mins.) | | 30 mins | |
| Noise Meter Model/ Identification | | ACO Japan, model 6224 | |
| Calibrator Model/ Identification | | Castle Group, GA607 | |
| Wind Speed (m/s) | | 0.3 | 0.4 |
| Measurement Results | L90 (dB(A)) | 53.5 | 49.9 |
| | L10 (dB(A)) | 65.5 | 62.3 |
| | Leq (dB(A)) | 54.8 | 59.7 |
| Weather condition: | | Sunny | |
| Major Construction Noise Source(s) During Monitoring | | 1. Power generator noise 2. Construction trucks noise | 1. Construction trucks noise |
| Other Noise Source(s) During Monitoring | | 1. Public noise 2. Traffic noise | 1. Public noise 2. Traffic noise |
| Remarks | | | |

Name & Designation

Signature

Date:

Prepared by:

Jimmy Cheng

24/5/2010



大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

| | | | |
|--|-------------|-------------------------------------|-------------------------------------|
| Monitoring Location | | N1 | N2 |
| Description of Location | | Façade | Façade |
| Date of Monitoring | | 1/6/2010 | |
| Measurement Start Time (hhmm) | | 14:35 | 14:00 |
| Measurement Time Length (mins.) | | 30 mins | |
| Noise Meter Model/ Identification | | ACO Japan, model 6224 | |
| Calibrator Model/ Identification | | Castle Group, GA607 | |
| Wind Speed (m/s) | | 0.3 | 0.3 |
| Measurement Results | L90 (dB(A)) | 45.1 | 45.6 |
| | L10 (dB(A)) | 58.1 | 54.1 |
| | Leq (dB(A)) | 57.3 | 51.3 |
| Weather condition: | | Sunny | |
| Major Construction Noise Source(s) During Monitoring | | 1. Construction trucks noise | 1. Construction trucks noise |
| Other Noise Source(s) During Monitoring | | 1. Public noise 2. Traffic noise | 1. Public noise 2. Traffic noise |
| Remarks | | | |

Name & Designation

Signature

Date:

Prepared by:

Jimmy Cheng

1/6/2010



大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

| | | | |
|--|-------------|---|---|
| Monitoring Location | | N3 | N4 |
| Description of Location | | Freefield | Facade |
| Date of Monitoring | | 1/6/2010 | |
| Measurement Start Time (hhmm) | | 12:30 | 11:00 |
| Measurement Time Length (mins.) | | 30 mins | |
| Noise Meter Model/ Identification | | ACO Japan, model 6224 | |
| Calibrator Model/ Identification | | Castle Group, GA607 | |
| Wind Speed (m/s) | | 0.3 | 0.4 |
| Measurement Results | L90 (dB(A)) | 46.7 | 44.3 |
| | L10 (dB(A)) | 55.1 | 56.7 |
| | Leq (dB(A)) | 50.7 | 53.2 |
| Weather condition: | | Sunny | |
| Major Construction Noise Source(s) During Monitoring | | No construction works are being carried out during measurement. | No construction works are being carried out during measurement. |
| Other Noise Source(s) During Monitoring | | 1. Public noise 2. Traffic noise | 1. Public noise |
| Remarks | | | |

Name & Designation

Signature

Date:

Prepared by:

Jimmy Cheng

1/6/2010

Appendix F1

Water Quality

Monitoring Data Sheet

Environmental Pioneers & Solutions Limited
Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 3/5/2010

Sunny

| Monitoring Location | M1 | | | M2 | | | M3 | | | M4 | | | C1 | | | C2 | | | C3 | | |
|---------------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|-------|------------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|
| Time (hhmm) | 1545 | | | 1540 | | | 1555 | | | 1605 | | | 1510 | | | 1520 | | | 1530 | | |
| Tide Mode | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | |
| River Condition | normal | | | normal | | | normal | | | normal | | | normal | | | normal | | | normal | | |
| Water Depth (m) | <1 | | | <1 | | | <1 | | | 1.3 | | | <1 | | | <1 | | | <1 | | |
| pH value | 7.17 | | | 6.86 | | | 7.57 | | | 8.01 | | | 7.71 | | | 7.14 | | | 7.03 | | |
| Temperature (oC) | 25.7 | | | 26.6 | | | 28.5 | | | 28.0 | | | 25.4 | | | 25.9 | | | 26.1 | | |
| Salinity (ppt) | 2.2 | | | 1.8 | | | 14.9 | | | 12.1 | | | 0.0 | | | 0.0 | | | 5.8 | | |
| Turbidity (NTU) | 14.2 | 14.1 | Average 14.2 | 3.1 | 3.0 | Average 3.1 | 15.6 | 15.8 | Average 15.7 | 8.7 | 8.9 | Average 8.8 | 0.0 | 0.0 | Average 0.0 | 0.0 | 0.0 | Average 0.0 | 9.8 | 9.7 | Average 9.8 |
| DO (mg/l) | 7.92 | 7.91 | Average 7.92 | 8.79 | 8.79 | Average 8.79 | 9.51 | 9.50 | Average 9.51 | 10.09 | 10.08 | Average 10.09 | 7.75 | 7.74 | Average 7.75 | 8.42 | 8.43 | Average 8.43 | 7.33 | 7.31 | Average 7.32 |
| DO Saturation (%) | 97 | 97 | Average 97 | 110 | 110 | Average 110 | 123 | 123 | Average 123 | 129 | 129 | Average 129 | 94 | 94 | Average 94 | 104 | 104 | Average 104 | 90 | 90 | Average 90 |

Name
Prepared By: Jimmy Cheng

Signature


Date
3/5/2010

remark or observation: _____

Environmental Pioneers & Solutions Limited
Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 4/5/2010 Sunny

| Monitoring Location | M1 | | | M2 | | | M3 | | | M4 | | | C1 | | | C2 | | | C3 | | |
|---------------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|
| Time (hhmm) | 1620 | | | 1550 | | | 1615 | | | 1600 | | | 1520 | | | 1530 | | | 1540 | | |
| Tide Mode | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | |
| River Condition | Muddy | | | normal | | | normal | | | normal | | | normal | | | normal | | | normal | | |
| Water Depth (m) | <1 | | | <1 | | | <1 | | | 1.2 | | | <1 | | | <1 | | | <1 | | |
| pH value | 8.28 | | | 6.97 | | | 8.01 | | | 7.68 | | | 7.64 | | | 7.45 | | | 6.93 | | |
| Temperature (oC) | 24.3 | | | 24.5 | | | 26.0 | | | 25.5 | | | 24.2 | | | 23.8 | | | 24.2 | | |
| Salinity (ppt) | 2.6 | | | 5.9 | | | 16.4 | | | 16.5 | | | 0.0 | | | 0.0 | | | 8.1 | | |
| Turbidity (NTU) | 20.5 | 20.3 | Average 20.4 | 0.0 | 0.0 | Average 0.0 | 13.5 | 13.7 | Average 13.6 | 7.9 | 7.8 | Average 7.9 | 0.0 | 0.0 | Average 0.0 | 0.0 | 0.0 | Average 0.0 | 9.5 | 9.6 | Average 9.6 |
| DO (mg/l) | 6.83 | 6.82 | Average 6.83 | 8.96 | 8.94 | Average 8.95 | 9.66 | 9.65 | Average 9.66 | 9.54 | 9.52 | Average 9.53 | 7.74 | 7.73 | Average 7.74 | 8.93 | 8.92 | Average 8.93 | 7.64 | 7.65 | Average 7.65 |
| DO Saturation (%) | 81 | 81 | Average 81 | 108 | 108 | Average 108 | 120 | 120 | Average 120 | 117 | 117 | Average 117 | 92 | 92 | Average 92 | 106 | 106 | Average 106 | 91 | 91 | Average 91 |

Name
Prepared By: Jimmy Cheng

Signature


Date
4/5/2010

remark or observation: _____

Environmental Pioneers & Solutions Limited
Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 6/5/2010 Sunny

| Monitoring Location | M1 | | | M2 | | | M3 | | | M4 | | | C1 | | | C2 | | | C3 | | |
|---------------------|---------|------|-----------------|---------|------|-----------------|---------|-------|------------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|
| Time (hhmm) | 1615 | | | 1610 | | | 1605 | | | 1625 | | | 1530 | | | 1540 | | | 1555 | | |
| Tide Mode | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | |
| River Condition | Muddy | | | normal | | | Muddy | | | normal | | | normal | | | normal | | | normal | | |
| Water Depth (m) | <1 | | | < 1 | | | < 1 | | | 1.3 | | | < 1 | | | < 1 | | | < 1 | | |
| pH value | 8.04 | | | 8.68 | | | 8.13 | | | 7.87 | | | 7.07 | | | 6.87 | | | 6.78 | | |
| Temperature (oC) | 25.6 | | | 25.9 | | | 27.4 | | | 26.9 | | | 25.4 | | | 24.9 | | | 28.6 | | |
| Salinity (ppt) | 0.6 | | | 0.5 | | | 9.7 | | | 17.1 | | | 0.0 | | | 0.0 | | | 3.4 | | |
| Turbidity (NTU) | 54.3 | 54.2 | Average 54.3 | 3.1 | 3.0 | Average 3.1 | 19.5 | 19.3 | Average 19.4 | 13.3 | 13.2 | Average 13.3 | 0.0 | 0.0 | Average 0.0 | 0.0 | 0.0 | Average 0.0 | 37.4 | 37.2 | Average 37.3 |
| DO (mg/l) | 6.69 | 6.68 | Average 6.69 | 8.94 | 8.93 | Average 8.94 | 10.77 | 10.76 | Average 10.77 | 8.92 | 8.94 | Average 8.93 | 7.06 | 7.05 | Average 7.06 | 8.55 | 8.53 | Average 8.54 | 7.41 | 7.40 | Average 7.41 |
| DO Saturation (%) | 82 | 82 | Average 82 | 111 | 111 | Average 111 | 137 | 137 | Average 137 | 112 | 112 | Average 112 | 86 | 86 | Average 86 | 103 | 103 | Average 103 | 96 | 96 | Average 96 |

Name
Prepared By: Jimmy Cheng

Signature


Date
6/5/2010

remark or observation: Formation of fish ladder at the upper stream area. Site water from the concerned site was entered into the finished box culvert and causing pollution to the down stream area.

Environmental Pioneers & Solutions Limited
Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 7/5/2010

Cloudy

| Monitoring Location | M1 | | | M2 | | | M3 | | | M4 | | | C1 | | | C2 | | | C3 | | |
|---------------------|---------|------|---------|---------|--|---------|---------|------|---------|---------|--|---------|---------|------|---------|---------|--|---------|---------|------|---------|
| Time (hhmm) | 1620 | | | | | | 1615 | | | | | | 1550 | | | | | | 1600 | | |
| Tide Mode | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | |
| River Condition | Muddy | | | normal | | | Muddy | | | normal | | | normal | | | normal | | | normal | | |
| Water Depth (m) | <1 | | | < 1 | | | < 1 | | | 1.2 | | | < 1 | | | < 1 | | | < 1 | | |
| pH value | 9.00 | | | | | | 9.31 | | | | | | 8.21 | | | | | | 7.34 | | |
| Temperature (oC) | 24.6 | | | | | | 25.5 | | | | | | 24.5 | | | | | | 24.6 | | |
| Salinity (ppt) | 0.1 | | | | | | 0.7 | | | | | | 0.0 | | | | | | 0.2 | | |
| Turbidity (NTU) | 20.4 | 20.3 | Average | | | Average | 48.6 | 48.6 | Average | | | Average | 3.9 | 4.0 | Average | | | Average | 2.4 | 2.4 | Average |
| | | | 20.4 | | | #DIV/0! | | | 48.6 | | | #DIV/0! | | | 4.0 | | | #DIV/0! | | | 2.4 |
| DO (mg/l) | 8.20 | 8.18 | Average | | | Average | 7.56 | 7.54 | Average | | | Average | 7.95 | 7.96 | Average | | | Average | 5.94 | 5.93 | Average |
| | | | 8.19 | | | #DIV/0! | | | 7.55 | | | #DIV/0! | | | 7.96 | | | #DIV/0! | | | 5.94 |
| DO Saturation (%) | 100 | 100 | Average | | | Average | 91 | 91 | Average | | | Average | 96 | 96 | Average | | | Average | 72 | 72 | Average |
| | | | 100 | | | #DIV/0! | | | 91 | | | #DIV/0! | | | 96 | | | #DIV/0! | | | 72 |

Name
Prepared By: Jimmy Cheng

Signature


Date
7/5/2010

remark or observation: M1&M3: adverse rainy weather and influx of marine water

Environmental Pioneers & Solutions Limited
Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 10/5/2010

