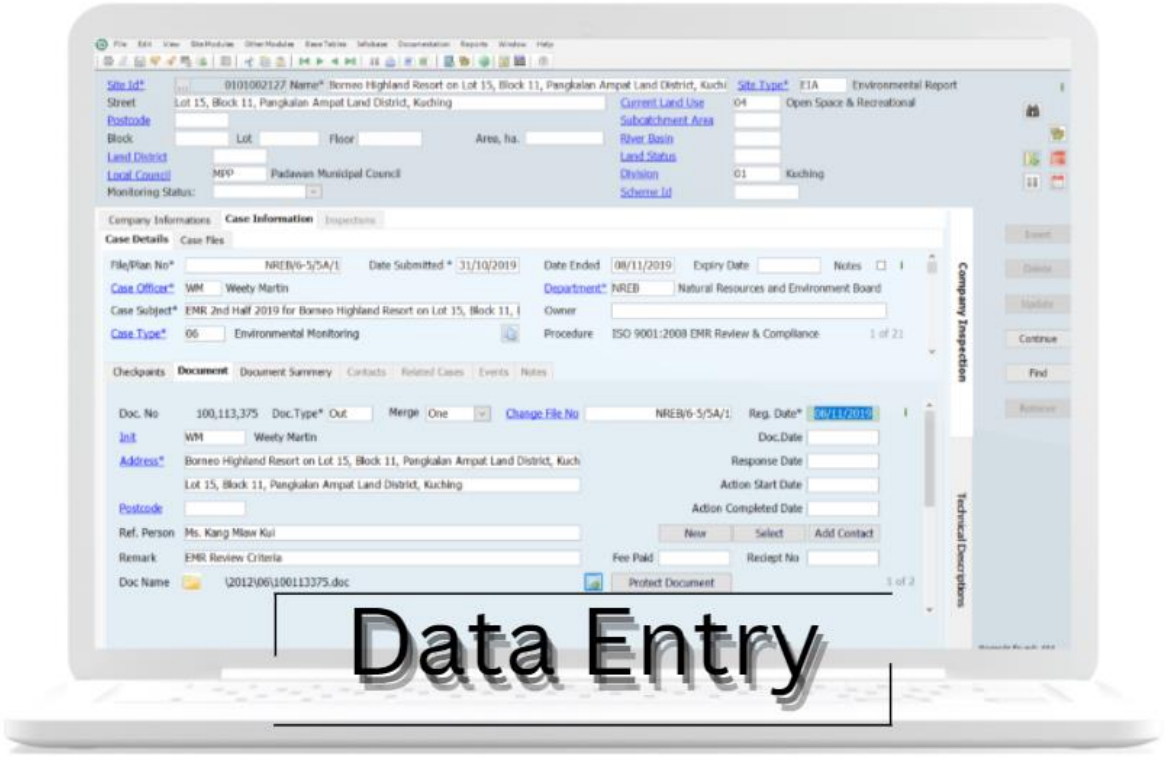
GUIDELINES FOR
DATA ENTERING AND UPDATING



GeoEnviron Database System

Natural Resources and Environment Board,Sarawak

Edition 1 | January 2023

Table of Contents

Abbreviation

NREB	Natural Resources and Environment Board
GE	GeoEnviron Database System
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EMR	Environmental Monitoring Report
PPC	Pollution Prevention Control
HS	Head of Section
ICT	Information and Communications Technology
TOR	Term of Reference
ECO	Environmental Control Officer
AECO	Assistant Environmental Control Officer
EA	Enforcement Assistant
AA (C/O)	Administrative Assistant (Clerical/Operation)

1.0 Introduction

Management of environmental-related data is one of the important areas addressed by the NREB to ensure that all the required data is collected, update and managed accordingly and is reliable for reporting and decision-making purposes.

In 2006, the GeoEnviron database system (GE) is established to manage environmental data gathered from various activities including evaluation of reports (i.e., EIA, EMP, EMR), ambient water quality monitoring, landfill and leachate monitoring. The system consists of several modules for different types of data.

1.1 Objective

The objective of this Guidelines are as follows:

i. To provide guidance on the process of entering and updating data in GE; and
ii. To ensure that all required data are kept up-to-date.

1.2 Scope

The Guidelines and Procedures applies to the process of entering and updating data in GE. Table 1 shows all modules that are used to register different types of data (listed in 1.3 below) and generate reports.

1.3 Sources of Data

Following are the sources of data to be entered in GE:

i. EIA/EMP reports;
ii. EMR reports;
iii. Water quality monitoring program;
iv. Leachate sampling program;
v. Laboratory analysis results; and
vi. Other related documents.

Table 1: Modules and its Descriptions

No.	Modules	Descriptions
1.	Pollution Prevention Control, PPC (under Site Modules)	Module to register data related to EIA, EMP and EMR.
2.	Contaminated Land (under Site Modules)	Module to register data related to landfill information and leachate quality monitoring points, samples and laboratory analysis results.
3.	GeoEnviron Calendar (under Other Modules)	Shows Menu, Active cases, Appointments, Programmed Inspections and Checkpoints.
4.	Recipients (under Other Modules)	Module to register data related to rivers, lakes and dams.
5.	Stations (under Other Modules)	Module to register data related to water quality monitoring points, samples and laboratory analysis results
6.	Samples (under Other Modules)	Module to register data related to leachate samples and laboratory analysis results
7.	Reports	Shows all reports for EIA, EMR and water quality

1.4 Level of Users and Responsibilities

i. It is the responsibility of all officers in possession of the above-mentioned data (Table 1) to enter, update, validate data and report accordingly.
ii. All data is entered using Sentence case. Do not enter data in all Upper case or all Lower case.
iii. Users may edit or make changes to prior records entered in the system and are responsible for any changes made.
iv. Obtain permission from the officer in-charge before making any changes to the prior records entered in the system.
v. Do not delete any data entered in the system until you are sure they are no longer relevant or appropriate.
vi. Officers in the ICT Unit act as system administrators, who are responsible for the proper operation of the system.

Table 2: Level of Users and Responsibilities

Level of Users	Responsibilities
Head of Section (All relevant sections involved)	• Oversee implementation of the Guideline and Procedures; • Identify officers for data entering and updating tasks.
ECO	• Enter and update all required data for their respective tasks and meets the needs of the organization. • Ensure that data entering and updating tasks that were assigned to subordinates should be completed correctly.
AECO **ECA** EA AA(C/O)	• Enter and update all required data correctly for their respective tasks.
ICT Unit (Act as System Administrator)	• Provide technical assistance to users and ensure GE is operates accordingly; • Ensure that all required data by the organization is available and accessible; • Liaise with system developers on any enhancements that are made based on user requirements and needs.

2.0 Data entering and updating in GeoEnviron Database System

This section contains procedures for entering and updating of data related to evaluation of reports, i.e., EIA, EMP and EMR; landfill and leachate monitoring; and ambient water quality monitoring.

2.1 Evaluation of EIA or EMP Reports

- This procedure applies to all the EIA/ EMP reports received and evaluate in the NREB Headquarters.
- Login to GE using provided User ID and Password. Then, select module PPC.
- Table 3 shows all required data for evaluation of EIA/EMP reports.

Table 3: List of Data Required for EIA/EMP Reports

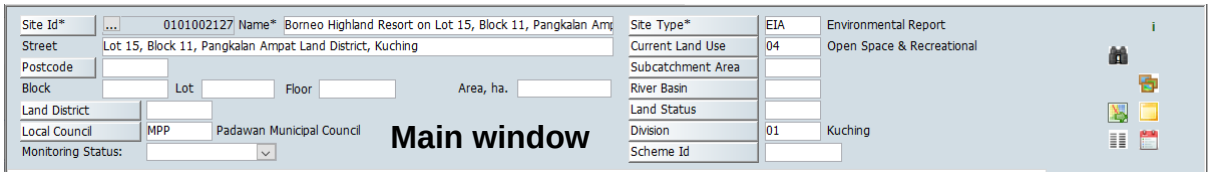
No.	Data/ Fields
1.	Site ID
2.	Name (As per the title of TOR/EIA/EMP report)
3.	Site Type
4.	Area (in unit Hectare)
5.	Division (based on division code stated in the File No.)
6.	Monitoring Status
7.	File/ Plan No.
8.	Date Submitted (Date stamped on a report, i.e., TOR/EIA/EMP)
9.	Date Ended (Date of EIA approved)
10.	Case Officer (Officer-in-charge of the projects)
11.	Department (i.e., NREB)
12.	Case Subject (As per the title of TOR/EIA/EMP report)
13.	Case Type (Code 01 for Environmental Approval, i.e., EIA/EMP)
14.	10 Checkpoints for EIA/EMP approval processes with dates for Started, Deadline, Closed and Init. (for Initial).
15.	EIA Project Proponent (Name & Address)
16.	EIA Consultant Firm (Name & Address)

Details of Procedure:

No.	Action	Responsibility
a.	Receive and register Term of Reference (TOR) of a new proposed development project in the module PPC. • Enter data No.1-5 in the Main Window. • Enter data No. 7-14 in the Case Details tab • Click 'Copy checkpoints' to generates the Checkpoints. Enter the date of TOR received (TOR00) in the column Started and Closed.	AA (C/O)
b.	Enter the date of Scoping Meeting (SCP00) in the column Started and Closed.	ECO/AECO
c.	Enter the date of receive & register EIA report (RNR00); and Enter data No. 15-16 in Contacts tab - Name & Address for EIA Consultants and Project Proponents.	AA (C/O)
d.	Enter the dates for the following Id* in the Checkpoints • GTH00 - Site Validation (Ground truthing) • ENR01 - Panel Review Meeting (if any) • APR01 - Approval	ECO/AECO
e.	Enter data No.6 (Monitoring Status)	ECO/AECO
f.	Attach documents relevant to EIA/EMP report, e.g., correspondence, terms and conditions of EIA/EMP approval, etc. (if any)	ECO/AECO

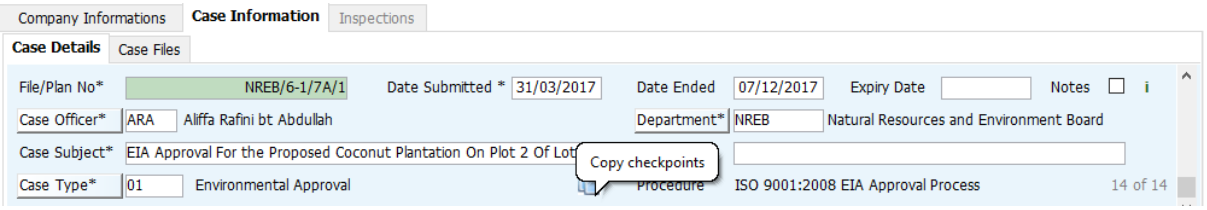
Main window of module PPC

The main window is used to register basic information on the sites based on TOR/EIA/EMP (Data No.1 – 5).



Case Information > Case Details

The Case Details tab contains basin information on a case (i.e., EIA, EMP). An unlimited number of cases can be added on this tab. When more than one case has been added a scroll bar appears (Data No. 7 – 14).



