



CHAPTER		DESCRIPTION	PAGE
CHAPTER 1	INTRODUCTION		1-1
1.1	Introduction		1-1
1.2	Project Title		1-1
1.3	Project Background		1-1
1.4	Project Location		1-2
1.5	Project Proponent		1-6
1.6	Consultant and Competent Pe	erson	1-7
1.7	Legislative Requirements		1-10
1.7.1		Prescribed Activity under Environmental Quality Act (EQA) 1974	1-10
1.7.2		Other Environmental-Related Legislative, Regulatory and Guidelines	1-11
1.7.3		Conformance to Government's Development Planning Plans	1-12
1.7.3.1		National Physical Plan 3 (NPP3)	1-12
1.7.3.2		Rancangan Struktur Negeri Selangor, 2035	1-16
1.7.3.3		Rancangan Tempatan Majlis Perbandaran Klang, 2020 (Pengubahan 4)	1-16
CHAPTER 2	TERMS OF REFERENCE		2-1
2.1	Introduction		2-1
2.2	Terms of Reference		2-1
2.2.1		List of Consultants/ Study Team	2-2
2.2.2		Legal requirement	2-5
2.2.3		Project Concept	2-5
2.2.4		Alternatives Consideration	2-6
2.2.5		Significant Environmental Impact to Be Studied	2-7
2.2.6		Possible Mitigation Measures	2-7





CHAPTER	DI	ESCRIPTION	PAGE
CHAPTER 3	STATEMENT OF NEED		3-1
3.1	Introduction		3-1
3.2	Role of MSC in Malaysia and V	Vorld Tin Industry	3-1
3.3	The Closure of MSC Butterwor	th Plant	3-2
3.4	Potential Benefits from This Pr	oject Implementation	3-5
CHAPTER 4	PROJECT OPTIONS		4-1
4.1	Introduction		4-1
4.2	Site Selection		4-1
4.3	Project Option		4-1
4.3.1		"No Project" Option	4-1
4.3.2		With Project Option	4-2
4.3.3		Technology Option	4-3
4.3.4		Fuel Option	4-4
CHAPTER 5	PROJECT DESCRIPTION		5-1
5.1	Introduction		
			5-1
5.2	Project Location and Layout Pl	an	5-3
5.3	Project Components		5-7
5.3.1		Proposed Tin Ore Smelting and Refining Project Component	5-7
5.3.2		Process Description of Tin Production	5-9
5.3.2.1		Roaster	5-11
5.3.2.2		Leaching Plant	5-12
5.3.2.3		ISASMELT Furnace	5-13
5.3.2.4		Rotary Furnace	5-15
5.3.2.5		Fumer	5-16
5.3.2.6		Refining Kettles	5-17
5.3.2.7		Crystallizer	5-18
5.3.2.8		Vacuum Distillation Unit (VDU)	5-19
5.3.2.9		Electro Solder Plant	5-19
5.3.2.10		Blending Kettle	5-20





CHAPTER	DE	ESCRIPTION	PAGE
50044		Floring Color Plant	5.04
5.3.2.11	5	Electrorefining Plant	5-21
5.3.3	Project Activities		5-22
5.3.4		Phase 1: Pre-EIA Approval	5-24
5.3.4.1		Pre-Operational Stages of Tin Ore	5-24
		Smelting and Refining Plant	
5.3.4.2		Reduction of Lead Slag Volume and Toxicity	5-25
5.3.4.3		Third Party Audit for M Smelt Lead Slag Recovery Facility	5-28
5.3.4.4		Closure of Lead Slag Recovery Facility	5-29
		and Decontamination Process	
5.3.4.5		Refurbishment, Modification and	5-34
		Upgrading Activities	
5.3.5		Phase 2: Post EIA Approval	5-35
5.3.5.1		Installation of new equipment	5-35
5.3.5.2		Dry run to Complete the Closure Works	5-36
5.3.5.3		Operation Stages of Tin Ore Smelting and Refining Plant	5-36
5.3.5.4		Receiving of Raw Materials	5-39
5.3.5.5		Weighing, Sampling & Testing of the Raw Materials	5-39
5.3.5.6		Pre-treatment	5-42
5.3.5.7		Smelting	5-42
5.3.5.8		Refining and Casting	5-42
CHAPTER 6	EXISTING ENVIRONMENT		6-1
6.1	Introduction		6-1
6.2	Physical Environment		6-1
6.2.1		Topography	6-1
6.2.2		Land use	6-1
6.2.3		Geology and Hydrogeology	6-12
6.2.4		Soil	6-12
6.2.5		Hydrology	6-15
6.2.6		Climate	6-15