Rainy

| Monitoring Location | M1 | | | M2 | | | M3 | | | M4 | | | C1 | | | C2 | | | C3 | | |
|---------------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|
| Time (hhmm) | 1120 | | | 1130 | | | 1140 | | | 1110 | | | 1150 | | | 1200 | | | 1210 | | |
| Tide Mode | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | |
| River Condition | Muddy | | | normal | | | Muddy | | | Muddy | | | normal | | | normal | | | normal | | |
| Water Depth (m) | <1 | | | < 1 | | | < 1 | | | 1.2 | | | < 1 | | | < 1 | | | < 1 | | |
| pH value | 8.02 | | | 7.71 | | | 7.93 | | | 8.45 | | | 8.13 | | | 7.64 | | | 6.97 | | |
| Temperature (oC) | 23.0 | | | 22.6 | | | 22.3 | | | 22.6 | | | 22.1 | | | 21.9 | | | 22.8 | | |
| Salinity (ppt) | 0.1 | | | 0.0 | | | 0.6 | | | 0.5 | | | 0.0 | | | 0.0 | | | 0.1 | | |
| Turbidity (NTU) | 36.2 | 36.3 | Average 36.3 | 0.0 | 0.0 | Average 0.0 | 31.3 | 31.2 | Average 31.3 | 33.7 | 33.8 | Average 33.8 | 2.7 | 2.8 | Average 2.8 | 0.0 | 0.0 | Average 0.0 | 6.9 | 6.8 | Average 6.9 |
| DO (mg/l) | 7.93 | 7.91 | Average 7.92 | 8.38 | 8.40 | Average 8.39 | 7.70 | 7.71 | Average 7.71 | 7.92 | 7.92 | Average 7.92 | 7.70 | 7.68 | Average 7.69 | 7.30 | 7.31 | Average 7.31 | 6.69 | 6.71 | Average 6.70 |
| DO Saturation (%) | 93 | 93 | Average 93 | 97 | 97 | Average 97 | 87 | 87 | Average 87 | 92 | 92 | Average 92 | 86 | 86 | Average 86 | 82 | 82 | Average 82 | 76 | 76 | Average 76 |

Name
Prepared By: Jimmy Cheng

Signature


Date
10/5/2010

remark or observation: M1, M3 & M4 : adverse rainy weather and influx of
marine water

Environmental Pioneers & Solutions Limited
Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 12/5/2010 Sunny

| Monitoring Location | M1 | | | M2 | | | M3 | | | M4 | | | C1 | | | C2 | | | C3 | | |
|---------------------|---------|------|---------|---------|------|---------|---------|------|---------|---------|------|---------|---------|------|---------|---------|------|---------|---------|------|---------|
| Time (hhmm) | 1140 | | | 1150 | | | 1200 | | | 1135 | | | 1045 | | | 1055 | | | 1110 | | |
| Tide Mode | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | |
| River Condition | Muddy | | | normal | | | normal | | | normal | | | normal | | | normal | | | normal | | |
| Water Depth (m) | <1 | | | <1 | | | <1 | | | 1.3 | | | <1 | | | <1 | | | <1 | | |
| pH value | 7.46 | | | 7.48 | | | 7.14 | | | 7.15 | | | 8.38 | | | 7.62 | | | 6.97 | | |
| Temperature (oC) | 22.9 | | | 23.6 | | | 24.7 | | | 24.3 | | | 23.4 | | | 23.2 | | | 23.9 | | |
| Salinity (ppt) | 0.6 | | | 0.1 | | | 3.5 | | | 3.1 | | | 0.0 | | | 0.0 | | | 0.2 | | |
| Turbidity (NTU) | 20.2 | 20.2 | Average | 0.0 | 0.0 | Average | 3.6 | 3.6 | Average | 4.6 | 4.6 | Average | 0.0 | 0.0 | Average | 0.0 | 0.0 | Average | 3.2 | 3.2 | Average |
| | | | 20.2 | | | 0.0 | | | 3.6 | | | 4.6 | | | 0.0 | | | 0.0 | | | 3.2 |
| DO (mg/l) | 7.55 | 7.53 | Average | 8.24 | 8.25 | Average | 6.11 | 6.10 | Average | 7.77 | 7.76 | Average | 7.53 | 7.51 | Average | 8.39 | 8.40 | Average | 6.40 | 6.42 | Average |
| | | | 7.54 | | | 8.25 | | | 6.11 | | | 7.77 | | | 7.52 | | | 8.40 | | | 6.41 |
| DO Saturation (%) | 90 | 90 | Average | 98 | 98 | Average | 73 | 73 | Average | 94 | 94 | Average | 91 | 91 | Average | 100 | 100 | Average | 75 | 75 | Average |
| | | | 90 | | | 98 | | | 73 | | | 94 | | | 91 | | | 100 | | | 75 |

Name
Prepared By: Jimmy Cheng

Signature


Date
12/5/2010

remark or observation: Overflow of site water arisen from the project site at upper stream course, where formation of fish ladder structure was being carried out.

Environmental Pioneers & Solutions Limited
Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 13/5/2010 Sunny

| Monitoring Location | M1 | | | M2 | | | M3 | | | M4 | | | C1 | | | C2 | | | C3 | | |
|---------------------|---------|------|---------|---------|--|---------|---------|--|---------|---------|--|---------|---------|------|---------|---------|--|---------|---------|--|---------|
| Time (hhmm) | 1200 | | | | | | | | | | | | 1210 | | | | | | | | |
| Tide Mode | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | |
| River Condition | normal | | | normal | | | normal | | | normal | | | normal | | | normal | | | normal | | |
| Water Depth (m) | <1 | | | <1 | | | <1 | | | 1.2 | | | <1 | | | <1 | | | <1 | | |
| pH value | 7.56 | | | | | | | | | | | | 7.61 | | | | | | | | |
| Temperature (oC) | 23.8 | | | | | | | | | | | | 23.6 | | | | | | | | |
| Salinity (ppt) | 0.9 | | | | | | | | | | | | 0.1 | | | | | | | | |
| Turbidity (NTU) | 11.0 | 11.0 | Average | | | Average | | | Average | | | Average | 0.0 | 0.0 | Average | | | Average | | | Average |
| | | | 11.0 | | | #DIV/0! | | | #DIV/0! | | | #DIV/0! | | | 0.0 | | | #DIV/0! | | | #DIV/0! |
| DO (mg/l) | 7.30 | 7.28 | Average | | | Average | | | Average | | | Average | 7.24 | 7.25 | Average | | | Average | | | Average |
| | | | 7.29 | | | #DIV/0! | | | #DIV/0! | | | #DIV/0! | | | 7.25 | | | #DIV/0! | | | #DIV/0! |
| DO Saturation (%) | 87 | 87 | Average | | | Average | | | Average | | | Average | 88 | 88 | Average | | | Average | | | Average |
| | | | 87 | | | #DIV/0! | | | #DIV/0! | | | #DIV/0! | | | 88 | | | #DIV/0! | | | #DIV/0! |

Name
Prepared By: Jimmy Cheng

Signature


Date
13/5/2010

remark or observation: _____

Environmental Pioneers & Solutions Limited
Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 14/5/2010 Sunny

| Monitoring Location | M1 | | | M2 | | | M3 | | | M4 | | | C1 | | | C2 | | | C3 | | |
|---------------------|---------|------|---------|---------|------|---------|---------|------|---------|---------|------|---------|---------|------|---------|---------|------|---------|---------|------|---------|
| Time (hhmm) | 1230 | | | 1240 | | | 1250 | | | 1200 | | | 1315 | | | 1325 | | | 1335 | | |
| Tide Mode | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | |
| River Condition | Muddy | | | normal | | | normal | | | normal | | | normal | | | normal | | | normal | | |
| Water Depth (m) | <1 | | | <1 | | | <1 | | | 1.3 | | | <1 | | | <1 | | | <1 | | |
| pH value | 6.62 | | | 6.85 | | | 6.89 | | | 7.49 | | | 8.45 | | | 7.65 | | | 6.88 | | |
| Temperature (oC) | 25.6 | | | 25.7 | | | 26.7 | | | 26.6 | | | 75.2 | | | 25.2 | | | 26.0 | | |
| Salinity (ppt) | 2.4 | | | 1.4 | | | 15.7 | | | 11.7 | | | 0.2 | | | 0.0 | | | 15.8 | | |
| Turbidity (NTU) | 21.5 | 21.6 | Average | 0.0 | 0.0 | Average | 6.0 | 6.0 | Average | 8.3 | 8.3 | Average | 3.0 | 3.0 | Average | 1.0 | 1.0 | Average | 17.5 | 17.5 | Average |
| | | | 21.6 | | | 0.0 | | | 6.0 | | | 8.3 | | | 3.0 | | | 1.0 | | | 17.5 |
| DO (mg/l) | 6.70 | 6.72 | Average | 6.87 | 6.88 | Average | 6.68 | 6.69 | Average | 7.16 | 7.16 | Average | 6.93 | 6.94 | Average | 7.34 | 7.34 | Average | 5.53 | 5.53 | Average |
| | | | 6.71 | | | 6.88 | | | 6.69 | | | 7.16 | | | 6.94 | | | 7.34 | | | 5.53 |
| DO Saturation (%) | 81 | 81 | Average | 85 | 85 | Average | 84 | 84 | Average | 91 | 91 | Average | 85 | 85 | Average | 89 | 89 | Average | 69 | 69 | Average |
| | | | 81 | | | 85 | | | 84 | | | 91 | | | 85 | | | 89 | | | 69 |

Name
Prepared By: Jimmy Cheng

Signature


Date
14/5/2010

remark or observation: Overflow and seepage of site water arisen from the project site at upper stream course, where formation of fish ladder structure was being carried out.

Environmental Pioneers & Solutions Limited
Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 17/5/2010 Sunny

| Monitoring Location | M1 | | | M2 | | | M3 | | | M4 | | | C1 | | | C2 | | | C3 | | |
|---------------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|
| Time (hhmm) | 1430 | | | 1435 | | | 1450 | | | 1420 | | | 1510 | | | 1515 | | | 1530 | | |
| Tide Mode | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | |
| River Condition | Muddy | | | normal | | | normal | | | normal | | | normal | | | normal | | | normal | | |
| Water Depth (m) | <1 | | | <1 | | | <1 | | | 1.3 | | | <1 | | | <1 | | | <1 | | |
| pH value | 7.88 | | | 7.70 | | | 7.78 | | | 7.77 | | | 7.85 | | | 7.46 | | | 7.35 | | |
| Temperature (oC) | 26.1 | | | 26.6 | | | 28.5 | | | 27.5 | | | 26.1 | | | 25.5 | | | 28.1 | | |
| Salinity (ppt) | 3.5 | | | 2.2 | | | 16.3 | | | 10.4 | | | 0.0 | | | 0.0 | | | 13.2 | | |
| Turbidity (NTU) | 51.0 | 51.0 | Average 51.0 | 2.6 | 2.6 | Average 2.6 | 11.9 | 11.9 | Average 11.9 | 17.9 | 17.8 | Average 17.9 | 0.0 | 0.0 | Average 0.0 | 0.0 | 0.0 | Average 0.0 | 7.6 | 7.6 | Average 7.6 |
| DO (mg/l) | 6.15 | 6.15 | Average 6.15 | 6.84 | 6.86 | Average 6.85 | 7.70 | 7.69 | Average 7.70 | 6.76 | 6.75 | Average 6.76 | 6.86 | 6.85 | Average 6.86 | 7.21 | 7.21 | Average 7.21 | 6.86 | 6.85 | Average 6.86 |
| DO Saturation (%) | 76 | 76 | Average 76 | 86 | 86 | Average 86 | 100 | 100 | Average 100 | 85 | 85 | Average 85 | 85 | 85 | Average 85 | 88 | 88 | Average 88 | 88 | 88 | Average 88 |

Name
Prepared By: Jimmy Cheng

Signature


Date
17/5/2010

remark or observation: M1 : Removal of earth bund at the down stream area.
M3 : No particular observations.

Environmental Pioneers & Solutions Limited
Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 18/5/2010 Sunny

| Monitoring Location | M1 | | | M2 | | | M3 | | | M4 | | | C1 | | | C2 | | | C3 | | |
|---------------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|
| Time (hhmm) | 1530 | | | 1535 | | | 1550 | | | 1520 | | | 1440 | | | 1450 | | | 1500 | | |
| Tide Mode | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | |
| River Condition | Muddy | | | normal | | | normal | | | normal | | | normal | | | normal | | | normal | | |
| Water Depth (m) | <1 | | | <1 | | | <1 | | | 1.3 | | | <1 | | | <1 | | | <1 | | |
| pH value | 7.73 | | | 7.73 | | | 7.52 | | | 7.63 | | | 7.61 | | | 7.23 | | | 6.98 | | |
| Temperature (oC) | 26.1 | | | 26.4 | | | 28.0 | | | 27.4 | | | 26.1 | | | 25.9 | | | 27.4 | | |
| Salinity (ppt) | 4.6 | | | 1.7 | | | 15.4 | | | 13.0 | | | 0.0 | | | 0.0 | | | 7.6 | | |
| Turbidity (NTU) | 72.6 | 72.6 | Average 72.6 | 3.1 | 3.1 | Average 3.1 | 10.1 | 10.1 | Average 10.1 | 13.7 | 13.7 | Average 13.7 | 0.0 | 0.0 | Average 0.0 | 0.0 | 0.0 | Average 0.0 | 13.9 | 13.9 | Average 13.9 |
| DO (mg/l) | 5.37 | 5.38 | Average 5.38 | 6.75 | 6.73 | Average 6.74 | 6.98 | 6.99 | Average 6.99 | 6.63 | 6.64 | Average 6.64 | 6.51 | 6.50 | Average 6.51 | 6.88 | 6.88 | Average 6.88 | 4.40 | 4.42 | Average 4.41 |
| DO Saturation (%) | 66 | 66 | Average 66 | 84 | 84 | Average 84 | 90 | 90 | Average 90 | 84 | 84 | Average 84 | 80 | 80 | Average 80 | 85 | 85 | Average 85 | 54 | 54 | Average 54 |

Name
Prepared By: Jimmy Cheng

Signature


Date
18/5/2010

remark or observation: Reformation of haul access and removal of earth bund for construction of alternative mass concrete wall. Silt clay was brought to the down stream area and monitoring station from the diverted river course.