Checkpoints for EIA/EMP Approval Process (Data No. 14)

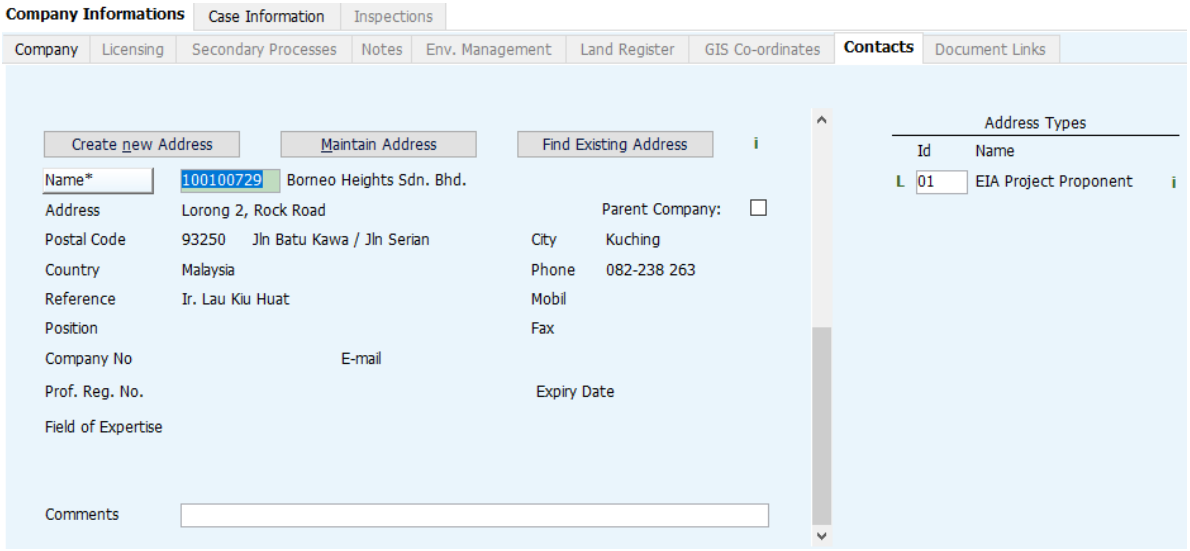
The approval procces begins when the report is received (RNR00 – Receipt and registration of EIA report).

Checkpoints | Document | Document Summery | Contacts | Related Cases | Events | Notes

	Dep*	Id*		Checkpoint*		Init	Started	Deadline	Closed
L	NREB	TOR00	1	Receive & Register the Project TOR	L	ARAB	13/09/2010	14/09/2010	18/09/2010
L	NREB	SCP00	2	Scoping Meeting	L	TKF	14/09/2010	04/10/2010	20/09/2010
L	NREB	TOR01		Resubmission of Revised TOR	L	TKF	04/10/2010	11/11/2010	30/11/2010
L	NREB	RNR00	4	Receipt and Registration of EIA report	L	ARAB	06/12/2010	13/12/2010	06/12/2010
L	NREB	GTH00	3	Site Validation	L	TKF	13/12/2010	28/02/2011	20/01/2011
L	NREB	ENR01	5	Panel Review Meeting	L	TKF	28/02/2011	28/02/2011	
L	NREB	ENR02		Submission of Addendum/ Resubmission of Revised EIA	L	TKF	28/02/2011	28/02/2011	18/04/2011
L	NREB	APR00		Received CEQ Endorsement for EIA Approval	L	TKF	28/02/2011	01/03/2011	09/05/2011
L	NREB	APR01	6	Approval	L	TKF	01/03/2011	31/03/2011	10/06/2011
L	NREB	APR02		Undertaking	L	TKF	31/03/2011	01/01/2014	

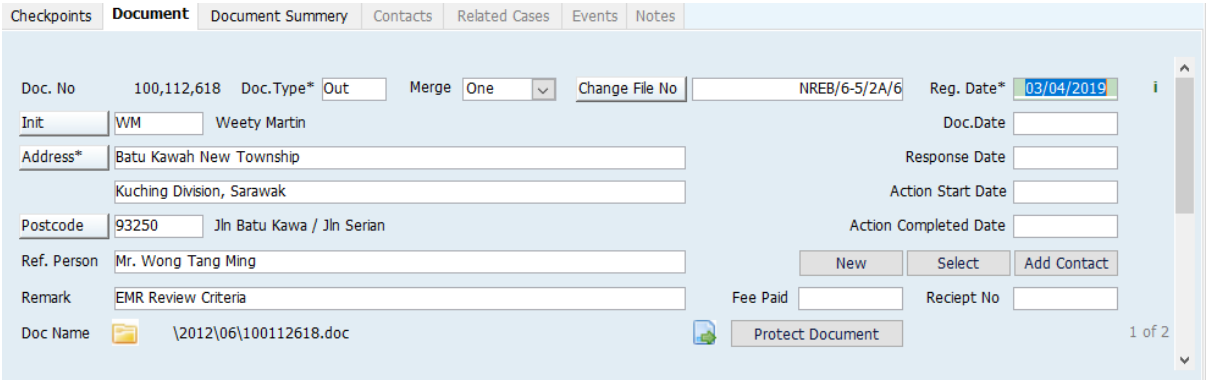
Company Information > Contacts

The Contacts tab used to register EIA Project proponent, EIA, EMR consultant firms (Data No.15-16) and etc.

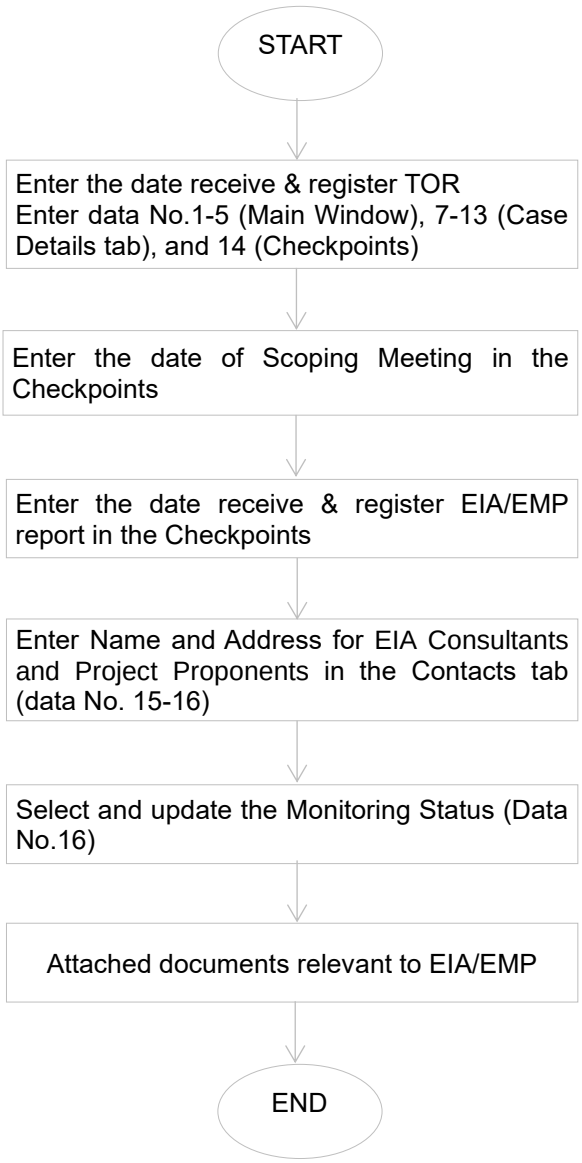


Documents

The 'Document' is used for keeping documents relevant to the EIA/EMP projects, e.g., correspondence, terms and conditions of EIA/EMP approval, etc.



Work Flow of Data Entering and Updating Process for EIA or EMP Report



Responsibility

AA (C/O)

ECO/AECO

ECO/AECO

AA (C/O)

ECO/AECO

ECO/AECO

2.2 Evaluation of EMR reports

- This procedure applies to all the EMR reports received and assess in the NREB Headquarters.
- Login to GE using provided User ID and Password. Then, select module PPC.
- Table 4 shows all required data for evaluation of EIA/EMP reports.

Table 4: List of Data Required for EMR Reports

No.	Data/ Fields
1.	File/ Plan No. (NREB File Reference)
2.	Date Submitted (Date stamped on EMR report)
3.	Date Ended (Date when Respond Letter issued)
4.	Case Officer (Officer in-charge)
5.	Department (NREB)
6.	Case Subject (Title of EMR report)
7.	Case Type (Code 06 for Environmental Monitoring, i.e., EMR)
8.	5 Checkpoints for EMR assessment processes with dates for Started, Deadline and Closed. Date for Started and Closed are required to be entered, Deadline is auto generated.
9.	Documents relevant to project (e.g., EMR review criteria, respond letter etc.)

Details of Procedure:

No.	Action	Responsibility
a.	Receive and register the EMR report it in the module PPC. Use button 'Find' to search an EIA/EMP project.	AA (C/O)
b.	Enter data No.1 – 7 in the Case Details tab.	AA (C/O)
c.	Click 'Copy Checkpoints' to generates the Checkpoints and enter the date of receive EMR & Route (EMR01) to officer in-charge in the column Started and Closed.	AA (C/O)
d.	Enter the dates for the following tasks in the column Closed: • EMR02 – EMR Check & Review • EMR02a – Produce Site Verification Report • EMR03 – Produce EMR Response Letter • EMR04 – Send the Response Letter to PT & File a copy	ECO/AECO
e.	Attach any documents relevant to project, e.g., EMR review criteria, respond letter, etc (if any).	ECO/AECO

Case Information > Case Details

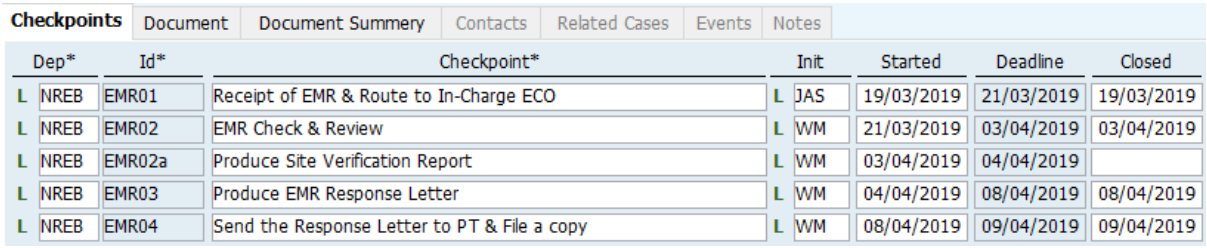
The Case Details tab contains basin information on a case (i.e., EMR). Unlimited number of cases can be added on this tab. When more than one case has been added a scroll bar appears (Data No.1 – 8).

Click 'Copy checkpoints' to generates the Checkpoints for the EMR assessment process. Enter the date EMR received and route to officer in-charge (EMR01) in column Started and Closed.