CHAPTER	DE	SCRIPTION	PAGE
6.2.7		Ambient Air Quality	6-22
6.2.8		Point Source Emission	6-26
6.2.9		Noise Level	6-28
6.2.10		Water Quality	6-31
6.2.11		Soil and Groundwater Quality	6-36
6.3	Biological Environment		6-42
6.3.1		Flora	6-42
6.3.2		Fauna	6-42
6.4	Human Environment		6-42
6.4.1		Socio-Economic	6-42
6.4.1.1		Background	6-43
6.4.1.2		Methodology	6-44
6.4.1.3		Social Profile of the Study Area	6-46
6.4.1.4		Awareness, Perception and	6-53
		Acceptability	
6.4.2		Traffic	6-59
CHAPTER 7	EVALUATION OF IMPACTS		7-1
7.1	Basis of Assessment		7-1
7.2	Impacts During Pre- Operation	Stage	7-3
7.2.1		Land Disturbance and Soil Erosion	7-6
7.2.2		Water Quality	7-7
7.2.3		Air Quality	7-8
7.2.4		Noise	7-10
7.2.5		Waste Generation	7-10
7.2.6		Construction Wastes	7-11
7.2.7		Scheduled and Non-Scheduled Waste	7-11
7.3	Impact During Operational Stag	е	7-16
7.3.1		Impacts on Air Quality	7-17
7.3.1.1		Introduction to Air Quality Modeling	7-17
7.3.1.2		Modelling Details and Inputs	7-20
7.3.1.3		Air Quality Modelling Results	7-32





CHAPTER	1	DESCRIPTION	PAGE
7.3.1.4		Summary of Air Quality Modelling	7-61
		Results	
7.3.2		Noise Pollution	7-62
7.3.3		Waste Generation	7-62
7.3.4		Scheduled Wastes from Process	7-63
7.3.5		Scheduled Waste from Air Pollution	7-65
		Control System	
7.3.6		Scheduled Wastes from Other Plant	7-65
		Activity	
7.3.7		Radioactive Waste	7-66
7.3.8		Sewage	7-67
7.3.9		Ecology	7-68
7.3.10		Socio-Economy	7-68
7.3.10.1		Pre-Operation Stage	7-68
7.3.10.2		Operation Stage	7-69
7.4	Impacts on Occupational Safe	ety and Health	7-69
7.4.1		Pre-Operation Stage	7-69
7.5		Operation Stage	7-70
CHAPTER 8	POLLUTION PREVENTION	AND MITIGATION MEASURES	8-1
8.1	Introduction		8-1
8.2	P2M2 for Air Pollution		8-1
8.2.1		During Pre-Operation	8-1
8.2.2		During Operation	8-2
8.2.2.1		Fugitive Emission	8-2
8.2.2.2		Air Emission	8-2
		Air Quality Modelling	8-5
8.2.2.3		7 in Quanty Wouldning	0.5
8.2.2.3 8.2.2.4		•	8-9
	P2M2 for Noise Pollution	Design of Air Pollution Control System	
8.2.2.4		•	8-9
8.2.2.4 8.3		Design of Air Pollution Control System	8-9 8-17
8.2.2.4 8.3 8.4		Design of Air Pollution Control System gation Measures for Waste Generation	8-9 8-17 8-17
8.2.2.4 8.3 8.4 8.4.1		Design of Air Pollution Control System gation Measures for Waste Generation Non-Scheduled Waste	8-9 8-17 8-17 8-17