Environmental Pioneers & Solutions Limited
Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 19/5/2010

Raining

| Monitoring Location | M1 | | | M2 | | | M3 | | | M4 | | | C1 | | | C2 | | | C3 | | |
|---------------------|---------|-------|------------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|
| Time (hhmm) | 1600 | | | 1610 | | | 1620 | | | 1550 | | | 1650 | | | 1705 | | | 1720 | | |
| Tide Mode | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | |
| River Condition | normal | | | normal | | | normal | | | normal | | | normal | | | normal | | | normal | | |
| Water Depth (m) | <1 | | | <1 | | | <1 | | | 1.4 | | | <1 | | | <1 | | | <1 | | |
| pH value | 8.22 | | | 8.17 | | | 7.27 | | | 7.55 | | | 8.24 | | | 7.94 | | | 7.21 | | |
| Temperature (oC) | 21.3 | | | 21.8 | | | 23.6 | | | 22.7 | | | 23.2 | | | 23.1 | | | 23.9 | | |
| Salinity (ppt) | 0.8 | | | 0.2 | | | 8.9 | | | 8.5 | | | 0.4 | | | 0.0 | | | 0.7 | | |
| Turbidity (NTU) | 136.1 | 136.2 | Average 136.2 | 31.1 | 31.0 | Average 31.1 | 45.2 | 45.2 | Average 45.2 | 47.7 | 47.7 | Average 47.7 | 6.9 | 6.9 | Average 6.9 | 15.6 | 15.7 | Average 15.7 | 13.3 | 13.3 | Average 13.3 |
| DO (mg/l) | 7.15 | 7.17 | Average 7.16 | 7.18 | 7.20 | Average 7.19 | 6.44 | 6.42 | Average 6.43 | 6.71 | 6.70 | Average 6.71 | 6.42 | 6.44 | Average 6.43 | 7.14 | 7.15 | Average 7.15 | 6.68 | 6.69 | Average 6.69 |
| DO Saturation (%) | 81 | 81 | Average 81 | 82 | 82 | Average 82 | 78 | 78 | Average 78 | 78 | 78 | Average 78 | 77 | 77 | Average 77 | 86 | 86 | Average 86 | 80 | 80 | Average 80 |

Name
Prepared By: Jimmy Cheng

Signature


Date
19/5/2010

remark or observation: M1, M3 & M4 - Mainly caused by adverse rainy weather

Environmental Pioneers & Solutions Limited
Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 24/5/2010

Sunny

| Monitoring Location | M1 | | | M2 | | | M3 | | | M4 | | | C1 | | | C2 | | | C3 | | |
|---------------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|
| Time (hhmm) | 1030 | | | 1040 | | | 1050 | | | 1020 | | | 1120 | | | 1130 | | | 1140 | | |
| Tide Mode | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | |
| River Condition | normal | | | normal | | | normal | | | normal | | | normal | | | normal | | | normal | | |
| Water Depth (m) | <1 | | | <1 | | | <1 | | | 1.2 | | | <1 | | | <1 | | | <1 | | |
| pH value | 8.04 | | | 7.73 | | | 7.21 | | | 7.65 | | | 7.53 | | | 7.33 | | | 7.44 | | |
| Temperature (oC) | 24.6 | | | 24.7 | | | 25.7 | | | 26.7 | | | 24.1 | | | 26.3 | | | 30.0 | | |
| Salinity (ppt) | 0.3 | | | 0.0 | | | 0.6 | | | 3.3 | | | 0.0 | | | 0.0 | | | 0.3 | | |
| Turbidity (NTU) | 9.4 | 9.4 | Average 9.4 | 0.0 | 0.0 | Average 0.0 | 8.3 | 8.3 | Average 8.3 | 6.2 | 6.2 | Average 6.2 | 0.0 | 0.0 | Average 0.0 | 0.0 | 0.0 | Average 0.0 | 18.7 | 18.7 | Average 18.7 |
| DO (mg/l) | 6.74 | 6.75 | Average 6.75 | 6.85 | 6.85 | Average 6.85 | 5.96 | 5.97 | Average 5.97 | 7.11 | 7.13 | Average 7.12 | 6.91 | 6.88 | Average 6.90 | 6.96 | 6.94 | Average 6.95 | 6.01 | 6.00 | Average 6.01 |
| DO Saturation (%) | 82 | 82 | Average 82 | 84 | 84 | Average 84 | 74 | 74 | Average 74 | 89 | 89 | Average 89 | 83 | 83 | Average 83 | 86 | 86 | Average 86 | 82 | 82 | Average 82 |

Name
Prepared By: Jimmy Cheng

Signature


Date
24/5/2010

remark or
observation: _____

Environmental Pioneers & Solutions Limited
Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 26/5/2010

Sunny

| Monitoring Location | M1 | | | M2 | | | M3 | | | M4 | | | C1 | | | C2 | | | C3 | | |
|---------------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|
| Time (hhmm) | 1045 | | | 1055 | | | 1105 | | | 1040 | | | 1120 | | | 1130 | | | 1140 | | |
| Tide Mode | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | |
| River Condition | normal | | | normal | | | normal | | | normal | | | normal | | | normal | | | normal | | |
| Water Depth (m) | <1 | | | <1 | | | <1 | | | 1.3 | | | <1 | | | <1 | | | <1 | | |
| pH value | 7.84 | | | 7.68 | | | 7.44 | | | 7.81 | | | 8.30 | | | 7.60 | | | 7.01 | | |
| Temperature (oC) | 26.1 | | | 26.8 | | | 29.2 | | | 27.3 | | | 25.4 | | | 27.8 | | | 27.8 | | |
| Salinity (ppt) | 4.2 | | | 2.8 | | | 11.8 | | | 10.1 | | | 0.0 | | | 0.0 | | | 1.8 | | |
| Turbidity (NTU) | 9.0 | 8.9 | Average 9.0 | 0.0 | 0.0 | Average 0.0 | 9.3 | 9.4 | Average 9.4 | 5.0 | 4.9 | Average 5.0 | 1.3 | 1.4 | Average 1.4 | 0.0 | 0.0 | Average 0.0 | 11.9 | 11.9 | Average 11.9 |
| DO (mg/l) | 6.02 | 6.01 | Average 6.02 | 6.75 | 6.77 | Average 6.76 | 6.31 | 6.30 | Average 6.31 | 6.47 | 6.47 | Average 6.47 | 6.77 | 6.79 | Average 6.78 | 6.95 | 6.96 | Average 6.96 | 4.72 | 4.73 | Average 4.73 |
| DO Saturation (%) | 75 | 75 | Average 75 | 85 | 85 | Average 85 | 83 | 83 | Average 83 | 82 | 82 | Average 82 | 83 | 83 | Average 83 | 89 | 89 | Average 89 | 61 | 61 | Average 61 |

Name
Prepared By: Jimmy Cheng

Signature


Date
26/5/2010

remark or
observation: _____

Environmental Pioneers & Solutions Limited
Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 28/5/2010 Sunny

| Monitoring Location | M1 | | | M2 | | | M3 | | | M4 | | | C1 | | | C2 | | | C3 | | |
|---------------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|
| Time (hhmm) | 1155 | | | 1140 | | | 1150 | | | 1205 | | | 1050 | | | 1100 | | | 1115 | | |
| Tide Mode | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | |
| River Condition | normal | | | normal | | | normal | | | normal | | | normal | | | normal | | | normal | | |
| Water Depth (m) | <1 | | | <1 | | | <1 | | | 1.4 | | | <1 | | | <1 | | | <1 | | |
| pH value | 8.11 | | | 7.47 | | | 7.81 | | | 7.95 | | | 7.86 | | | 7.44 | | | 7.27 | | |
| Temperature (oC) | 26.5 | | | 26.9 | | | 27.7 | | | 27.3 | | | 25.4 | | | 26.6 | | | 27.2 | | |
| Salinity (ppt) | 10.8 | | | 10.5 | | | 19.5 | | | 11.9 | | | 0.0 | | | 0.0 | | | 18.2 | | |
| Turbidity (NTU) | 11.7 | 11.6 | Average 11.7 | 4.5 | 4.5 | Average 4.5 | 11.0 | 11.1 | Average 11.1 | 7.4 | 7.6 | Average 7.5 | 3.0 | 3.0 | Average 3.0 | 0.3 | 0.2 | Average 0.3 | 11.6 | 11.5 | Average 11.6 |
| DO (mg/l) | 7.45 | 7.46 | Average 7.46 | 7.70 | 7.72 | Average 7.71 | 7.49 | 7.50 | Average 7.50 | 7.12 | 7.11 | Average 7.12 | 7.73 | 7.74 | Average 7.74 | 7.88 | 7.88 | Average 7.88 | 5.33 | 5.35 | Average 5.34 |
| DO Saturation (%) | 92 | 92 | Average 92 | 97 | 97 | Average 97 | 96 | 96 | Average 96 | 90 | 90 | Average 90 | 96 | 96 | Average 96 | 99 | 99 | Average 99 | 67 | 67 | Average 67 |

Name
Prepared By: Jimmy Cheng

Signature


Date
28/5/2010

remark or
observation: _____

Environmental Pioneers & Solutions Limited
Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 31/5/2010

Rainy

| Monitoring Location | M1 | | | M2 | | | M3 | | | M4 | | | C1 | | | C2 | | | C3 | | |
|---------------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|---------|------|-----------------|
| Time (hhmm) | 1520 | | | 1530 | | | 1540 | | | 1510 | | | 1310 | | | 1320 | | | 1330 | | |
| Tide Mode | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | | mid-ebb | | |
| River Condition | normal | | | normal | | | normal | | | normal | | | normal | | | normal | | | normal | | |
| Water Depth (m) | <1 | | | <1 | | | <1 | | | 1.3 | | | <1 | | | <1 | | | <1 | | |
| pH value | 7.60 | | | 7.71 | | | 7.24 | | | 7.70 | | | 7.78 | | | 7.55 | | | 7.00 | | |
| Temperature (oC) | 24.9 | | | 24.3 | | | 25.7 | | | 25.2 | | | 24.4 | | | 24.1 | | | 25.0 | | |
| Salinity (ppt) | 4.2 | | | 1.0 | | | 12.0 | | | 9.2 | | | 0.0 | | | 0.0 | | | 3.2 | | |
| Turbidity (NTU) | 43.3 | 43.4 | Average 43.4 | 0.4 | 0.4 | Average 0.4 | 5.6 | 5.6 | Average 5.6 | 11.4 | 11.4 | Average 11.4 | 0.1 | 0.1 | Average 0.1 | 0.0 | 0.0 | Average 0.0 | 4.4 | 4.4 | Average 4.4 |
| DO (mg/l) | 6.36 | 6.37 | Average 6.37 | 7.75 | 7.76 | Average 7.76 | 5.80 | 5.81 | Average 5.81 | 6.68 | 6.68 | Average 6.68 | 7.71 | 7.71 | Average 7.71 | 7.97 | 7.97 | Average 7.97 | 3.32 | 3.34 | Average 3.33 |
| DO Saturation (%) | 77 | 77 | Average 77 | 93 | 93 | Average 93 | 72 | 72 | Average 72 | 82 | 82 | Average 82 | 92 | 92 | Average 92 | 95 | 95 | Average 95 | 41 | 41 | Average 41 |

Name
Prepared By: Jimmy Cheng

Signature


Date
31/5/2010

remark or observation: Part of the earth bund for the gabion wall site was removed and causing site water seepage to the river stream

Appendix F2

Water Quality

Monitoring Lab report



TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Page 1 of 1

Report No. : GCC100500019 Date of Issue : 11-05-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.
 DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 03-05-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 04-05-2010

GCE Serial No. : WQM052010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

| Analysis Description | Test Method | Units | Quality Control Results | | | | |
|-----------------------|------------------|-------|-------------------------|---------------------------|--------------|--------|---------------|
| | | | Method Blank | QC 500 mg/L | QC Duplicate | RPD% | Spike 25 mg/L |
| Suspended Solids (SS) | APHA 20ed 2540 D | mg/L | < 1.0 | 494 | 502 | -1.6 | 25.5 |
| Acceptance Criteria | | | < 2.5 mg/L | 475 ≤ Control Limit ≤ 514 | | ≤ ± 5% | 21 ≤ R ≤ 29 |

| TEST RESULTS | Sample ID | C1 | C1 Duplicate | C2 | C2 Duplicate | C3 | C3 Duplicate | | |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|-----|--|
| | Sampling Date/Time | 03 May 2010 / 15:10 | | 03 May 2010 / 15:20 | | 03 May 2010 / 15:30 | | | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | < 1.0 | < 1.0 | 1.3 | 1.2 | 6.3 | 6.6 | |

| TEST RESULTS | Sample ID | M1 | M1 Duplicate | M2 | M2 Duplicate | M3 | M3 Duplicate | M4 | M4 Duplicate |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|
| | Sampling Date/Time | 03 May 2010 / 15:45 | | 03 May 2010 / 15:40 | | 03 May 2010 / 15:55 | | 03 May 2010 / 16:05 | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 11.4 | 11.0 | 2.2 | 1.9 | 11.9 | 12.4 | 6.9 |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

---- End ----

Tested By : K.L. FONG

Approved Signatory :

Name : GU CHIN

Checked By : GU CHIN

Post : Chemist



TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Page 1 of 1

Report No. : GCC100500027

Date of Issue : 11-05-2010

Client* : Environmental Pioneers & Solutions Limited

Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon.