Enter the dates of the following tasks in the column Closed:

- EMR02 – EMR Check & Review
- EMR02a – Produce Site Verification Report
- EMR03 – Produce EMR Response Letter
- EMR04 – Send the Response Letter to PT & File a copy

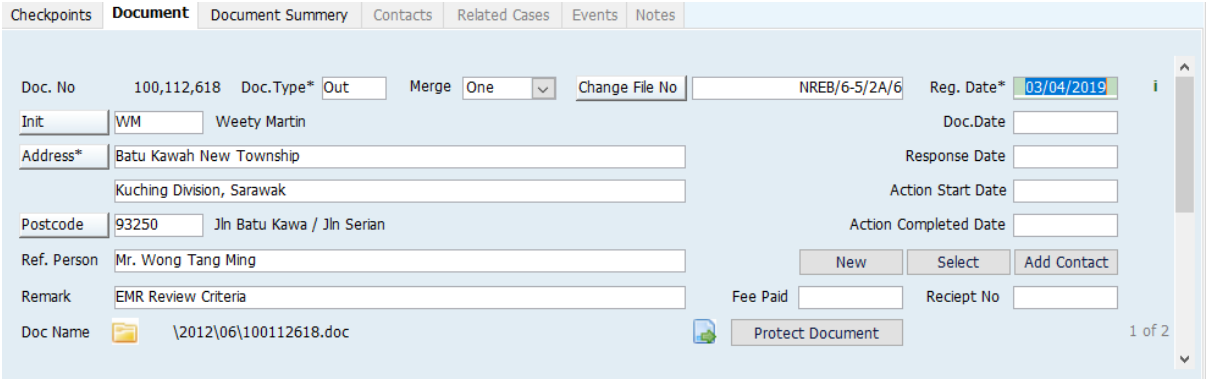
(Note: The EMR report assessment process starts within 14 working days of receiving and registering the report.)



Dep*	Id*	Checkpoint*	Init	Started	Deadline	Closed
L NREB	EMR01	Receipt of EMR & Route to In-Charge ECO	L JAS	19/03/2019	21/03/2019	19/03/2019
L NREB	EMR02	EMR Check & Review	L WM	21/03/2019	03/04/2019	03/04/2019
L NREB	EMR02a	Produce Site Verification Report	L WM	03/04/2019	04/04/2019	
L NREB	EMR03	Produce EMR Response Letter	L WM	04/04/2019	08/04/2019	08/04/2019
L NREB	EMR04	Send the Response Letter to PT & File a copy	L WM	08/04/2019	09/04/2019	09/04/2019

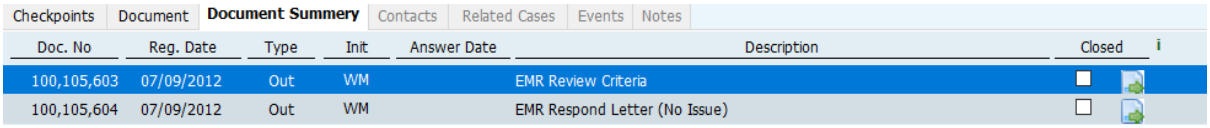
Documents

related to EMR, e.g., EMR Response Letter and EMR Review Criteria can be downloaded and uploaded in the Document as shows below:



Document Summary

This tab gives an overview of all documents attached to the cases cone ted to the site selected in the registration casement.



Checkpoints | Document | **Document Summery** | Contacts | Related Cases | Events | Notes

Doc. No	Reg. Date	Type	Init	Answer Date	Description	Closed	i
100,105,603	07/09/2012	Out	WM		EMR Review Criteria	☐	
100,105,604	07/09/2012	Out	WM		EMR Respond Letter (No Issue)	☐	

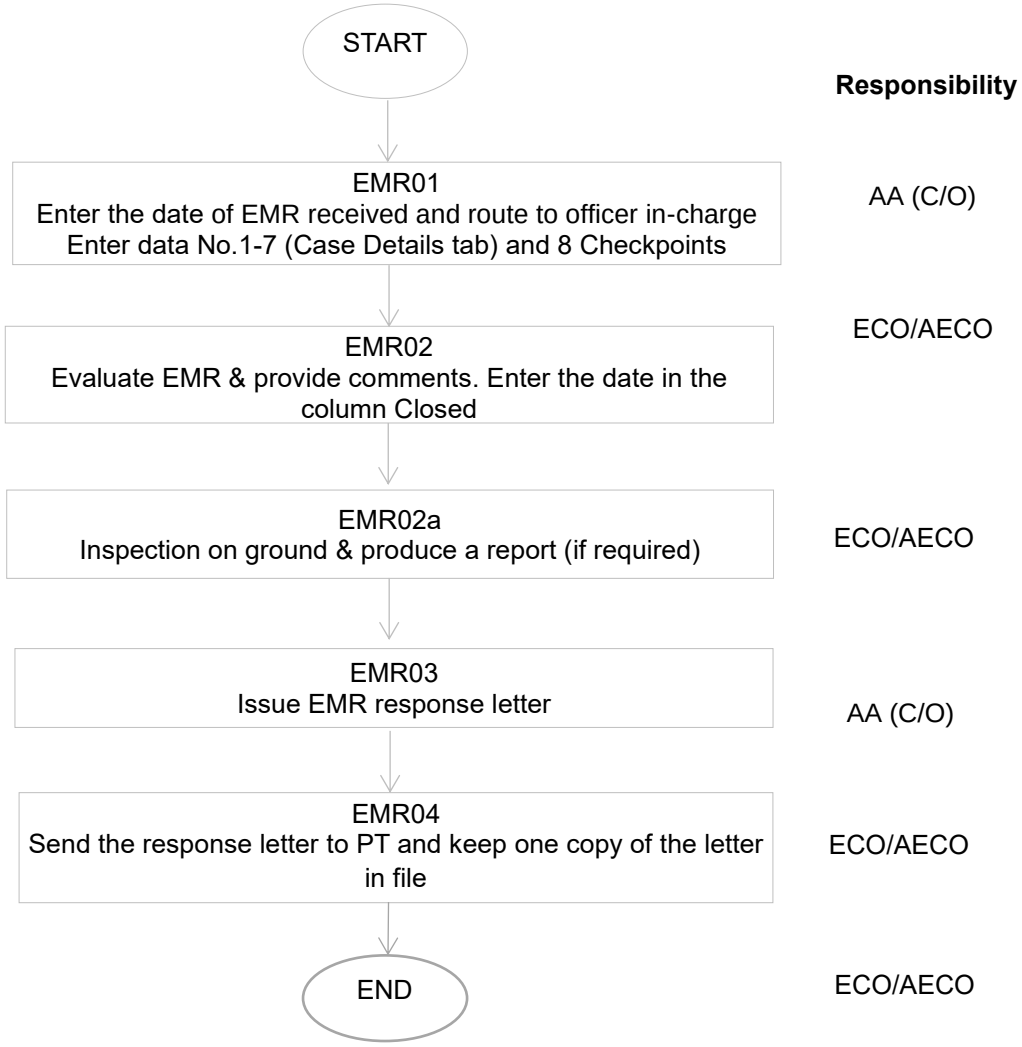
Case Information > Case Files

The Case Files gives a summary of all cases connected to the site selected in the Case Details.

Case Details | **Case Files**

Case No	File No	C.O	Case Subject	End Date	Expire date	Related Case
100,102,217	NREB/6-5/2A/65	PSM	EMP for Kompleks Islam Sarawak Jalan P.Pamlee, Kuching	19/01/2011		☐
100,102,459	NREB/6-5/2A/65	WM	EMR 1Q 2010 for Kompleks Islam Sarawak Jalan P.Pamlee, Kuching	15/06/2010		☐
100,103,525	NREB/6-5/2A/65	WM	EMR 2Q 2010 FOR Kompleks Islam Sarawak Jalan P.Pamlee, Kuching	31/01/2011		☐
100,103,774	NREB/6-5/2A/65	WM	EMR 3Q 2010 FOR Kompleks Islam Sarawak Jalan P.Pamlee, Kuching	02/03/2011		☐
100,103,929	NREB/6-5/2A/65	WM	EMR FOURTH 2011 FOR Kompleks Islam Sarawak Jalan P.Pamlee, Ku	31/03/2011		☐
100,104,423	NREB/6-5/2A/65	WM	EMR 5TH 2011 FOR Kompleks Islam Sarawak Jalan P.Pamlee, Kuchin	23/06/2011		☐
100,105,354	NREB/6-5/2A/65	WM	EMR 6TH 2011 FOR Kompleks Islam Sarawak Jalan P.Pamlee, Kuchin	14/09/2011		☐
100,106,218	NREB/6-5/2A/65	WM	EMR 7TH 2011 FOR Kompleks Islam Sarawak Jalan P.Pamlee, Kuchin	03/02/2012		☐
100,106,520	NREB/6-5/2A/65	WM	EMR 8TH 2011 FOR Kompleks Islam Sarawak Jalan P.Pamlee, Kuchin	05/03/2012		☐
100,107,007	NREB/6-5/2A/65	WM	EMR 1Q 2012 FOR Kompleks Islam Sarawak Jalan P.Pamlee, Kuching	15/05/2012		☐
100,107,748	NREB/6-5/2A/65	WM	EMR 2Q 2012 FOR Kompleks Islam Sarawak Jalan P.Pamlee, Kuching	07/09/2012		☐

Work Flow of Data Entering and Updating Process for EMR Report



3.3 Landfills Information and Leachate Sampling

- This procedure applies to all the landfills monitor by the NREB Headquarters.
- Login to GE using provided User ID and Password. Then, select module Contaminated Land and Samples.
- Table 5 shows all required data for landfills and leachate monitoring.

Table 5: Required Data for Landfills and Leachate Monitoring

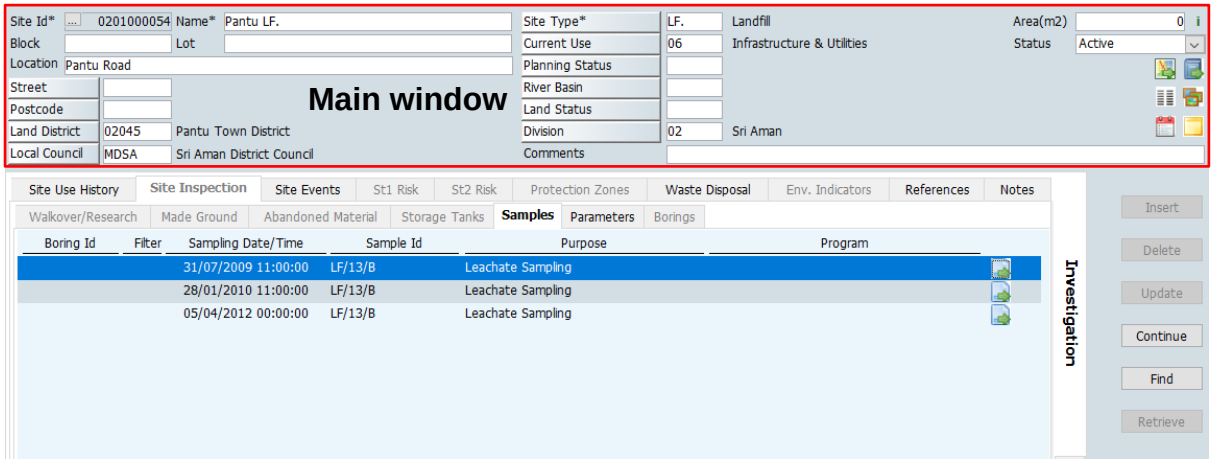
No.	Fields
1.	Site ID
2.	Name
3.	Site Type
4.	Area (m^2)
5.	Status
6.	Location
7.	Local Council
8.	Division
9.	Sample ID
10.	Sample Date
11.	Sample Type
12.	Purpose
13.	Preparation
14.	Analysis Programme
15.	Laboratory
16.	Report No.
17.	Analysis Summary