CHAPTER	DE	ESCRIPTION	PAGE
8.5	Mitigation Measures for Occupa	ational Health and Safety	8-27
8.6	Mitigation Measures for Impact	·	8-27
8.7	Housekeeping		8-27
CHAPTER 9	ENVIRONMENTAL MANAGE	MENT PLAN	9-1
9.1	Proposed Environmental Mana	gement Plan (EMP)	9-1
9.2	Environmental Performance Mo	onitoring Committee (EPMC)	9-1
9.3	Land Disturbing Pollution Preve	ention and Mitigation Measures	9-4
9.3.1		Project Activity and Implementation	9-4
9.3.2		Pollution Prevention and Mitigation Measures (P2M2s)	9-6
9.3.3		Proposed BMPs of the Proposed Project Site	9-7
9.3.4		Mitigation Measures	9-9
9.3.5		Proposed Mitigation Measures	9-10
9.3.6		Scheduled Site Meeting	9-12
9.3.7		Construction Markers	9-12
9.3.8		Stabilized Construction Entrance	9-13
9.3.9		Stream / drainage / waterway buffers	9-14
9.3.10		Runoff Management and Perimeter Control	9-14
9.3.10.1		Temporary Earth Drain	9-14
9.3.10.2		Check Dams	9-15
9.3.10.3		Silt Trap	9-16
9.3.10.4		Close Turfing	9-18
9.3.10.5		Stockpile Management	9-18
9.3.10.6		Spoil Management	9-19
9.3.10.7		Site Inspections	9-19
9.3.10.8		Maintenance	9-20
9.4	Proposed Monitoring Program		9-22
9.4.1		Proposed Performance Monitoring (PM)	9-23
9.4.2		Proposed Compliance Monitoring (CM)	9-24





TABLE OF CONTENTS

CHAPTER	DESCRIPTION	PAGE
9.4.3	Proposed Impact Monitoring (IM)	9-24
	Program	
9.5	Environmental Auditing	9-25
9.6	Emergency Response Plan	9-25
9.7	Abandonment Plan	9-26
CHAPTER 10	STUDY FINDINGS	10-1

REFERENCES

APPENDICES





LIST OF TABLES					
Table 1-1	:	Coordinates of Project Area	1-6		
Table 1-2	:	List of EIA Study Team	1-8		
Table 1-3	•	List of Technical Supporting Team	1-9		
Table 2-1	:	EIA Study Team Members	2-3		
Table 2-2	:	Summary of Significant Environmental Impacts to be Studied	2-8		
Table 2-3	:	Pollution Prevention and Mitigation Measure (P2M2)	2-12		
Table 4-1	:	Technology Options Comparison between Reverberatory Furnace and the	4-4		
		Top Submerged Lance Furnace			
Table 5-1	:	Summary of the Proposed Tin Ore Smelting and Refining in Pulau Indah	5-2		
Table 5-2	:	Site Boundary Coordinates	5-3		
Table 5-3	:	Components of the Tin Ore Smelting and Refining Plant	5-7		
Table 5-4	:	Existing Equipment from SW 104 Lead Recovery Process	5-31		
Table 5-5	:	Surface Decontamination Method	5-33		
Table 5-6	:	List of Equipment to be Refurbished	5-34		
Table 5-7	:	List of New Equipment to be Installed	5-35		
Table 5-8	:	Tin Ore Characteristics	5-40		
Table 5-9	:	Anthracite Characteristics	5-41		
Table 5-10	:	Impurities in Tin Ore	5-41		
Table 5-11	:	List of chemicals used for Analysis Purposes	5-42		
Table 6-1	:	Land Use within 5 km radius from Project Site	6-3		
Table 6-2	:	Ambient Air Baseline Sampling Location	6-23		
Table 6-3	:	Ambient Air Quality Baseline Sampling Results	6-25		
Table 6-4	:	Isokinetic Stack and Air Emission Monitoring Results	6-26		
		(5 th November 2018)			
Table 6-5	:	Noise Level Baseline Monitoring Location	6-28		
Table 6-6	:	Ambient Noise Level Baseline Monitoring Results	6-29		
Table 6-7	:	Water Quality Baseline Sampling Location	6-31		
Table 6-8	:	Water Quality Baseline Sampling Results	6-34		
Table 6-9	:	Groundwater Quality Baseline Sampling Location	6-36		
Table 6-10	:	Groundwater Quality Baseline Sampling Results	6-40		
Table 6-11	:	Ground Water Quality Standard for Industry	6-40		
Table 6-12		Distribution of Respondent by Area	6-43		
Table 6-13	:	Respondents' Demographic Background	6-47		
Table 6-14		Respondents' Occupational Profile	6-47		