Date Started : 04-05-2010

W.O. No.* : --

Sample Type* : River Water

Date Completed : 05-05-2010

GCE Serial No. : WQM052010

GCE Reg. No. : GCE 081096

Test Unit No. : CH 08258

| Analysis Description | Test Method | Units | Quality Control Results | | | | | | |
|-----------------------|--------------------|---------------------|-------------------------|---------------------------|--------------|---------------------|---------------|---------------------|--------------|
| | | | Method Blank | QC 500 mg/L | QC Duplicate | RPD% | Spike 25 mg/L | | |
| Suspended Solids (SS) | APHA 20ed 2540 D | mg/L | < 1.0 | 494 | 496 | -0.4 | 26.6 | | |
| Acceptance Criteria | | | <2.5 mg/L | 475 ≤ Control Limit ≤ 514 | | ≤ ±5% | 21 ≤ R ≤ 29 | | |
| TEST RESULTS | Sample ID | C1 | C1 Duplicate | C2 | C2 Duplicate | C3 | C3 Duplicate | | |
| | Sampling Date/Time | 04 May 2010 / 15:20 | | 04 May 2010 / 15:30 | | 04 May 2010 / 15:40 | | | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 1.7 | 1.9 | <1 | <1 | 7.7 | 7.6 | |
| TEST RESULTS | Sample ID | M1 | M1 Duplicate | M2 | M2 Duplicate | M3 | M3 Duplicate | M4 | M4 Duplicate |
| | Sampling Date/Time | 04 May 2010 / 16:20 | | 04 May 2010 / 15:50 | | 04 May 2010 / 16:15 | | 04 May 2010 / 16:00 | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 11.2 | 11.2 | 2.2 | 2.4 | 11.3 | 11.6 | 10.4 |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Approved Signatory :

Name :

GU CHIN

Checked By : GU CHIN

Post :

Chemist



TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Page 1 of 1

Report No. : GCC100500035

Date of Issue : 11-05-2010

Client* : Environmental Pioneers & Solutions Limited

Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon.

Date Started : 06-05-2010

W.O. No.* : --

Sample Type* : River Water

Date Completed : 07-05-2010

GCE Serial No. : WQM052010

GCE Reg. No. : GCE 081096

Test Unit No. : CH 08258

| Analysis Description | Test Method | Units | Quality Control Results | | | | |
|-----------------------|------------------|-------|-------------------------|---------------------------|--------------|-------|---------------|
| | | | Method Blank | QC 500 mg/L | QC Duplicate | RPD% | Spike 25 mg/L |
| Suspended Solids (SS) | APHA 20ed 2540 D | mg/L | < 1.0 | 501 | 497 | 0.8 | 23.3 |
| Acceptance Criteria | | | < 2.5 mg/L | 475 ≤ Control Limit ≤ 514 | | ≤ ±5% | 21 ≤ R ≤ 29 |

| TEST RESULTS | Sample ID | C1 | C1 Duplicate | C2 | C2 Duplicate | C3 | C3 Duplicate | | |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|------|--|
| | Sampling Date/Time | 06 May 2010 / 15:30 | | 06 May 2010 / 15:40 | | 06 May 2010 / 15:55 | | | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 2.2 | 2.3 | 2.4 | 2.6 | 39.2 | 39.6 | |

| TEST RESULTS | Sample ID | M1 | M1 Duplicate | M2 | M2 Duplicate | M3 | M3 Duplicate | M4 | M4 Duplicate |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|
| | Sampling Date/Time | 06 May 2010 / 16:15 | | 06 May 2010 / 16:10 | | 06 May 2010 / 16:05 | | 06 May 2010 / 16:25 | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 33.0 | 33.4 | 2.1 | 2.0 | 19.4 | 19.8 | 9.2 |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

---- End ----

Tested By : K.L. FONG

Approved Signatory :

Name

GU CHIN

Checked By : GU CHIN

Post

Chemist



TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Page 1 of 1

Report No. : GCC100500043 Date of Issue : 11-05-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.
 DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 07-05-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 08-05-2010

GCE Serial No. : WQM052010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

| Analysis Description | Test Method | Units | Quality Control Results | | | | |
|-----------------------|------------------|-------|-------------------------|---------------------------|--------------|-------|---------------|
| | | | Method Blank | QC 500 mg/L | QC Duplicate | RPD% | Spike 25 mg/L |
| Suspended Solids (SS) | APHA 20ed 2540 D | mg/L | < 1.0 | 503 | 499 | 0.8 | 25.5 |
| Acceptance Criteria | | | <2.5 mg/L | 475 ≤ Control Limit ≤ 514 | | ≤ ±5% | 21 ≤ R ≤ 29 |

| TEST RESULTS | Sample ID | C1 | C1 Duplicate | C2 | C2 Duplicate | C3 | C3 Duplicate | | | |
|-----------------------|--------------------|---------------------|--------------|-----|--------------|----|---------------------|-----|--|--|
| | Sampling Date/Time | 07 May 2010 / 15:50 | | | -- | | 07 May 2010 / 16:00 | | | |
| | LOD | Units | | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 5.8 | 6.5 | -- | -- | 5.6 | 6.3 | | |

| TEST RESULTS | Sample ID | M1 | M1 Duplicate | M2 | M2 Duplicate | M3 | M3 Duplicate | M4 | M4 Duplicate | |
|-----------------------|--------------------|---------------------|--------------|------|--------------|----|---------------------|------|--------------|--|
| | Sampling Date/Time | 07 May 2010 / 16:20 | | | -- | | 07 May 2010 / 16:15 | | -- | |
| | LOD | Units | | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 16.8 | 16.6 | -- | -- | 31.3 | 31.5 | -- | |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Approved Signatory : 

Name : GU CHIN

Checked By : GU CHIN

Post : Chemist



TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Page 1 of 1

Report No. : GCC100500093 Date of Issue : 19-05-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.
 DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 10-05-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 10-05-2010

GCE Serial No. : WQM052010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

| Analysis Description | Test Method | Units | Quality Control Results | | | | |
|-----------------------|------------------|-------|-------------------------|---------------------------|--------------|--------|---------------|
| | | | Method Blank | QC 500 mg/L | QC Duplicate | RPD% | Spike 25 mg/L |
| Suspended Solids (SS) | APHA 20ed 2540 D | mg/L | < 1.0 | 495 | 489 | 1.2 | 26.0 |
| Acceptance Criteria | | | < 2.5 mg/L | 475 ≤ Control Limit ≤ 514 | | ≤ ± 5% | 21 ≤ R ≤ 29 |

| TEST RESULTS | Sample ID | C1 | C1 Duplicate | C2 | C2 Duplicate | C3 | C3 Duplicate | | |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|-----|--|
| | Sampling Date/Time | 10 May 2010 / 11:50 | | 10 May 2010 / 12:00 | | 10 May 2010 / 12:10 | | | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 6.5 | 6.2 | |

| TEST RESULTS | Sample ID | M1 | M1 Duplicate | M2 | M2 Duplicate | M3 | M3 Duplicate | M4 | M4 Duplicate | |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|------|
| | Sampling Date/Time | 10 May 2010 / 11:20 | | 10 May 2010 / 11:30 | | 10 May 2010 / 11:40 | | 10 May 2010 / 11:10 | | |
| | LOD | Units | | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 28.5 | 28.0 | 2.6 | 2.3 | 24.0 | 23.2 | 29.4 | 30.0 |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Approved Signatory : 

Checked By : GU CHIN

Name : GU CHIN

Post : Chemist



TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Page 1 of 1

Report No. : GCC100400108 Date of Issue : 19-05-2010

Client* : Environmental Pioneers & Solutions Limited P.O. Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.
 DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 12-05-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 13-05-2010

GCE Serial No. : WQM052010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

| Analysis Description | Test Method | Units | Quality Control Results | | | | |
|-----------------------|------------------|-------|-------------------------|---------------------------|--------------|-------|---------------|
| | | | Method Blank | QC 500 mg/L | QC Duplicate | RPD% | Spike 25 mg/L |
| Suspended Solids (SS) | APHA 20ed 2540 D | mg/L | < 1.0 | 496 | 502 | -1.2 | 24.9 |
| Acceptance Criteria | | | <2.5 mg/L | 475 ≤ Control Limit ≤ 514 | | ≤ ±5% | 21 ≤ R ≤ 29 |

| TEST RESULTS | Sample ID | C1 | C1 Duplicate | C2 | C2 Duplicate | C3 | C3 Duplicate | | |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|-----|--|
| | Sampling Date/Time | 12 May 2010 / 10:45 | | 12 May 2010 / 10:55 | | 12 May 2010 / 11:10 | | | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 2.3 | 2.3 | <1.0 | <1.0 | 5.4 | 5.8 | |

| TEST RESULTS | Sample ID | M1 | M1 Duplicate | M2 | M2 Duplicate | M3 | M3 Duplicate | M4 | M4 Duplicate |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|
| | Sampling Date/Time | 12 May 2010 / 11:40 | | 12 May 2010 / 11:50 | | 12 May 2010 / 12:00 | | 12 May 2010 / 11:35 | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 16.0 | 16.3 | 1.6 | 1.9 | 10.5 | 10.3 | 10.7 |

* : Information provided by client


Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : Location M1 & WE3 and Location M3 & WE4 are the same location.

----- End -----

Tested By : K.L. FONG

Checked By : GU CHIN

Approved Signatory : 
 Name : GU CHIN
 Post : Chemist



TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100500116 Date of Issue : 19-05-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.
 DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 13-05-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 13-05-2010

GCE Serial No. : WQM052010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

| Analysis Description | Test Method | Units | Quality Control Results | | | | |
|-----------------------|------------------|-------|-------------------------|---------------------------|--------------|--------|---------------|
| | | | Method Blank | QC 500 mg/L | QC Duplicate | RPD% | Spike 25 mg/L |
| Suspended Solids (SS) | APHA 20ed 2540 D | mg/L | < 1.0 | 500 | 498 | 0.4 | 27.8 |
| Acceptance Criteria | | | < 2.5 mg/L | 475 ≤ Control Limit ≤ 514 | | ≤ ± 5% | 21 ≤ R ≤ 29 |

| TEST RESULTS | Sample ID | C1 | C1 Duplicate | C2 | C2 Duplicate | C3 | C3 Duplicate | | | |
|-----------------------|--------------------|---------------------|--------------|-----|--------------|-----|--------------|-----|--|--|
| | Sampling Date/Time | 13 May 2010 / 12:00 | | | --- | | --- | | | |
| | LOD | Units | | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 2.6 | 2.2 | --- | --- | --- | --- | | |

| TEST RESULTS | Sample ID | M1 | M1 Duplicate | M2 | M2 Duplicate | M3 | M3 Duplicate | M4 | M4 Duplicate | |
|-----------------------|--------------------|---------------------|--------------|------|--------------|-----|--------------|-----|--------------|--|
| | Sampling Date/Time | 13 May 2010 / 12:10 | | | --- | | --- | | --- | |
| | LOD | Units | | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 12.5 | 12.1 | --- | --- | --- | --- | --- | |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Approved Signatory : 

Name : GU CHIN

Checked By : GU CHIN

Post : Chemist



TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Page 1 of 1

Report No. : GCC100500124

Date of Issue : 19-05-2010

Client* : Environmental Pioneers & Solutions Limited

Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon.