Details of Procedure:

No.	Action	Responsibility
a.	Register new landfill and its basic information in the main window of module Contaminated Land. (Data No. 1 – 8)	ECO/AECO/EA
b.	Open the module Samples. (Data No. 9 – 17) (Note: tab Site Inspection > **Samples.** The tab Samples in this module links to the module Samples. Move cursor to this button to open module Samples. All samples of leachate registered for a given landfill in the module Samples are automatically listed in this tab.)	ECO/AECO/EA
c.	Register details of leachate samples in the main window of module samples as shown below (Data No.9 – 16).	ECO/AECO/EA
d.	Key-in the leachate laboratory test results in the Analysis Summary (Data No.17)	ECO/AECO/EA
e.	Click button Update to Save data in GE	ECO/AECO/EA

a) Register new landfill and its basic information in the main window of module Contaminated Land as shown below. (Data No. 1 – 8)

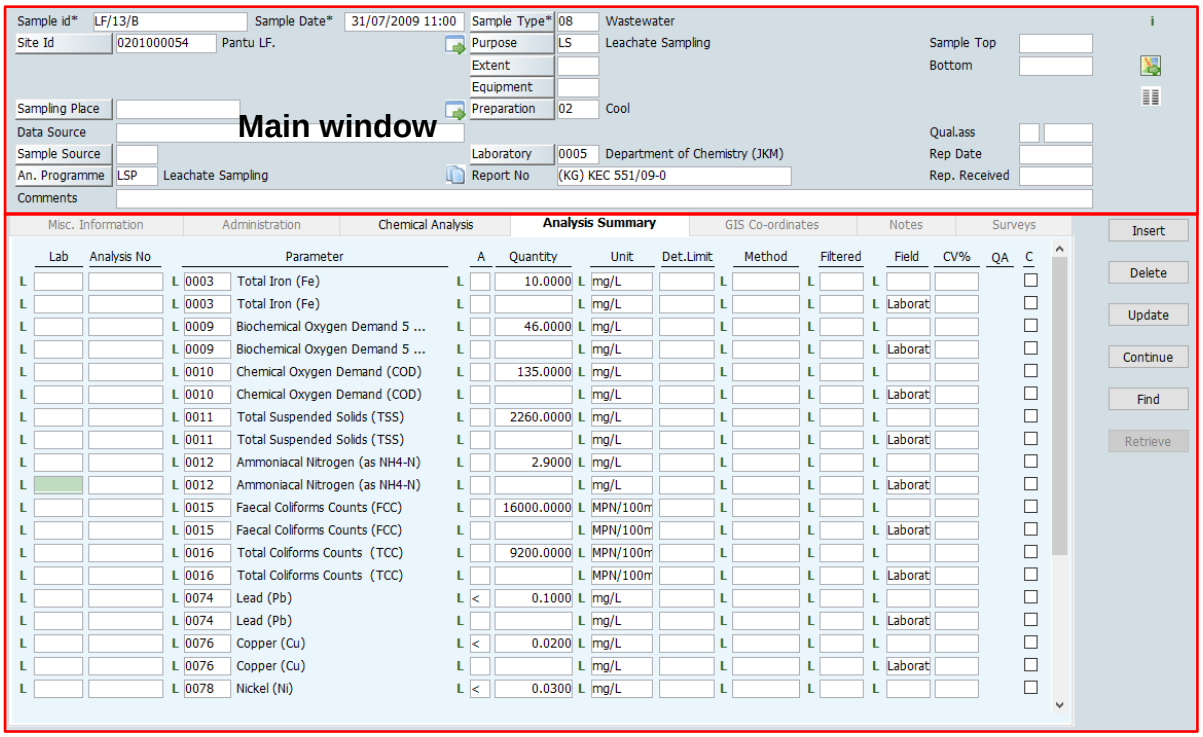
b) Open the module Samples. Move cursor to this button to open module Samples. All samples of leachate registered for a given landfill in the module Samples are automatically listed in this tab.



c) Register details of leachate samples in the main window of module samples as shown below (Data No.9 – 16).

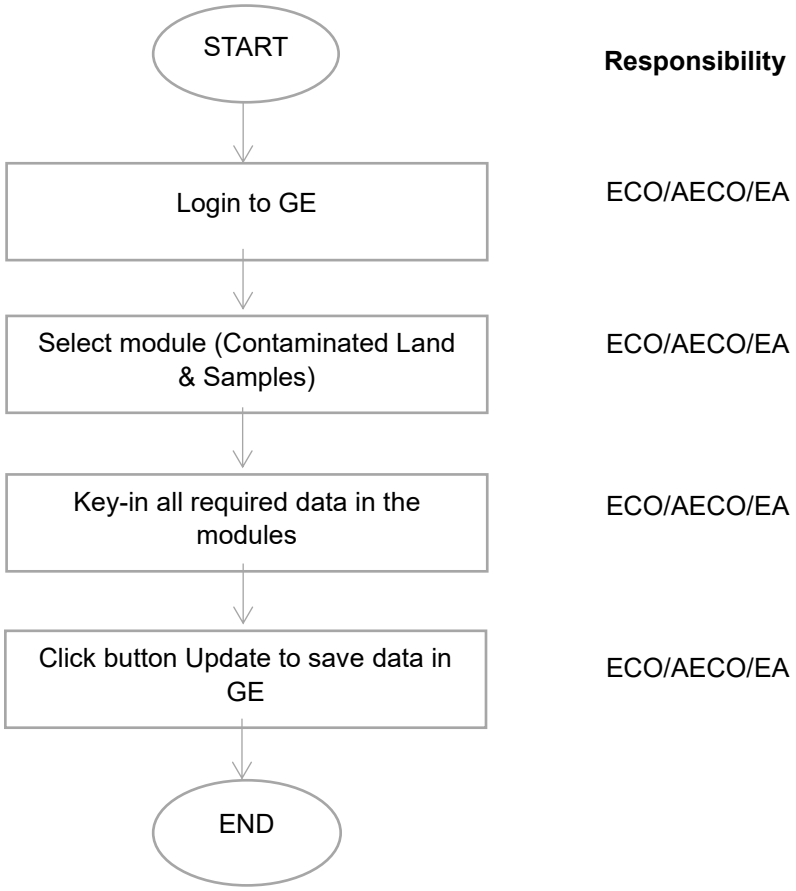
d) Key-in the leachate laboratory test results in the Analysis Summary (Data No.17).

e) Click button Update to Save data in GE



Lab	Analysis No	Parameter	A	Quantity	Unit	Det.Limit	Method	Filtered	Field	CV%	QA	C
		0003 Total Iron (Fe)		10.0000	mg/L							
		0003 Total Iron (Fe)			mg/L				Laborat			
		0009 Biochemical Oxygen Demand 5 ...		46.0000	mg/L							
		0009 Biochemical Oxygen Demand 5 ...			mg/L				Laborat			
		0010 Chemical Oxygen Demand (COD)		135.0000	mg/L							
		0010 Chemical Oxygen Demand (COD)			mg/L				Laborat			
		0011 Total Suspended Solids (TSS)		2260.0000	mg/L							
		0011 Total Suspended Solids (TSS)			mg/L				Laborat			
		0012 Ammoniacal Nitrogen (as NH4-N)		2.9000	mg/L							
		0012 Ammoniacal Nitrogen (as NH4-N)			mg/L				Laborat			
		0015 Faecal Coliforms Counts (FCC)		16000.0000	MPN/100m							
		0015 Faecal Coliforms Counts (FCC)			MPN/100m				Laborat			
		0016 Total Coliforms Counts (TCC)		9200.0000	MPN/100m							
		0016 Total Coliforms Counts (TCC)			MPN/100m				Laborat			
		0074 Lead (Pb)	<	0.1000	mg/L							
		0074 Lead (Pb)			mg/L				Laborat			
		0076 Copper (Cu)	<	0.0200	mg/L							
		0076 Copper (Cu)			mg/L				Laborat			
		0078 Nickel (Ni)	<	0.0300	mg/L							

Work Flow of Data Entering and Updating Process for Landfill and Leachate



3.4 Ambient Water Quality Monitoring

- This procedure applies to the Ambient Water Quality Monitoring Program carried out the NREB Headquarters.
- Login to GE using provided User ID and Password. Then, select module Recipients and Stations.
- Table 6 shows the required data for ambient water quality.

Table 6: List of Required data for the Ambient Water Quality

No.	Fields/ Data
1.	Recipient ID *Note: Q9999 is a code for unknown National Coding Id (by Department of irrigation and Drainage, DID)*
2.	Name (of river)
3.	Recipient Type (REC)
4.	Locations
5.	Comments (if any)
6.	Stations
7.	Recipient ID
8.	Status
9.	Station ID
10.	River Basin
11.	Station Type
12.	Division
13.	Location
14.	Agency ID
15.	Comments (if any)
16.	All fields in tab Water Quality except field End. Field Comments if necessary
17.	Relevant fields in tab Sampling Conditions
18.	Relevant parameters in tab Laboratory Analysis
19.	GIS Coordinates (X, Y coordinates for the sampling point)

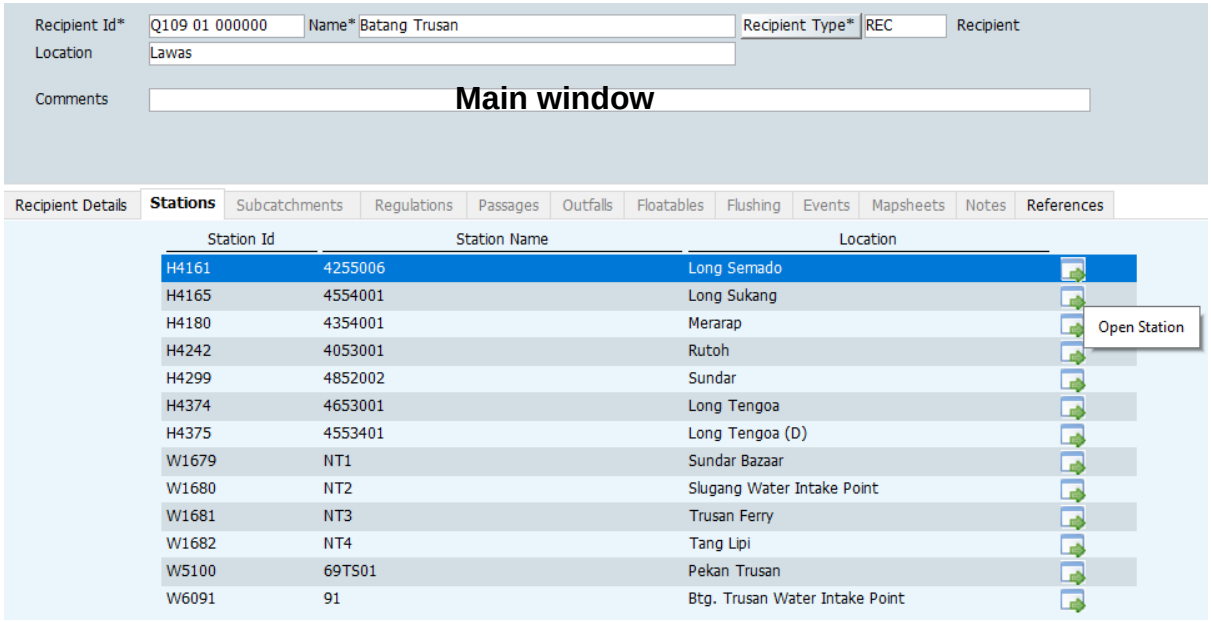
Details of Procedure:

No.	Action	Responsibility
a.	Register new river / lake/ dam and its basic information in module Recipients. (Data No. 1 – 5)	ECO/AECO
b.	Start the module Station by click 'Open Station'. Register new sampling points and update data for water sample and laboratory test results in module Stations. (Data No. 6 – 19) (Note: Move cursor to 'Open Station')	ECO/AECO/ECA

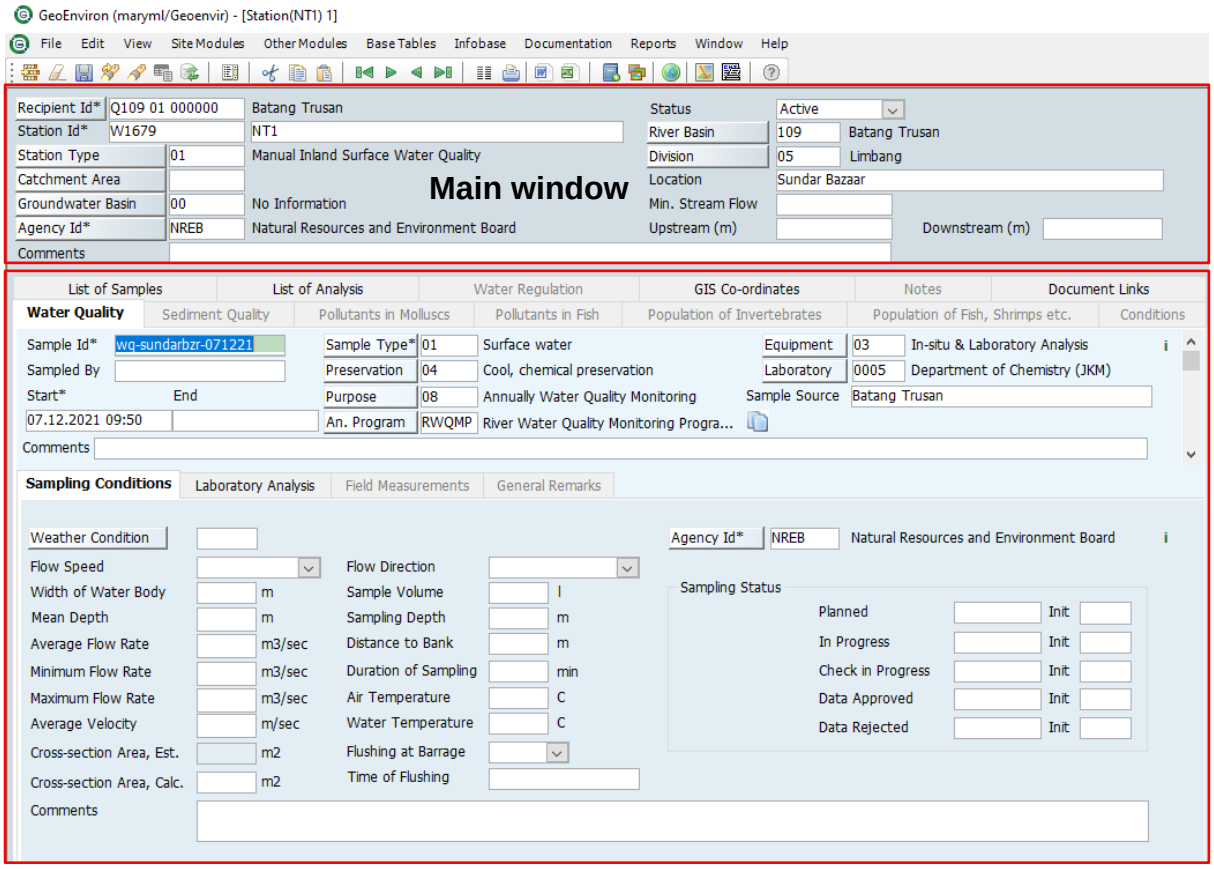
a) Register new river / lake/ dam and its basic information in the main window of module Recipients as shown below. (Data No. 1 – 5)

b) Start the module Station by click 'Open Station'.

(Note: Move cursor to this  *button to open module Station. All stations registered for a given river/lake/dam in the module Stations are automatically listed in this tab.)*

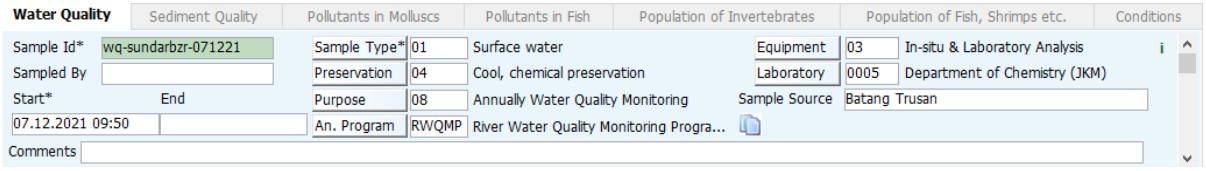


c) Register new sampling points and update data for water sample, sampling conditions and laboratory test results in module Stations. (Data No. 6 – 19)

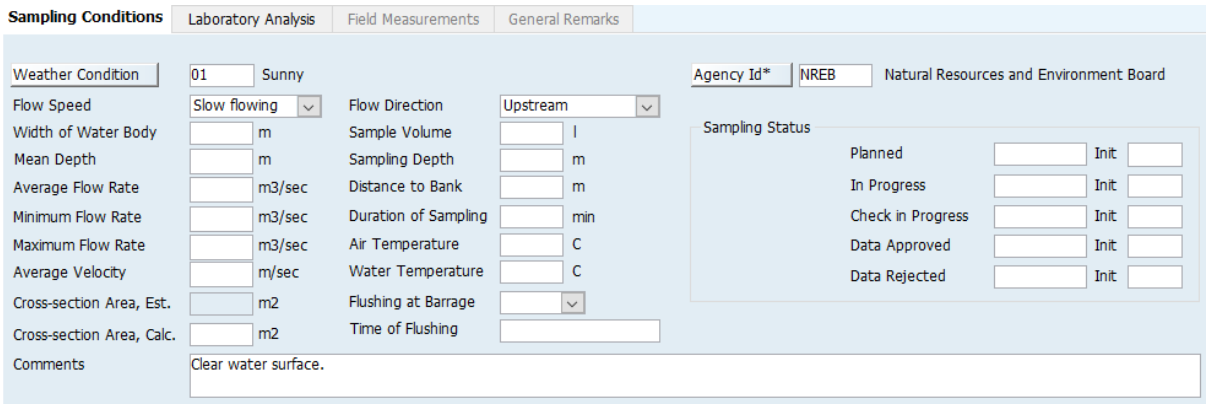


Water Quality Tab

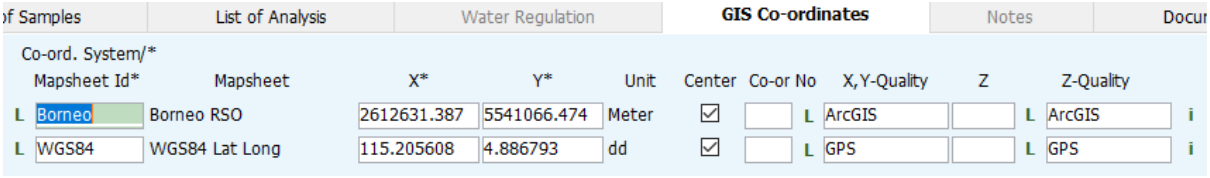
This tab describing one or more samples, the sample type, equipment for sampling, sample preservation, laboratory carrying out the analyses, date and time for start and end of sampling and a comment field. All fields shown below are required to be key-in and updated:



Sampling Conditions Tab



GIS Coordinates Tab



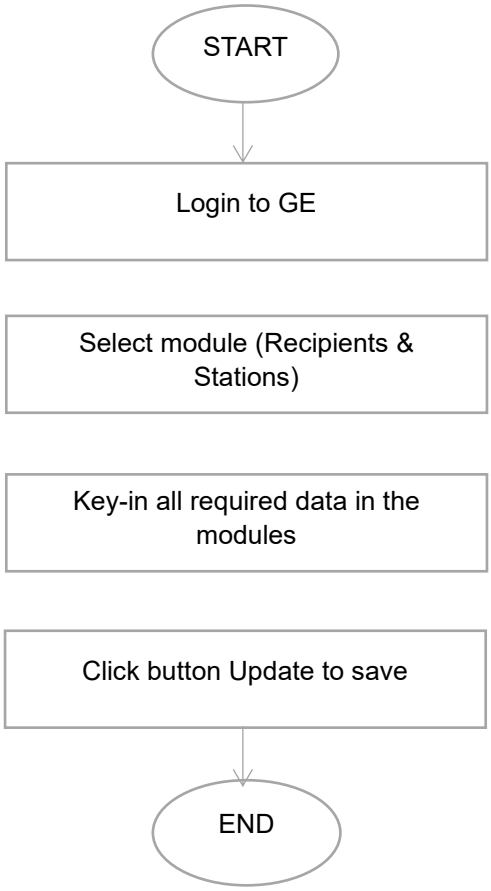
List of Samples

List of Analysis

List of Samples | **List of Analysis** | Water Regulation | GIS Co-ordinates | Notes | Document Links

	Parameter	Attr	Quantity	Unit	Sampling Date/Time	Method		Sample Type	
0012	Ammoniacal Nitrogen (as NH4-N)		1.0000	mg/L	19/11/2008 08:50:00		01	Surface water	i
0012	Ammoniacal Nitrogen (as NH4-N)		0.0800	mg/L	07/08/2008 11:00:00		01	Surface water	i
0012	Ammoniacal Nitrogen (as NH4-N)		0.0500	mg/L	14/02/2008 10:00:00		01	Surface water	i
0012	Ammoniacal Nitrogen (as NH4-N)		0.0500	mg/L	15/08/2007 09:30:00		01	Surface water	i
0012	Ammoniacal Nitrogen (as NH4-N)		0.0500	mg/L	22/05/2007 09:30:00		01	Surface water	i
0012	Ammoniacal Nitrogen (as NH4-N)		0.0500	mg/L	25/09/2006 08:40:00		01	Surface water	i
0012	Ammoniacal Nitrogen (as NH4-N)		0.0500	mg/L	25/04/2006 09:20:00		01	Surface water	i
0009	Biochemical Oxygen Demand 5 days (BOD5)	<	1.0000	mg/L	07/12/2021 09:50:00	APHA 5210 B &	01	Surface water	i
0009	Biochemical Oxygen Demand 5 days (BOD5)		1.6000	mg/L	27/09/2021 09:40:00	APHA 5210 B &	01	Surface water	i
0009	Biochemical Oxygen Demand 5 days (BOD5)		5.0000	mg/L	03/12/2019 09:25:00	APHA 5210 B &	01	Surface water	i
0009	Biochemical Oxygen Demand 5 days (BOD5)		2.0000	mg/L	11/09/2019 09:15:00	APHA 5210 B &	01	Surface water	i
0009	Biochemical Oxygen Demand 5 days (BOD5)	<	2.0000	mg/L	04/07/2019 09:35:00	APHA 5210 B &	01	Surface water	i
0009	Biochemical Oxygen Demand 5 days (BOD5)	<	2.0000	mg/L	21/03/2019 09:15:00	APHA 5210 B &	01	Surface water	i
0009	Biochemical Oxygen Demand 5 days (BOD5)	<	2.0000	mg/L	04/12/2018 09:25:00	APHA 5210 B &	01	Surface water	i
0009	Biochemical Oxygen Demand 5 days (BOD5)	<	2.0000	mg/L	25/09/2018 08:45:00	APHA 5210 B &	01	Surface water	i
0009	Biochemical Oxygen Demand 5 days (BOD5)	<	2.0000	mg/L	19/07/2018 08:50:00	APHA 5210 B &	01	Surface water	i
0009	Biochemical Oxygen Demand 5 days (BOD5)	<	2.0000	mg/L	20/03/2018 09:05:00	APHA 5210 B &	01	Surface water	i
0009	Biochemical Oxygen Demand 5 days (BOD5)	<	2.0000	mg/L	05/12/2017 09:05:00	APHA 5210 B &	01	Surface water	i
0009	Biochemical Oxygen Demand 5 days (BOD5)	<	2.0000	mg/L	05/10/2017 08:50:00	APHA 5210 B &	01	Surface water	i
0009	Biochemical Oxygen Demand 5 days (BOD5)	<	2.0000	mg/L	22/06/2017 09:35:00	APHA 5210 B &	01	Surface water	i