Date Started : 14-05-2010

W.O. No.* : --

Sample Type* : River Water

Date Completed : 14-05-2010

GCE Serial No. : WQM052010

GCE Reg. No. : GCE 081096

Test Unit No. : CH 08258

| Analysis Description | Test Method | Units | Quality Control Results | | | | |
|-----------------------|------------------|-------|-------------------------|---------------------------|--------------|--------|---------------|
| | | | Method Blank | QC 500 mg/L | QC Duplicate | RPD% | Spike 25 mg/L |
| Suspended Solids (SS) | APHA 20ed 2540 D | mg/L | < 1.0 | 502 | 499 | 0.6 | 27.3 |
| Acceptance Criteria | | | < 2.5 mg/L | 475 ≤ Control Limit ≤ 514 | | ≤ ± 5% | 21 ≤ R ≤ 29 |

| TEST RESULTS | Sample ID | C1 | C1 Duplicate | C2 | C2 Duplicate | C3 | C3 Duplicate | | |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|-----|--|
| | Sampling Date/Time | 14 May 2010 / 13:15 | | 14 May 2010 / 13:25 | | 14 May 2010 / 13:35 | | | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 2.4 | 2.0 | < 1.0 | < 1.0 | 7.0 | 7.5 | |

| TEST RESULTS | Sample ID | M1 | M1 Duplicate | M2 | M2 Duplicate | M3 | M3 Duplicate | M4 | M4 Duplicate | |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|------|
| | Sampling Date/Time | 14 May 2010 / 12:30 | | 14 May 2010 / 12:40 | | 14 May 2010 / 12:50 | | 14 May 2010 / 12:00 | | |
| | LOD | Units | | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 18.6 | 18.4 | 2.5 | 2.3 | 10.0 | 10.3 | 12.8 | 13.0 |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Approved Signatory :

Name

GU CHIN

Checked By : GU CHIN

Post

Chemist



TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100500190 Date of Issue : 22-05-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.
 DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 17-05-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 18-05-2010

GCE Serial No. : WQM052010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

| Analysis Description | Test Method | Units | Quality Control Results | | | | |
|-----------------------|------------------|-------|-------------------------|---------------------------|--------------|--------|---------------|
| | | | Method Blank | QC 500 mg/L | QC Duplicate | RPD% | Spike 25 mg/L |
| Suspended Solids (SS) | APHA 20ed 2540 D | mg/L | < 1.0 | 501 | 499 | 0.4 | 26.3 |
| Acceptance Criteria | | | < 2.5 mg/L | 475 ≤ Control Limit ≤ 514 | | ≤ ± 5% | 21 ≤ R ≤ 29 |

| TEST RESULTS | Sample ID | C1 | C1 Duplicate | C2 | C2 Duplicate | C3 | C3 Duplicate | | |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|--|--|
| | Sampling Date/Time | 17 May 2010 / 15:10 | | 17 May 2010 / 15:15 | | 17 May 2010 / 15:30 | | | |
| | LOD Units | | | | | | | | |
| Suspended Solids (SS) | 1 mg/L | 2.0 | 2.4 | <1.0 | <1.0 | 8.2 | 8.0 | | |

| TEST RESULTS | Sample ID | M1 | M1 Duplicate | M2 | M2 Duplicate | M3 | M3 Duplicate | M4 | M4 Duplicate |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|
| | Sampling Date/Time | 17 May 2010 / 14:30 | | 17 May 2010 / 14:35 | | 17 May 2010 / 14:50 | | 17 May 2010 / 14:20 | |
| | LOD Units | | | | | | | | |
| Suspended Solids (SS) | 1 mg/L | 31.8 | 31.4 | 2.4 | 2.2 | 12.0 | 12.1 | 20.0 | 20.3 |


* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Approved Signatory : 
 Name : GU CHIN

Checked By : GU CHIN

Post : Chemist



TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100500205 Date of Issue : 22-05-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.
 DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 18-05-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 19-05-2010

GCE Serial No. : WQM052010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

| Analysis Description | Test Method | Units | Quality Control Results | | | | |
|-----------------------|------------------|-------|-------------------------|---------------------------|--------------|-------|---------------|
| | | | Method Blank | QC 500 mg/L | QC Duplicate | RPD% | Spike 25 mg/L |
| Suspended Solids (SS) | APHA 20ed 2540 D | mg/L | < 1.0 | 502 | 501 | 0.2 | 27.1 |
| Acceptance Criteria | | | <2.5 mg/L | 475 ≤ Control Limit ≤ 514 | | ≤ ±5% | 21 ≤ R ≤ 29 |

| TEST RESULTS | Sample ID | C1 | C1 Duplicate | C2 | C2 Duplicate | C3 | C3 Duplicate | | |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|------|--|
| | Sampling Date/Time | 18 May 2010 / 14:40 | | 18 May 2010 / 14:50 | | 18 May 2010 / 15:00 | | | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | <1.0 | <1.0 | <1.0 | <1.0 | 14.2 | 14.8 | |

| TEST RESULTS | Sample ID | M1 | M1 Duplicate | M2 | M2 Duplicate | M3 | M3 Duplicate | M4 | M4 Duplicate | |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|------|
| | Sampling Date/Time | 18 May 2010 / 15:30 | | 18 May 2010 / 15:35 | | 18 May 2010 / 15:50 | | 18 May 2010 / 15:20 | | |
| | LOD | Units | | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 55.2 | 55.6 | 3.0 | 2.8 | 11.7 | 12.0 | 11.5 | 11.3 |

* : Information provided by client


Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Checked By : GU CHIN

Approved Signatory : 
 Name : GU CHIN
 Post : Chemist



TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Page 1 of 1

Report No. : GCC100500213 Date of Issue : 22-05-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.
 DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 19-05-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 20-05-2010

GCE Serial No. : WQM052010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

| Analysis Description | Test Method | Units | Quality Control Results | | | | |
|-----------------------|------------------|-------|-------------------------|---------------------------|--------------|-------|---------------|
| | | | Method Blank | QC 500 mg/L | QC Duplicate | RPD% | Spike 25 mg/L |
| Suspended Solids (SS) | APHA 20ed 2540 D | mg/L | < 1.0 | 497 | 498 | -0.2 | 25.1 |
| Acceptance Criteria | | | < 2.5 mg/L | 475 ≤ Control Limit ≤ 514 | | ≤ ±5% | 21 ≤ R ≤ 29 |

| TEST RESULTS | Sample ID | C1 | C1 Duplicate | C2 | C2 Duplicate | C3 | C3 Duplicate | | |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|------|--|
| | Sampling Date/Time | 19 May 2010 / 16:50 | | 19 May 2010 / 17:05 | | 19 May 2010 / 17:20 | | | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 13.9 | 14.1 | 19.8 | 20.2 | 13.6 | 14.0 | |

| TEST RESULTS | Sample ID | M1 | M1 Duplicate | M2 | M2 Duplicate | M3 | M3 Duplicate | M4 | M4 Duplicate |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|
| | Sampling Date/Time | 19 May 2010 / 16:00 | | 19 May 2010 / 16:10 | | 19 May 2010 / 16:20 | | 19 May 2010 / 15:50 | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 144.0 | 143.2 | 40.0 | 39.6 | 50.4 | 49.6 | 27.0 |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Approved Signatory : 

Name : GU CHIN

Checked By : GU CHIN

Post : Chemist



TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100500378 Date of Issue : 29-05-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.
 DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 24-05-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 24-05-2010

GCE Serial No. : WQM052010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

| Analysis Description | Test Method | Units | Quality Control Results | | | | |
|-----------------------|------------------|-------|-------------------------|---------------------------|--------------|-------|---------------|
| | | | Method Blank | QC 500 mg/L | QC Duplicate | RPD% | Spike 25 mg/L |
| Suspended Solids (SS) | APHA 20ed 2540 D | mg/L | < 1.0 | 502 | 501 | 0.2 | 27.9 |
| Acceptance Criteria | | | <2.5 mg/L | 475 ≤ Control Limit ≤ 514 | | ≤ ±5% | 21 ≤ R ≤ 29 |

| TEST RESULTS | Sample ID | C1 | C1 Duplicate | C2 | C2 Duplicate | C3 | C3 Duplicate | | |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|------|--|
| | Sampling Date/Time | 24 May 2010 / 11:20 | | 24 May 2010 / 11:30 | | 24 May 2010 / 11:40 | | | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 2.6 | 2.5 | <1.0 | <1.0 | 15.2 | 14.8 | |

| TEST RESULTS | Sample ID | M1 | M1 Duplicate | M2 | M2 Duplicate | M3 | M3 Duplicate | M4 | M4 Duplicate | |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|-----|
| | Sampling Date/Time | 24 May 2010 / 10:30 | | 24 May 2010 / 10:40 | | 24 May 2010 / 10:50 | | 24 May 2010 / 10:20 | | |
| | LOD | Units | | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 8.2 | 8.0 | 1.6 | 1.7 | 9.1 | 9.1 | 5.0 | 4.8 |


* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Approved Signatory : 
 Name : GU CHIN
 Post : Chemist

Checked By : GU CHIN



TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100500386 Date of Issue : 29-05-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.
 DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 26-05-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 26-05-2010

GCE Serial No. : WQM052010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

| Analysis Description | Test Method | Units | Quality Control Results | | | | |
|-----------------------|------------------|-------|-------------------------|---------------------------|--------------|-------|---------------|
| | | | Method Blank | QC 500 mg/L | QC Duplicate | RPD% | Spike 25 mg/L |
| Suspended Solids (SS) | APHA 20ed 2540 D | mg/L | < 1.0 | 498 | 499 | -0.2 | 25.9 |
| Acceptance Criteria | | | <2.5 mg/L | 475 ≤ Control Limit ≤ 514 | | ≤ ±5% | 21 ≤ R ≤ 29 |

| TEST RESULTS | Sample ID | C1 | C1 Duplicate | C2 | C2 Duplicate | C3 | C3 Duplicate | | |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|------|--|
| | Sampling Date/Time | 26 May 2010 / 11:20 | | 26 May 2010 / 11:30 | | 26 May 2010 / 11:40 | | | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 4.0 | 4.1 | <1.0 | <1.0 | 14.2 | 14.8 | |

| TEST RESULTS | Sample ID | M1 | M1 Duplicate | M2 | M2 Duplicate | M3 | M3 Duplicate | M4 | M4 Duplicate |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|
| | Sampling Date/Time | 26 May 2010 / 10:45 | | 26 May 2010 / 10:55 | | 26 May 2010 / 11:05 | | 26 May 2010 / 10:40 | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 12.1 | 11.9 | 2.9 | 2.9 | 12.3 | 12.0 | 5.9 |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Approved Signatory : 

Name : GU CHIN

Checked By : GU CHIN

Post : Chemist



TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Page 1 of 1

Report No. : GCC100500394 Date of Issue : 29-05-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.
 DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 28-05-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 28-05-2010

GCE Serial No. : WQM052010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

| Analysis Description | Test Method | Units | Quality Control Results | | | | |
|-----------------------|------------------|-------|-------------------------|---------------------------|--------------|-------|---------------|
| | | | Method Blank | QC 500 mg/L | QC Duplicate | RPD% | Spike 25 mg/L |
| Suspended Solids (SS) | APHA 20ed 2540 D | mg/L | < 1.0 | 498 | 502 | -0.8 | 26.6 |
| Acceptance Criteria | | | < 2.5 mg/L | 475 ≤ Control Limit ≤ 514 | | ≤ ±5% | 21 ≤ R ≤ 29 |

| TEST RESULTS | Sample ID | C1 | C1 Duplicate | C2 | C2 Duplicate | C3 | C3 Duplicate | | |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|-----|--|
| | Sampling Date/Time | 28 May 2010 / 10:50 | | 28 May 2010 / 11:00 | | 28 May 2010 / 11:15 | | | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 2.3 | 2.1 | <1.0 | <1.0 | 5.9 | 5.5 | |

| TEST RESULTS | Sample ID | M1 | M1 Duplicate | M2 | M2 Duplicate | M3 | M3 Duplicate | M4 | M4 Duplicate |
|-----------------------|--------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|
| | Sampling Date/Time | 28 May 2010 / 11:55 | | 28 May 2010 / 11:40 | | 28 May 2010 / 11:50 | | 28 May 2010 / 12:05 | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 12.0 | 12.3 | 3.0 | 3.1 | 11.9 | 12.4 | 7.8 |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Approved Signatory : 

Name : GU CHIN

Checked By : GU CHIN

Post : Chemist



TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Page 1 of 1

Report No. : GCC100500768 Date of Issue : 07-06-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.
 DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of

Project* : Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 31-05-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 01-06-2010

GCE Serial No. : WQM052010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

| Analysis Description | Test Method | Units | Quality Control Results | | | | | | |
|-----------------------|--------------------|---------------------|-------------------------|---------------------------|--------------|---------------------|---------------|---------------------|--------------|
| | | | Method Blank | QC 500 mg/L | QC Duplicate | RPD% | Spike 25 mg/L | | |
| Suspended Solids (SS) | APHA 20ed 2540 D | mg/L | < 1.0 | 500 | 497 | 0.6 | 27.3 | | |
| Acceptance Criteria | | | < 2.5 mg/L | 475 ≤ Control Limit ≤ 514 | | ≤ ± 5% | 21 ≤ R ≤ 29 | | |
| TEST RESULTS | Sample ID | C1 | C1 Duplicate | C2 | C2 Duplicate | C3 | C3 Duplicate | | |
| | Sampling Date/Time | 31 May 2010 / 13:10 | | 31 May 2010 / 13:20 | | 31 May 2010 / 13:30 | | | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 1.4 | 1.4 | <1.0 | <1.0 | 6.8 | 6.4 | |
| TEST RESULTS | Sample ID | M1 | M1 Duplicate | M2 | M2 Duplicate | M3 | M3 Duplicate | M4 | M4 Duplicate |
| | Sampling Date/Time | 31 May 2010 / 15:20 | | 31 May 2010 / 15:30 | | 31 May 2010 / 15:40 | | 31 May 2010 / 15:10 | |
| | LOD | Units | | | | | | | |
| Suspended Solids (SS) | 1 | mg/L | 35.6 | 34.8 | 2.5 | 2.5 | 10.7 | 10.4 | 12.7 |

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Approved Signatory : 

Name : GU CHIN

Checked By : GU CHIN

Post : Chemist

Appendix G
Monitoring Schedule
for June 2010

Environmental Pioneers and Solutions Limited

DC/2006/11 - DRAINAGE IMPROVEMENT IN SOUTHERN LANTAU

Master Schedule of EM&A works in May 2010

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|--------|--|------------------|------------------------|-----------------------------|--|----------|
| 5/2 | 5/3 | 5/4 | 5/5 | 5/6 | 5/7 | 5/8 |
| | WQM at: 15:43 Noise monitoring | WQM at: 16:31 | | WQM at: 16:45 | additional WQM at: 16:15 Ecological Survey | |
| 5/9 | 5/10 | 5/11 | 5/12 | 5/13 | 5/14 | 5/15 |
| | WQM at: 10:38 Noise monitoring | | WQM, EWQM at: 11:31 | additional WQM at: 12:00 | WQM at: 12:35 | |
| 5/16 | 5/17 | 5/18 | 5/19 | 5/20 | 5/21 | 5/22 |
| | WQM at: 14:41 Noise monitoring | WQM at: 15:33 | WQM at: 16:28 | | | |
| 5/23 | 5/24 | 5/25 | 5/26 | 5/27 | 5/28 | 5/29 |
| | WQM at: 9:47 Noise monitoring | | WQM at: 11:11 | | WQM at: 12:31 Ecological Survey | |
| 5/30 | 5/31 | 6/1 | | | | 5/1 |
| | WQM at: 14:36 Noise monitoring | | | | | |

Noise Monitoring Locations: Total 4 Locations as N1, N2, N3 and N4

Water Quality Monitoring (WQM) Locations: Total 7 Locations as M1, M2, M3, M4, C1, C2 and C3

Ecological Water Quality Monitoring (EWQM) Locations: Total 6 Locations as WE1, WE2, WE3, WE4, WE5 and WE6

Appendix H Implementation Status of environmental protection / mitigation measures

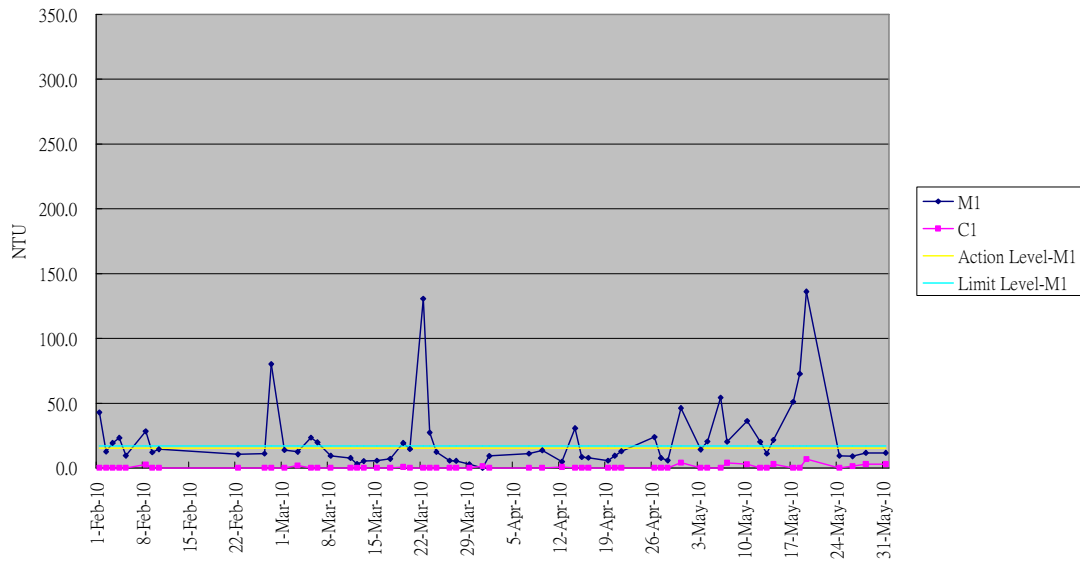
| Environmental Aspect | Protection / Mitigation Measures | Implementation status | Follow-up action |
|-----------------------------|---|------------------------------|---|
| Air Quality | Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved road, with complete coverage. | Implemented | - |
| | Use of frequent watering for particular dusty static construction areas and areas close to ASRs. | Implemented | - |
| | Tarpaulin covering of all dusty vehicle loads transported to and from and between site location; | Deficiencies found | Outstanding. Improvements were required |
| | Establishment and use of vehicle wheel and body washing facilities at the exit points of the site. | Implemented | - |
| | Routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs. | Implemented | - |
| Noise | Use of quiet powered mechanical equipment (PME) | Implemented | - |
| | Adoption of movable noise barriers and temporary noise barriers | Implemented | - |
| | Application of good site practices mentioned in EM&A manual Clause 3.8.1 | Implemented | - |
| Water Quality | Before commencing any site formation works, all sewer and drainage connections should be sealed to prevent debris, soil, sand etc. from entering public sewers/drains. | Deficiencies found | Outstanding. Improvements were required |
| | Temporary ditches should be provided to facilitate run-off discharge into appropriate watercourses, via a silt retention pond. No site run-off should enter the freshwater marshes at Luk Tei Tong. | Implemented | - |
| | Sand/ silt removal facilities such as sand traps, silt traps and sediment basins should be provided to remove sand/ silt particles from runoff to meet the requirements of the Technical Memorandum standard under the Water Pollution Control Ordinance. | Deficiencies found | Outstanding. Improvements were required |
| | Water pumped out from foundation excavations should be discharged into silt removal facilities. | Implemented | - |
| | During rainstorms, exposed slope surface should be covered by a tarpaulin or the means. | Implemented | - |
| | Exposed soil areas should be minimized to reduce potential for increased siltation and contamination of runoff. | Deficiencies found | Outstanding. Improvements were required |
| | Exposed soil surfaces should be protected by paving or fill material as soon as possible to reduce potential of soil erosion. | Implemented | - |
| | Open stockpiles of construction materials or construction wastes on-site of more than 50m ³ should be covered with tarpaulin or similar fabric during rainstorms. | Implemented | - |
| | Oils and fuels should only be used and stored on designated areas which have pollution prevention facilities. | Implemented | - |
| | Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site. | Not available | - |
| | The excavation and widening works for the drainage improvements to the Pak Ngan Heung River, Tai Tei Tong River, Luk Tei Tong River and Luk Tei Tong By-pass Channel should be carried out in sections (approximately 300 –400 m in length) and in dry condition. | Implemented | - |

| Environmental Aspect | Protection / Mitigation Measures | Implementation status | Follow-up action |
|---------------------------------|--|------------------------------|---|
| | Maintenance desilting of the re-profiled river channels of the Pak Ngan Heung River, Tai Tei Tong River, Luk Tei tong River and Luk Tei Tong By-pass Channel, temporary barrier walls should be used to provide a dry zone for desilting work. | Not applicable at this stage | - |
| Ecology | Existing natural habitats should be retained as far as practicable | Implemented | - |
| | Boundary of working areas should be identified to prevent loss of vegetation | Implemented | - |
| | All existing trees / plant should be well protected within the site or transplanted properly | Implemented | - |
| | Turf removal from the Luk Tei Tong marsh due to the construction of Luk Tei Tong Bypass Channel shall be minimized | Implemented | - |
| | Turf from the Luk Tei Tong marsh shall be properly removed, stored, maintained and reused for lining the riverbed of the Luk Tei Tong Bypass Channel | Implemented | - |
| Chemical and Solid Waste | Chemical wastes should be properly stored in a proper store as per statutory requirements (i.e. on a hard standing, within an enclosed and locked area) | Implemented | - |
| | Chemical waste stores should be provided with fire precaution facilities (i.e. fire extinguisher, no smoking warning etc). | Implemented | - |
| | Chemical wastes should be properly stored in corrosion resistant containers placed inside the store and labelled with warning signs in English and Chinese. | Implemented | - |
| | Chemical wastes should be disposed of by licensed chemical waste collector with supporting delivery records. | Implemented | - |
| | All containers for fuel, diesel and fluid chemical (in use) and oil filled stationery plants located with proper drip pans. | Deficiencies found | Outstanding. Improvements were required |
| | Construction wastes should be managed and disposed to the designated public fill and landfill areas in acceptable manner. | Implemented | - |
| | All waste disposals managed in a proper manner i.e. trip ticket system implementation. | Implemented | - |

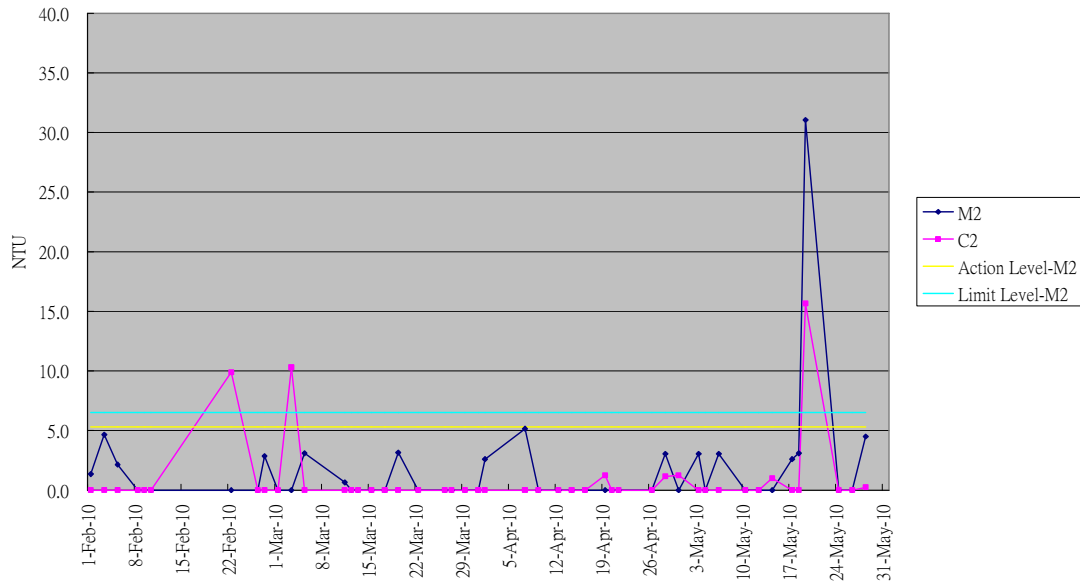
Appendix I

Graphical plot of water
quality monitoring
results (SS, DO,
turbidity)

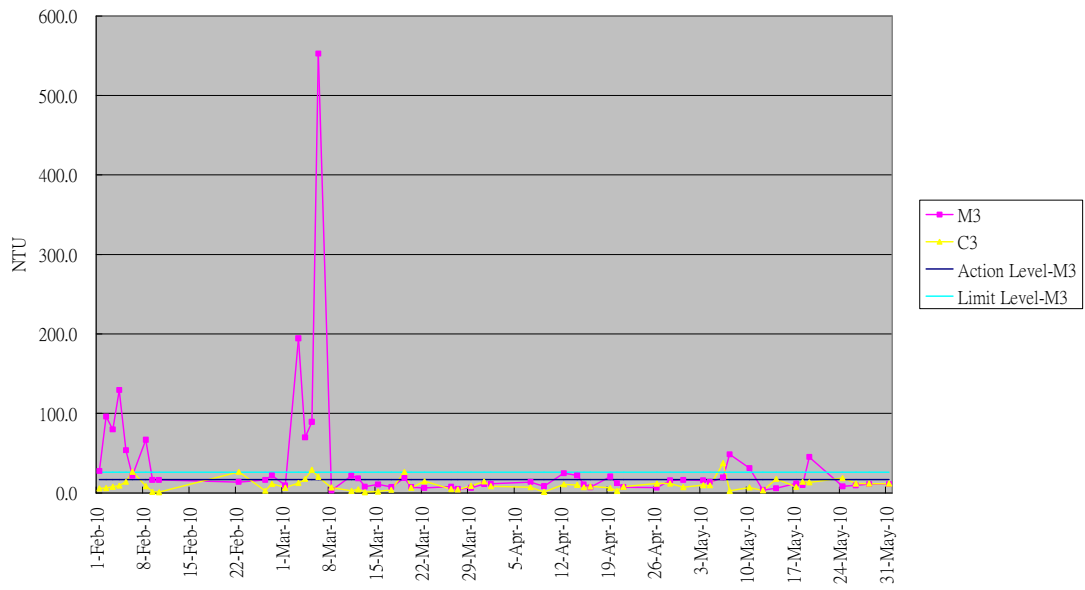
Graphical Plot of Turbidity Trend M1&C1(Feb - May 10)