Work Flow of Data Entering and Updating Process for Ambient Water Quality Monitoring

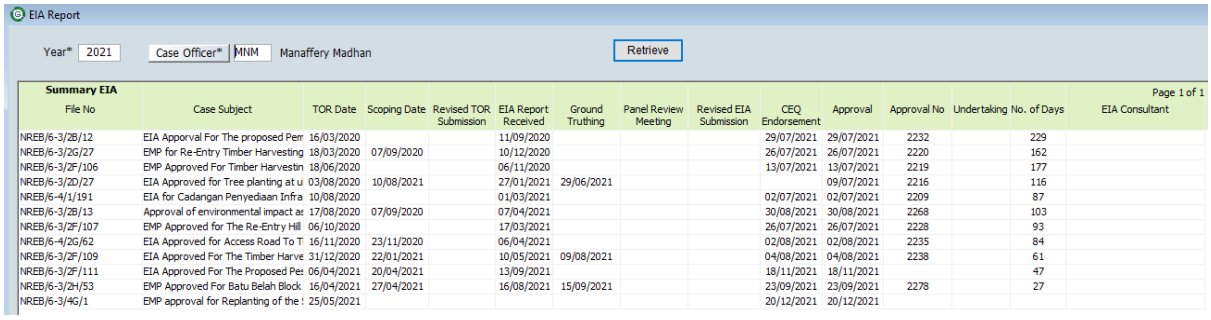


	Responsibility
Login to GE	ECO/AECO/EA
Select module (Recipients & Stations)	ECO/AECO/EA
Key-in all required data in the modules	ECO/AECO/EA
Click button Update to save	ECO/AECO/EA

Module Reports

This module presents all the reports designed especially for the PPC and Recipients modules.

2.8.1 Summary Reporting for EIA



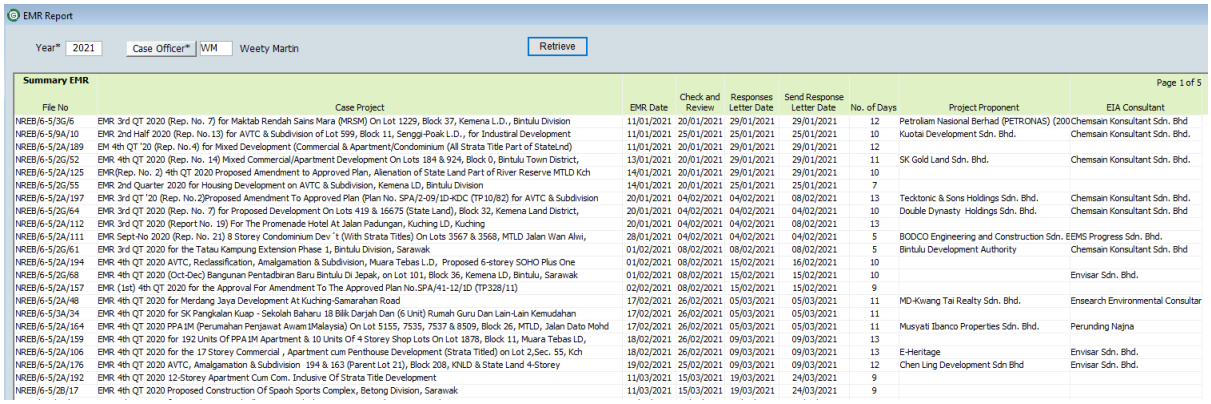
EIA Report

Year* 2021 Case Officer* MNM Manaffery Madhan Retrieve

Summary EIA — Page 1 of 1

File No	Case Subject	TOR Date	Scoping Date	Revised TOR Submission	EIA Report Received	Ground Truthing	Panel Review Meeting	Revised EIA Submission	CEQ Endorsement	Approval	Approval No	Undertaking	No. of Days	EIA Consultant
NREB/6-3/2B/12	EIA Apporval For The proposed Pem	16/03/2020			11/09/2020				29/07/2021	29/07/2021	2232		229	
NREB/6-3/2G/27	EMP for Re-Entry Timber Harvesting	18/03/2020	07/09/2020		10/12/2020				26/07/2021	26/07/2021	2220		162	
NREB/6-3/2F/106	EMP Approved For Timber Harvestin	18/06/2020			06/11/2020				13/07/2021	13/07/2021	2219		177	
NREB/6-3/2D/27	EIA Approved for Tree planting at u	03/08/2020	10/08/2021		27/01/2021	29/06/2021				09/07/2021	2216		116	
NREB/6-4/1/191	EIA for Cadangan Penyediaan Infra	10/08/2020			01/03/2021				02/07/2021	02/07/2021	2209		87	
NREB/6-3/2B/13	Approval of environmental impact as	17/08/2020	07/09/2020		07/04/2021				30/08/2021	30/08/2021	2268		103	
NREB/6-3/2F/107	EMP Approved for The Re-Entry Hill	06/10/2020			17/03/2021				26/07/2021	26/07/2021	2228		93	
NREB/6-4/2G/62	EIA Approved for Access Road To T	16/11/2020	23/11/2020		06/04/2021				02/08/2021	02/08/2021	2235		84	
NREB/6-3/2F/109	EIA Approved For The Timber Harve	31/12/2020	22/01/2021		10/05/2021	09/08/2021			04/08/2021	04/08/2021	2238		61	
NREB/6-3/2F/111	EIA Approved For The Proposed Pe	06/04/2021	20/04/2021		13/09/2021				18/11/2021	18/11/2021			47	
NREB/6-3/2H/53	EMP Approved For Batu Belah Block	16/04/2021	27/04/2021		16/08/2021	15/09/2021			23/09/2021	23/09/2021	2278		27	
NREB/6-3/4G/1	EMP approval for Replanting of the :	25/05/2021							20/12/2021	20/12/2021				