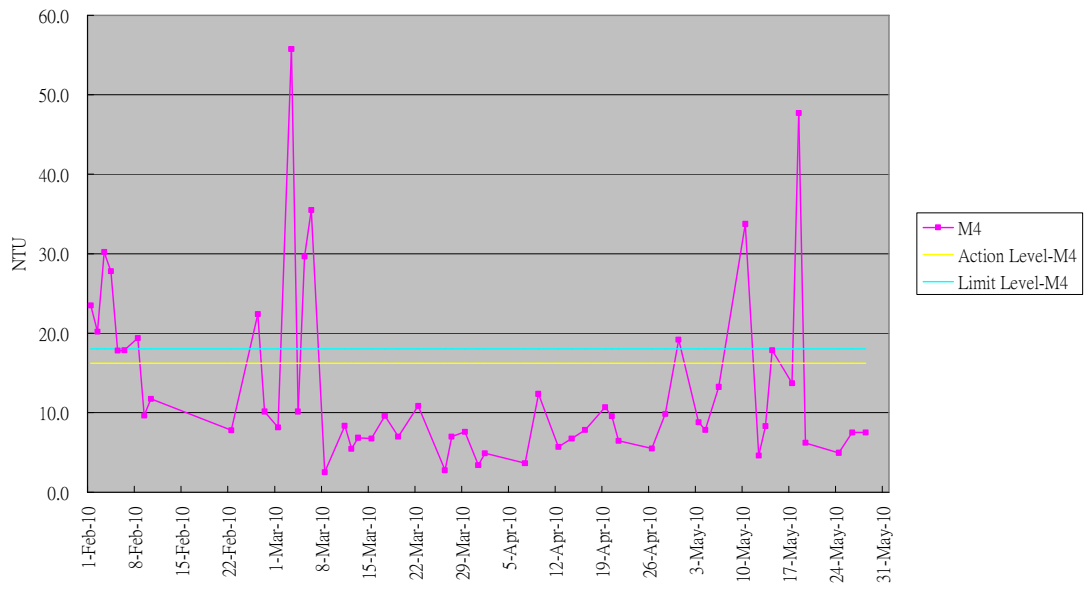
Graphical Plot of Turbidity Trend M2&C2 (Feb - May 10)



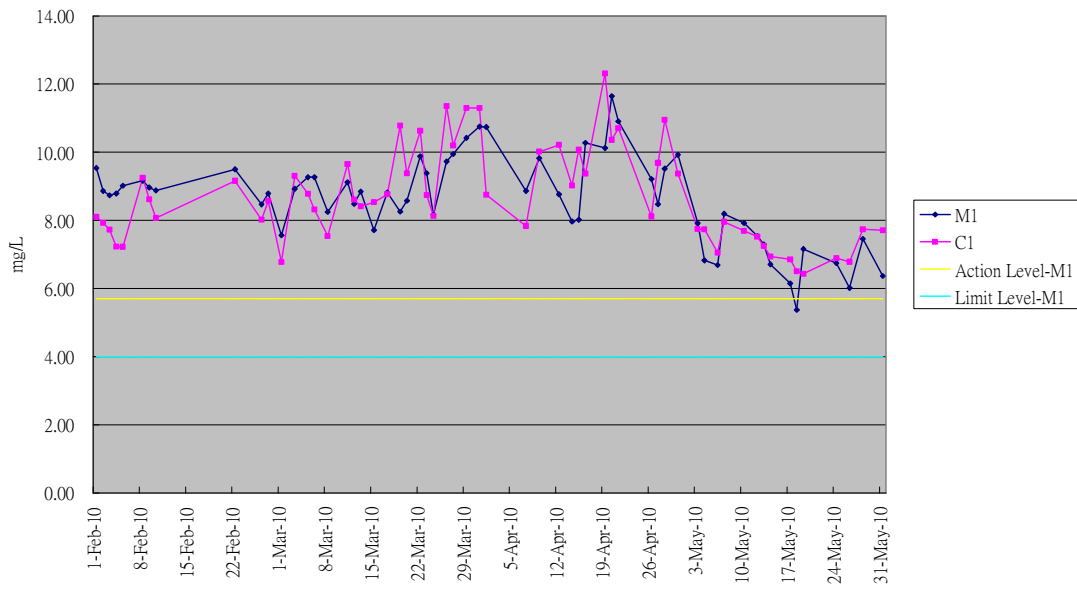
Graphical Plot of Turbidity Trend M3&C3 (Feb - May 10)



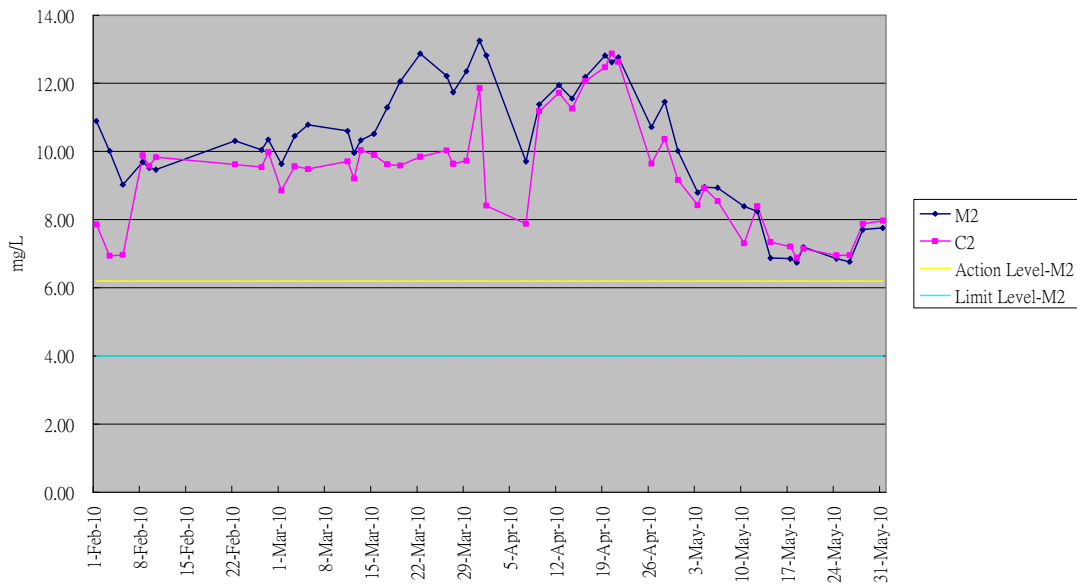
Graphical Plot of Turbidity Trend M4 (Feb - May 10)



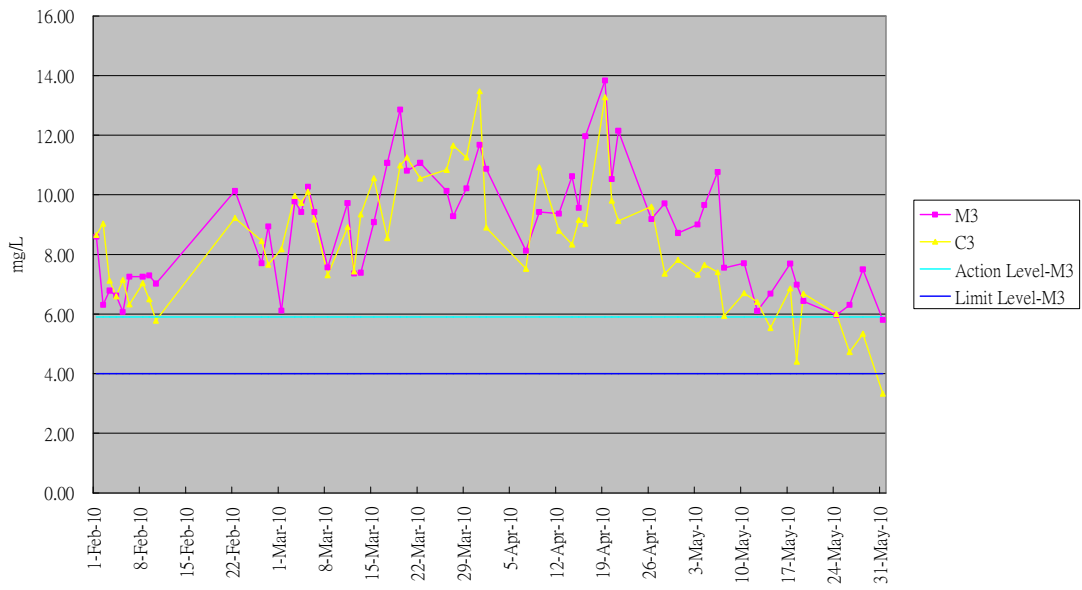
Graphical Plot of Dissolved Oxygen Trend M1&C1 (Feb - May 10)



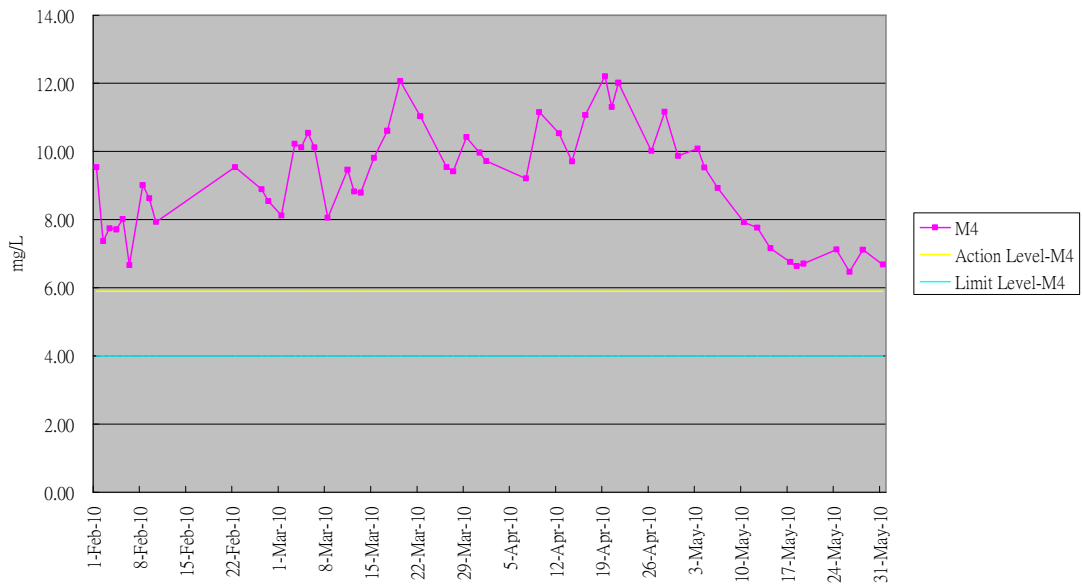
Graphical Plot of Dissolved Oxygen Trend M2&C2 (Feb - May 10)



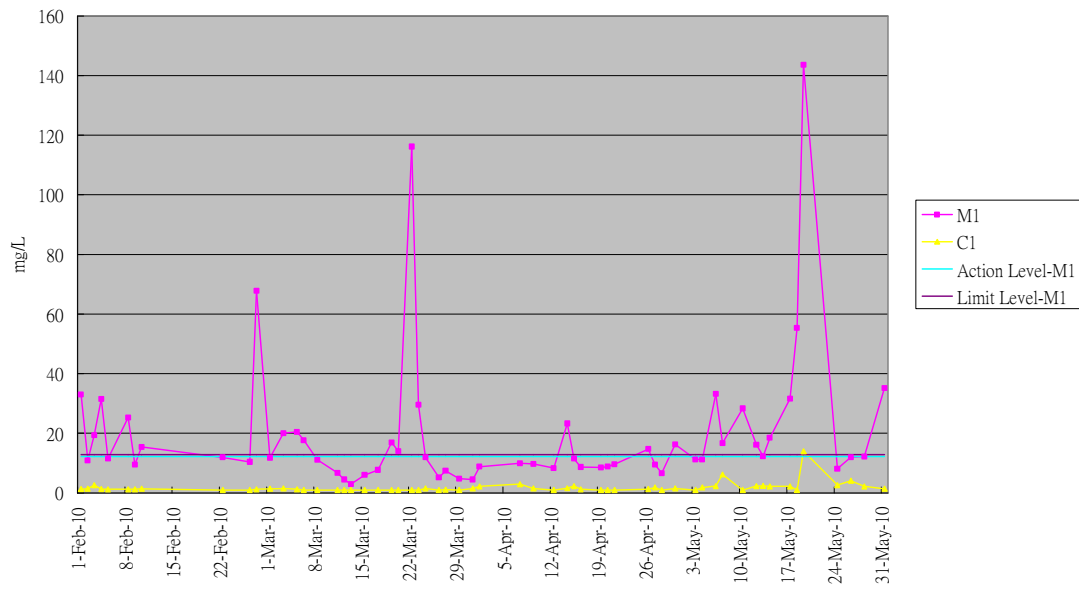
Graphical Plot of Dissolved Oxygen Trend M3&C3 (Feb - May 10)



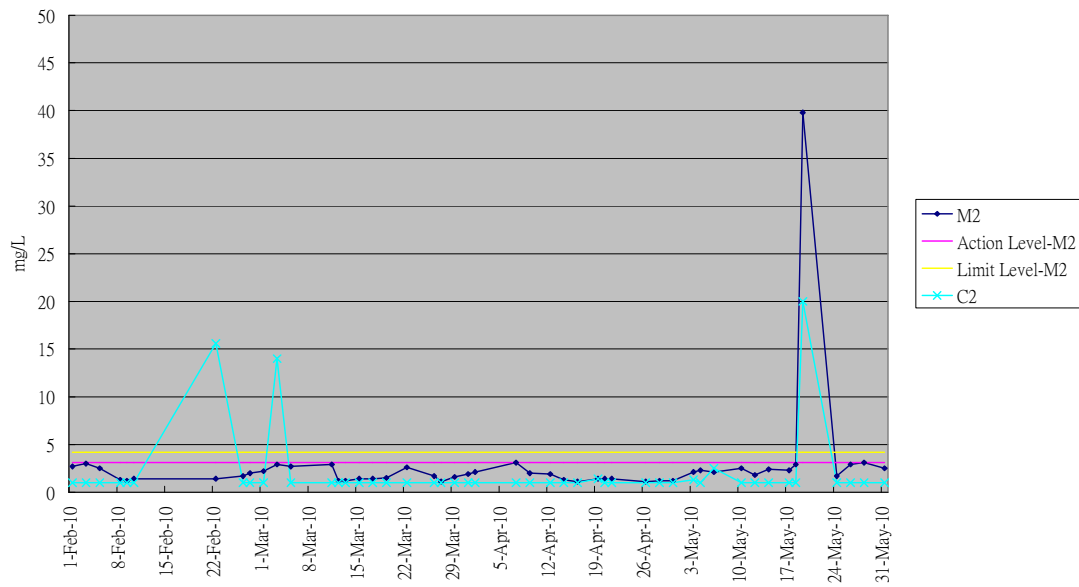
Graphical Plot of Dissolved Oxygen Trend M4 (Feb - May 10)



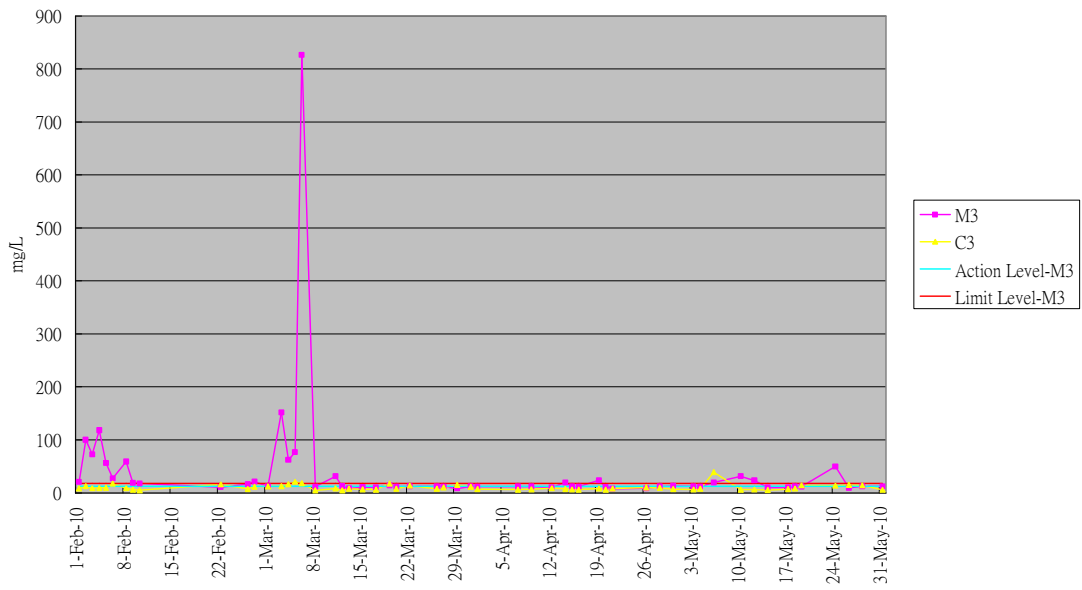
Graphical Plot of Suspended Soild M1&C1 (Feb - May 10)



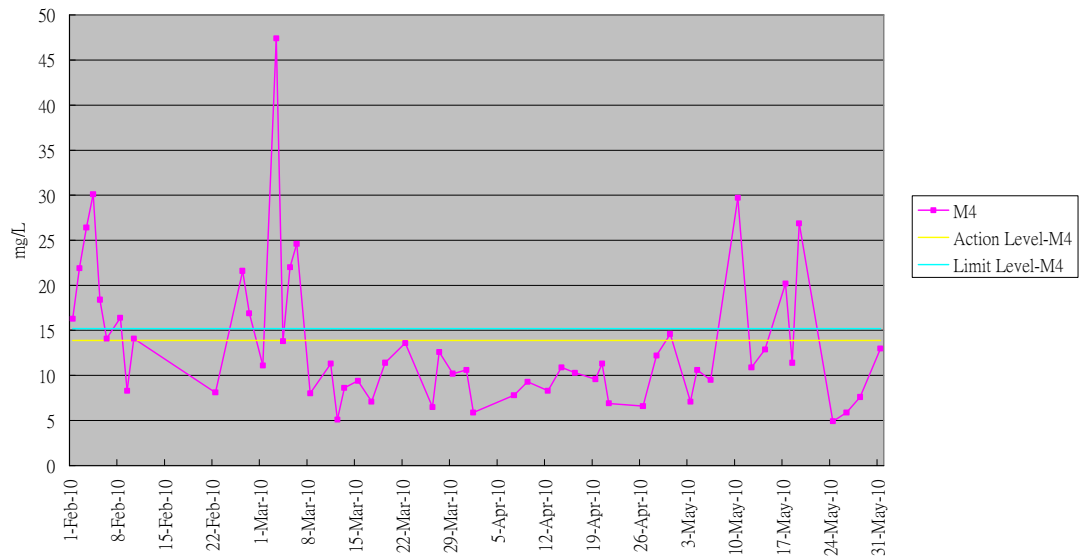
Graphical Plot of Suspended Soild M2&C2 (Feb - May 10)



Graphical Plot of Suspended Soild M3&C3 (Feb - May 10)

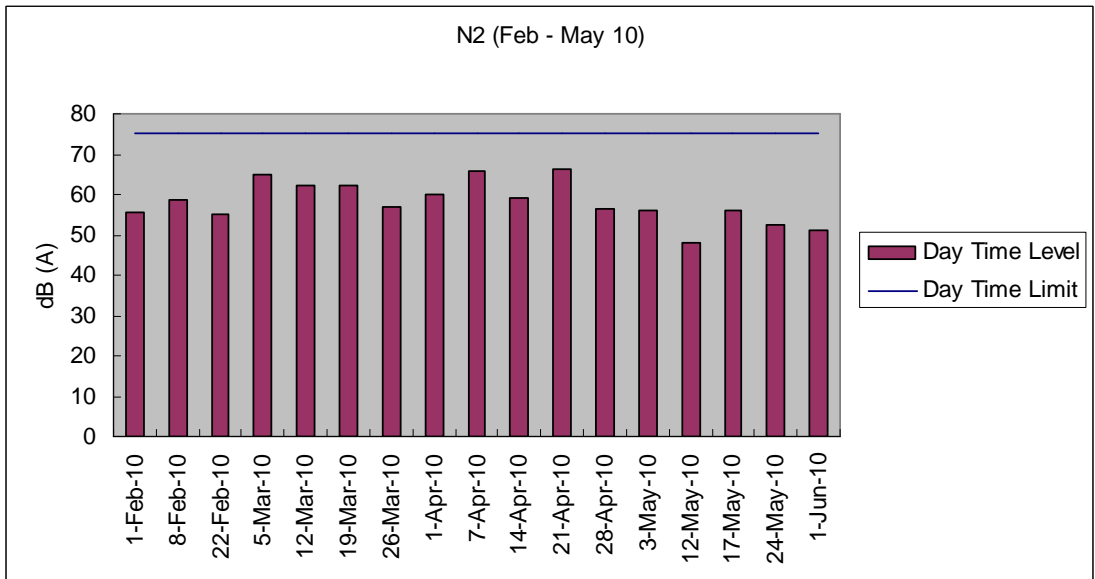
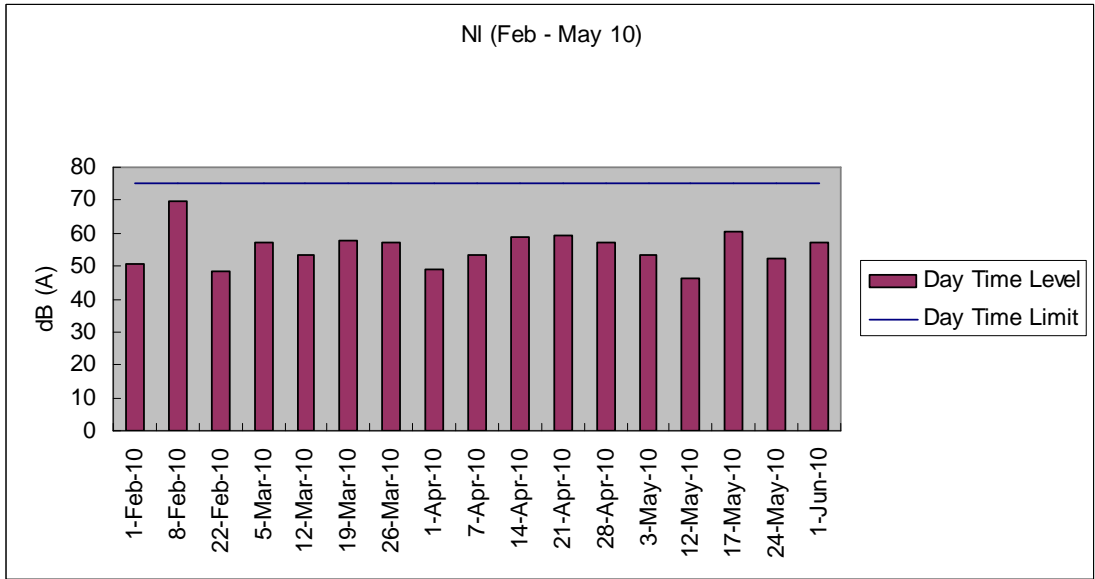


Graphical Plot of Suspended Soild M4 (Feb - May 10)

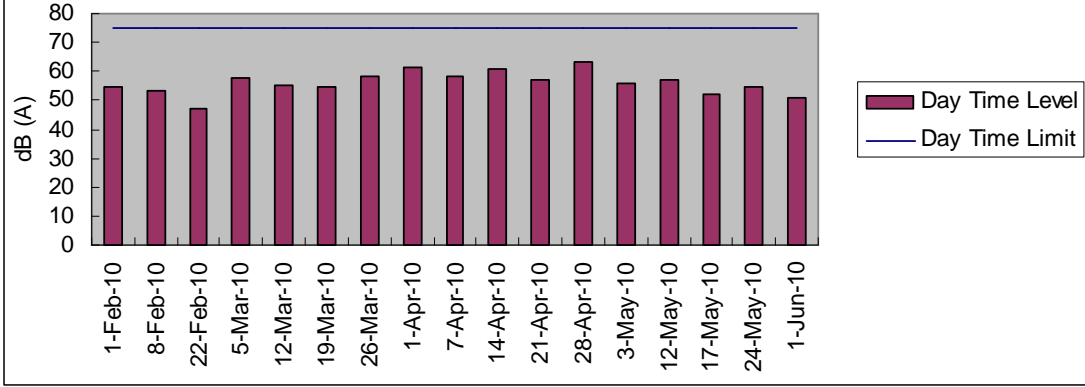


Appendix J

Graphical plot of noise
monitoring results



N3 (Feb - May 10)



N4 (Feb - May 10)