2.8.2 Summary Reporting for EMR



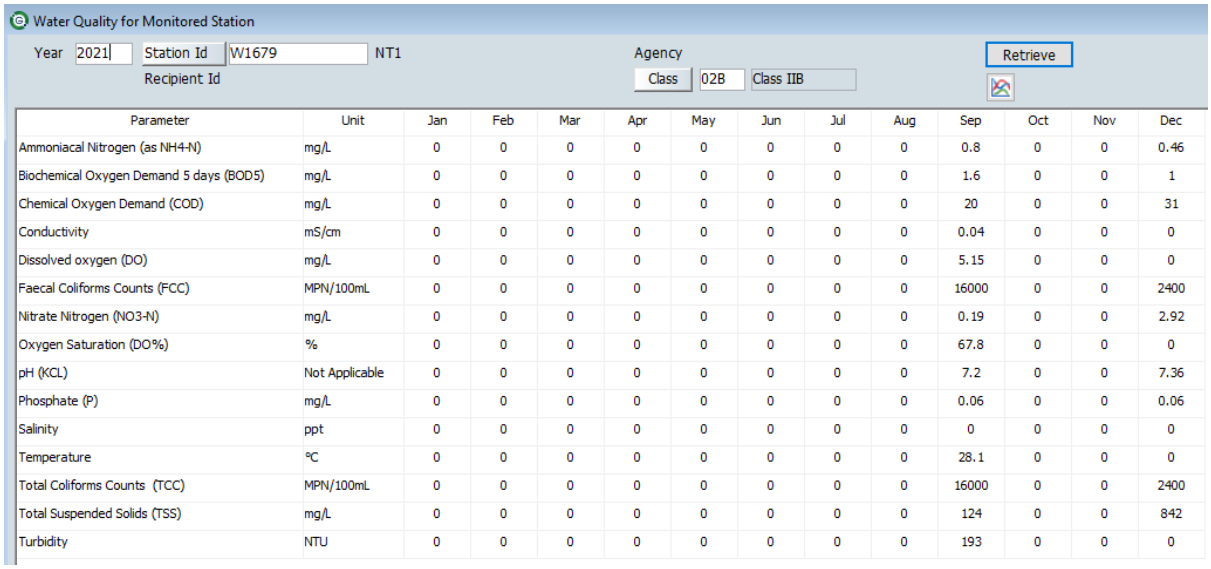
EMR Report

Year* 2021 Case Officer* WM Weety Martin Retrieve

Summary EMR — Page 1 of 5

File No	Case Project	EMR Date	Check and Review	Responses Letter Date	Send Response Letter Date	No. of Days	Project Proponent	EIA Consultant
NREB/6-5/3G/6	EMR 3rd QT 2020 (Rep. No. 7) for Maktab Rendah Sains Mara (MRSM) On Lot 1229, Block 37, Kemena L.D., Bintulu Division	11/01/2021	20/01/2021	29/01/2021	29/01/2021	12	Petroliam Nasional Berhad (PETRONAS) (200	Chemsain Konsultant Sdn. Bhd
NREB/6-5/9A/10	EMR 2nd Half 2020 (Rep. No. 13) for AVTC & Subdivision of Lot 599, Block 11, Senggi-Poak L.D., for Industrial Development	11/01/2021	25/01/2021	25/01/2021	25/01/2021	10	Kuotai Development Sdn. Bhd.	Chemsain Konsultant Sdn. Bhd.
NREB/6-5/2A/189	EM 4th QT '20 (Rep. No.4) for Mixed Development (Commercial & Apartment/Condominium (All Strata Title Part of StateLnd)	11/01/2021	20/01/2021	29/01/2021	29/01/2021	12		
NREB/6-5/2G/52	EMR 4th QT 2020 (Rep. No. 14) Mixed Commercial/Apartment Development On Lots 184 & 924, Block 0, Bintulu Town District,	13/01/2021	20/01/2021	29/01/2021	29/01/2021	11	SK Gold Land Sdn. Bhd.	Chemsain Konsultant Sdn. Bhd.
NREB/6-5/2A/125	EMR(Rep. No. 2) 4th QT 2020 Proposed Amendment to Approved Plan, Alienation of State Land Part of River Reserve MTLD Kch	14/01/2021	20/01/2021	29/01/2021	29/01/2021	10		
NREB/6-5/2G/55	EMR 2nd Quarter 2020 for Housing Development on AVTC & Subdivision, Kemena LD, Bintulu Division	14/01/2021	20/01/2021	25/01/2021	25/01/2021	7		
NREB/6-5/2A/197	EMR 3rd QT '20 (Rep. No.2)Proposed Amendment To Approved Plan (Plan No. SPA/2-09/1D-KDC (TP10/82) for AVTC & Subdivision	20/01/2021	04/02/2021	04/02/2021	08/02/2021	13	Tecktonic & Sons Holdings Sdn. Bhd.	Chemsain Konsultant Sdn. Bhd.
NREB/6-5/2G/64	EMR 3rd QT 2020 (Rep. No. 7) for Proposed Development On Lots 419 & 16675 (State Land), Block 32, Kemena Land District,	20/01/2021	04/02/2021	04/02/2021	04/02/2021	10	Double Dynasty Holdings Sdn. Bhd.	Chemsain Konsultant Sdn. Bhd
NREB/6-5/2A/112	EMR 3rd QT 2020 (Report No. 19) For The Promenade Hotel At Jalan Padungan, Kuching LD, Kuching	20/01/2021	04/02/2021	04/02/2021	08/02/2021	13		
NREB/6-5/2A/111	EMR Sept-No 2020 (Rep. No. 21) 8 Storey Condominium Dev 't (With Strata Titles) On Lots 3567 & 3568, MTLD Jalan Wan Alwi,	28/01/2021	04/02/2021	04/02/2021	04/02/2021	5	BODCO Engineering and Construction Sdn. B	EEMS Progress Sdn. Bhd.
NREB/6-5/2G/61	EMR 3rd QT 2020 for the Tatau Kampung Extension Phase 1, Bintulu Division, Sarawak	01/02/2021	08/02/2021	08/02/2021	08/02/2021	5	Bintulu Development Authority	Chemsain Konsultant Sdn. Bhd
NREB/6-5/2A/194	EMR 4th QT 2020 AVTC, Reclassification, Amalgamation & Subdivision, Muara Tebas L.D, Proposed 6-storey SOHO Plus One	01/02/2021	08/02/2021	15/02/2021	16/02/2021	10		
NREB/6-5/2G/68	EMR 4th QT 2020 (Oct-Dec) Bangunan Pentadbiran Baru Bintulu Di Jepak, on Lot 101, Block 36, Kemena LD, Bintulu, Sarawak	01/02/2021	08/02/2021	15/02/2021	15/02/2021	10		Envisar Sdn. Bhd.
NREB/6-5/2A/157	EMR (1st) 4th QT 2020 for the Approval For Amendment To The Approved Plan No.SPA/41-12/1D (TP328/11)	02/02/2021	08/02/2021	15/02/2021	15/02/2021	9		
NREB/6-5/2A/48	EMR 4th QT 2020 for Merdang Jaya Development At Kuching-Samarahan Road	17/02/2021	26/02/2021	05/03/2021	05/03/2021	11	MD-Kwang Tai Realty Sdn. Bhd.	Ensearch Environmental Consultar
NREB/6-5/3A/34	EMR 4th QT 2020 for SK Pangkalan Kuap - Sekolah Baharu 18 Bilik Darjah Dan (6 Unit) Rumah Guru Dan Lain-Lain Kemudahan	17/02/2021	26/02/2021	05/03/2021	05/03/2021	11		
NREB/6-5/2A/164	EMR 4th QT 2020 PPA1M (Perumahan Penjawat Awam1Malaysia) On Lot 5155, 7535, 7537 & 8509, Block 26, MTLD, Jalan Dato Mohd	17/02/2021	26/02/2021	05/03/2021	05/03/2021	11	Musyati Ibanco Properties Sdn. Bhd.	Perunding Najna
NREB/6-5/2A/159	EMR 4th QT 2020 for 192 Units Of PPA1M Apartment & 10 Units Of 4 Storey Shop Lots On Lot 1878, Block 11, Muara Tebas LD,	18/02/2021	26/02/2021	09/03/2021	09/03/2021	13		
NREB/6-5/2A/106	EMR 4th QT 2020 for the 17 Storey Commercial , Apartment cum Penthouse Development (Strata Titled) on Lot 2,Sec. 55, Kch	18/02/2021	26/02/2021	09/03/2021	09/03/2021	13	E-Heritage	Envisar Sdn. Bhd.
NREB/6-5/2A/176	EMR 4th QT 2020 AVTC, Amalgamation & Subdivision 194 & 163 (Parent Lot 21), Block 208, KNLD & State Land 4-Storey	19/02/2021	25/02/2021	09/03/2021	09/03/2021	12	Chen Ling Development Sdn Bhd	Envisar Sdn. Bhd.
NREB/6-5/2A/192	EMR 4th QT 2020 12-Storey Apartment Cum Com. Inclusive Of Strata Title Development	11/03/2021	15/03/2021	19/03/2021	24/03/2021	9		
NREB/6-5/2B/17	EMR 4th QT 2020 Proposed Construction Of Spaoh Sports Complex, Betong Division, Sarawak	11/03/2021	15/03/2021	19/03/2021	24/03/2021	9		

2.8.3 Analyses by Month (Station)

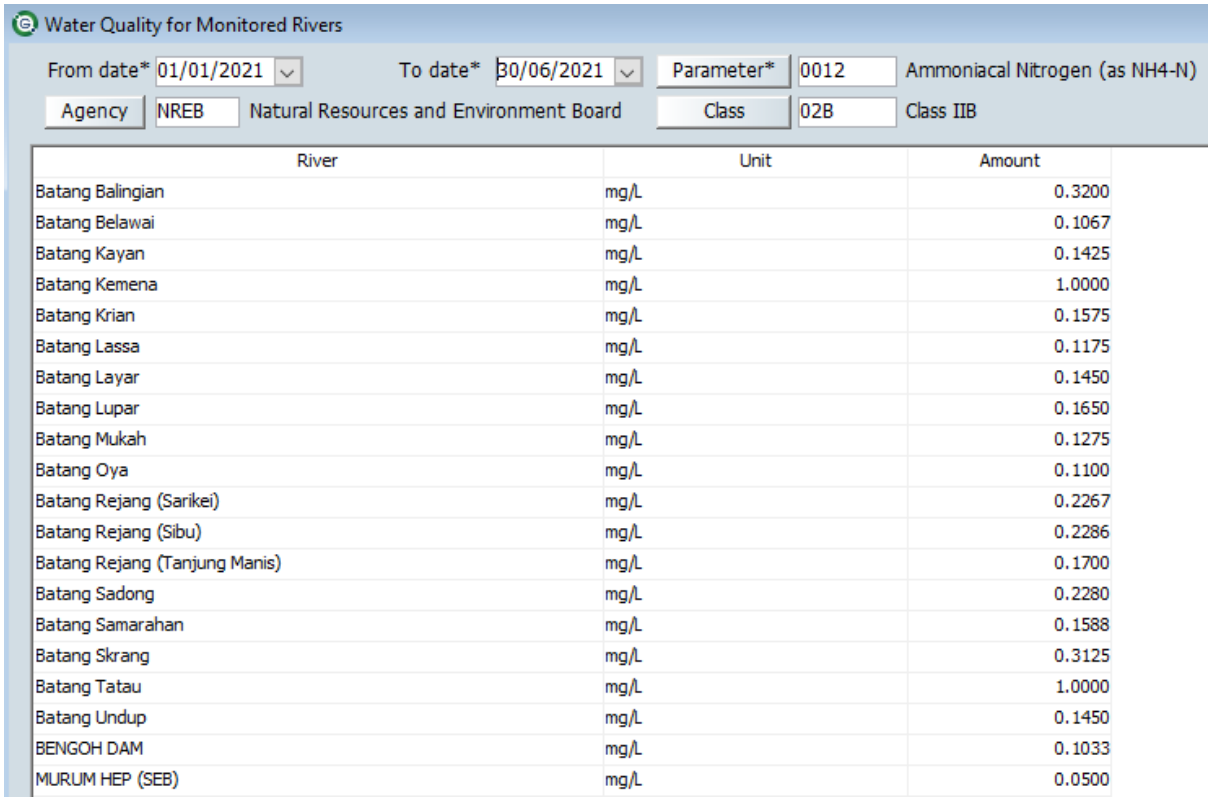


Water Quality for Monitored Station

Year 2021 Station Id W1679 NT1 Recipient Id Agency Class 02B Class IIB Retrieve

Parameter	Unit	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Ammoniacal Nitrogen (as NH4-N)	mg/L	0	0	0	0	0	0	0	0	0.8	0	0	0.46
Biochemical Oxygen Demand 5 days (BOD5)	mg/L	0	0	0	0	0	0	0	0	1.6	0	0	1
Chemical Oxygen Demand (COD)	mg/L	0	0	0	0	0	0	0	0	20	0	0	31
Conductivity	mS/cm	0	0	0	0	0	0	0	0	0.04	0	0	0
Dissolved oxygen (DO)	mg/L	0	0	0	0	0	0	0	0	5.15	0	0	0
Faecal Coliforms Counts (FCC)	MPN/100mL	0	0	0	0	0	0	0	0	16000	0	0	2400
Nitrate Nitrogen (NO3-N)	mg/L	0	0	0	0	0	0	0	0	0.19	0	0	2.92
Oxygen Saturation (DO%)	%	0	0	0	0	0	0	0	0	67.8	0	0	0
pH (KCL)	Not Applicable	0	0	0	0	0	0	0	0	7.2	0	0	7.36
Phosphate (P)	mg/L	0	0	0	0	0	0	0	0	0.06	0	0	0.06
Salinity	ppt	0	0	0	0	0	0	0	0	0	0	0	0
Temperature	°C	0	0	0	0	0	0	0	0	28.1	0	0	0
Total Coliforms Counts (TCC)	MPN/100mL	0	0	0	0	0	0	0	0	16000	0	0	2400
Total Suspended Solids (TSS)	mg/L	0	0	0	0	0	0	0	0	124	0	0	842
Turbidity	NTU	0	0	0	0	0	0	0	0	193	0	0	0

2.8.4 Analyses (River)



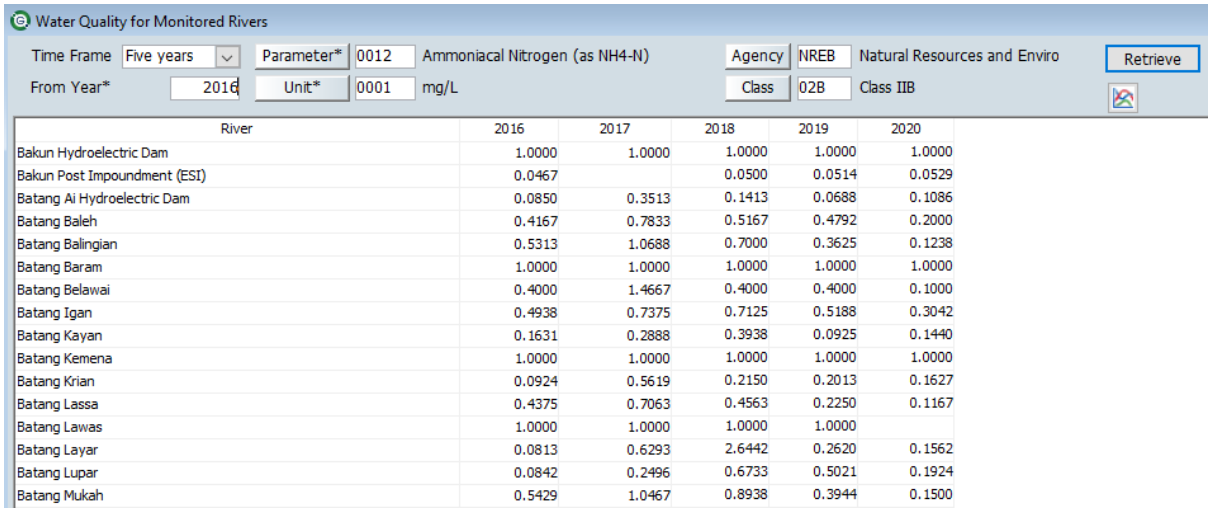
Water Quality for Monitored Rivers

From date* 01/01/2021 To date* 30/06/2021 Parameter* 0012 Ammoniacal Nitrogen (as NH4-N)

Agency NREB Natural Resources and Environment Board Class 02B Class IIB

River	Unit	Amount
Batang Balingian	mg/L	0.3200
Batang Belawai	mg/L	0.1067
Batang Kayan	mg/L	0.1425
Batang Kemena	mg/L	1.0000
Batang Krian	mg/L	0.1575
Batang Lassa	mg/L	0.1175
Batang Layar	mg/L	0.1450
Batang Lupar	mg/L	0.1650
Batang Mukah	mg/L	0.1275
Batang Oya	mg/L	0.1100
Batang Rejang (Sarikei)	mg/L	0.2267
Batang Rejang (Sibu)	mg/L	0.2286
Batang Rejang (Tanjung Manis)	mg/L	0.1700
Batang Sadong	mg/L	0.2280
Batang Samarahan	mg/L	0.1588
Batang Skrang	mg/L	0.3125
Batang Tatau	mg/L	1.0000
Batang Undup	mg/L	0.1450
BENGOH DAM	mg/L	0.1033
MURUM HEP (SEB)	mg/L	0.0500

2.8.5 Analyses (Timeframe)



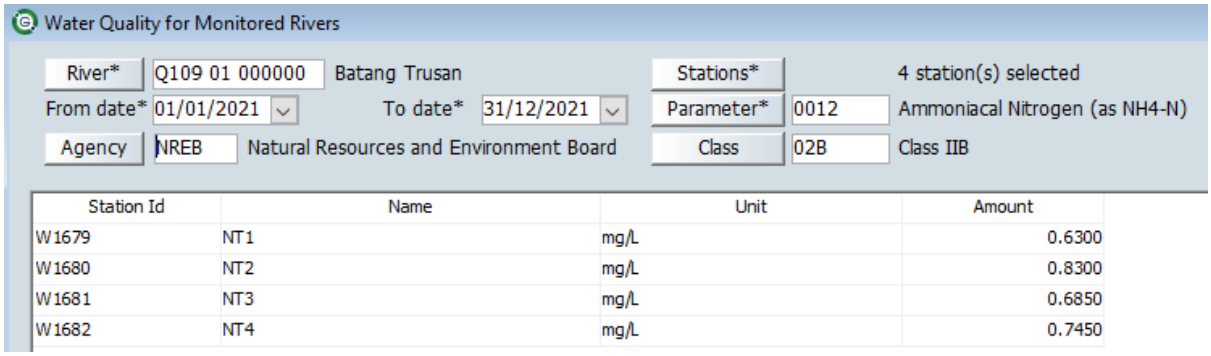
Water Quality for Monitored Rivers

Time Frame Five years Parameter* 0012 Ammoniacal Nitrogen (as NH4-N) Agency NREB Natural Resources and Enviro Retrieve

From Year* 2016 Unit* 0001 mg/L Class 02B Class IIB

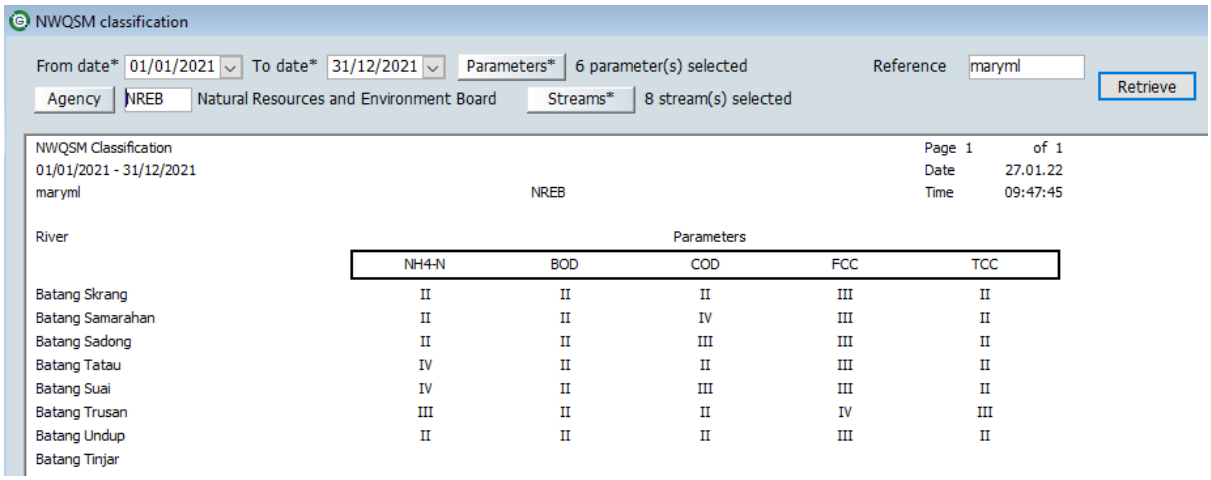
River	2016	2017	2018	2019	2020
Bakun Hydroelectric Dam	1.0000	1.0000	1.0000	1.0000	1.0000
Bakun Post Impoundment (ESI)	0.0467		0.0500	0.0514	0.0529
Batang Ai Hydroelectric Dam	0.0850	0.3513	0.1413	0.0688	0.1086
Batang Baleh	0.4167	0.7833	0.5167	0.4792	0.2000
Batang Balingian	0.5313	1.0688	0.7000	0.3625	0.1238
Batang Baram	1.0000	1.0000	1.0000	1.0000	1.0000
Batang Belawai	0.4000	1.4667	0.4000	0.4000	0.1000
Batang Igan	0.4938	0.7375	0.7125	0.5188	0.3042
Batang Kayan	0.1631	0.2888	0.3938	0.0925	0.1440
Batang Kemena	1.0000	1.0000	1.0000	1.0000	1.0000
Batang Krian	0.0924	0.5619	0.2150	0.2013	0.1627
Batang Lassa	0.4375	0.7063	0.4563	0.2250	0.1167
Batang Lawas	1.0000	1.0000	1.0000	1.0000	
Batang Layar	0.0813	0.6293	2.6442	0.2620	0.1562
Batang Lupar	0.0842	0.2496	0.6733	0.5021	0.1924
Batang Mukah	0.5429	1.0467	0.8938	0.3944	0.1500

2.8.6 Analyses (River/Stations)



Station Id	Name	Unit	Amount
W1679	NT1	mg/L	0.6300
W1680	NT2	mg/L	0.8300
W1681	NT3	mg/L	0.6850
W1682	NT4	mg/L	0.7450

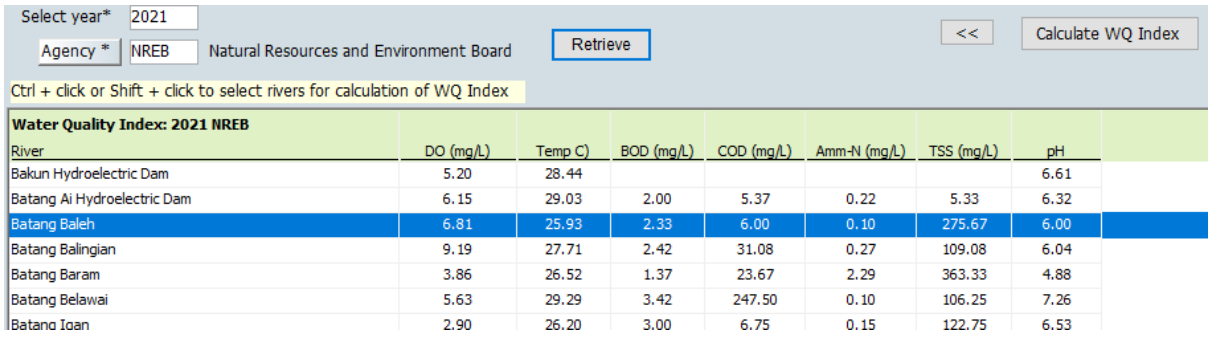
2.8.7 NWQSM Classification



NWQSM Classification — Page 1 of 1
01/01/2021 - 31/12/2021 — Date 27.01.22
maryml — NREB — Time 09:47:45

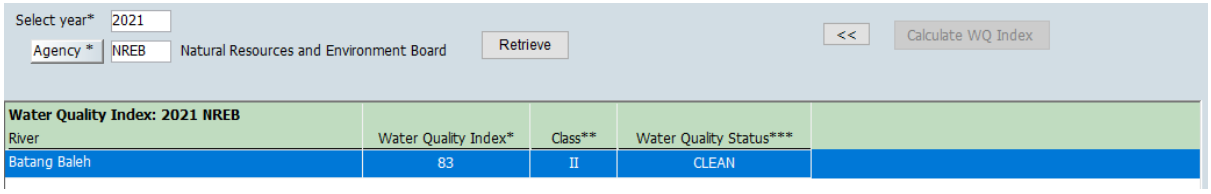
River	Parameters				
	NH4-N	BOD	COD	FCC	TCC
Batang Skrang	II	II	II	III	II
Batang Samarahan	II	II	IV	III	II
Batang Sadong	II	II	III	III	II
Batang Tatau	IV	II	II	III	II
Batang Suai	IV	II	III	III	II
Batang Trusan	III	II	II	IV	III
Batang Undup	II	II	II	III	II
Batang Tinjar					

2.8.8 Water Quality Index (WQI)



Water Quality Index: 2021 NREB

River	DO (mg/L)	Temp C)	BOD (mg/L)	COD (mg/L)	Amm-N (mg/L)	TSS (mg/L)	pH
Bakun Hydroelectric Dam	5.20	28.44					6.61
Batang Ai Hydroelectric Dam	6.15	29.03	2.00	5.37	0.22	5.33	6.32
Batang Baleh	6.81	25.93	2.33	6.00	0.10	275.67	6.00
Batang Balingian	9.19	27.71	2.42	31.08	0.27	109.08	6.04
Batang Baram	3.86	26.52	1.37	23.67	2.29	363.33	4.88
Batang Belawai	5.63	29.29	3.42	247.50	0.10	106.25	7.26
Batang Igan	2.90	26.20	3.00	6.75	0.15	122.75	6.53



Water Quality Index: 2021 NREB

River	Water Quality Index*	Class**	Water Quality Status***
Batang Baleh	83	II	CLEAN