		LIST OF TABLES	
Table 6-15	:	Length of Domiciliation and Respondent's Origin Before Moving to Study	6-48
		Area	
Table 6.16	:	Housing Condition, Utilities and Amenities (%)	6-49
Table 6-17	:	Availability of Services and Their Efficiency as Perceived by the	6-51
		Respondents	
Table 6-18	:	Awareness and Knowledge about Proposed Tin Ore Smelting and	6-54
		Refining	
Table 6-19	:	Perception on Socio-Economic Impact	6-54
Table 6-20	:	Perception of Impacts on Health and Safety	6-55
Table 6-21	:	Rating of Perception of Impacts on Aesthetics and Culture	6-56
Table 6-22	:	Perception of Impacts on Basic Utilities and Amenities	6-57
Table 6-23	:	Level of Assessment and Acceptability of the Proposed Project	6-57
Table 6-24	:	Perceived Adverse Impacts of the Proposed Project	6-58
Table 7-1	:	Environmental Impact Assessment Matrix	7-2
Table 7-2	:	Summary of Environmental Aspects and Impacts During Pre-Operational	7-4
		Stage for the Proposed	
Table 7-3	:	Potential Environmental Impact	7-7
Table 7-4	:	Decontamination Process of Existing Equipment and Proposed Waste	7-12
		Management	
Table 7-5	:	Malaysian Ambient Air Quality Guidelines, 2013 (at 273 K and 101.13kPa)	7-19
Table 7-6	:	Chimneys Installed at MSC Plant	7-22
Table 7-7	:	Source Information for AERMOD	7-22
Table 7-8	:	Emission Rates for With Control Measures Scenario	7-23
Table 7-9	:	Emission Rates for Without Control Measures Scenario	7-25
Table 7-10	:	Coordinates for Sensitive Receptors	7-27
Table 7-11	:	Building Wake Effect Input	7-29
Table 7-12	:	PM ₁₀ Concentration in ug/m3 for With Control Measures Scenarios	7-35
Table 7-13	:	PM ₁₀ Concentration in ug/m³ for Without Control Measures Scenarios	7-38
Table 7-14	:	SO ₂ Concentration in ug/m ³ for Emission Concentration Limit of 100 mg/m ³	7-44
Table 7-15	:	SO2 Concentration in ug/m³ for Emission Concentration Limit of 500	7-45
		mg/m³	
Table 7-16	:	NO ₂ Concentration in ug/m³ for Emission Concentration Limit of 100 mg/m³	7-51
Table 7-17	:	NO2 Concentration in ug/m³ for Emission Concentration Limit of 400	7-51
		mg/m³	





LIST OF TABLES				
Table 7-18	:	Annual Average Lead Concentration in ug/m³ for With and Without Control	7-55	
		Measures		
Table 7-19	:	Annual Average Arsenic Concentration in ug/m³ for With and Without	7-58	
		Control Measures		
Table 7-20	:	Annual Average Tin Concentration in ug/m³ for With and Without Control	7-61	
		Measures		
Table 7-21	:	List of Product, by product, Intermediate material or Wastes from Tin Ore	7-63	
		Smelting and Refining Activities		
Table 7-22	:	Scheduled Waste Generation from Tin Ore Smelting and Refining Process	7-64	
Table 7-23	:	Scheduled Waste Generation from Air Pollution Control System	7-65	
Table 7-24	:	Typical Scheduled Waste Generated During Operation Stage	7-66	
Table 7-25	:	Tin Slag Generated During Operation Stage	7-67	
Table 8-1	:	PM ₁₀ Concentration in ug/m ³ with and without control measures	8-6	
Table 8-2	:	SO ₂ Concentration in ug/m ³ for Emission Concentration Limit of 100 mg/m ³ and 500 mg/m ³	8-7	
Table 8-3	:	NO ₂ Concentration in ug/m ³ for Emission Concentration Limit of 100 mg/m ³ and 400 mg/m ³	8-8	
Table 8-4	:	Proposed Emission Limit for Proposed Tin Ore Smelting and Refining in Pulau Indah	8-9	
Table 8-5	:	APCS Specification - Bag Filter	8-10	
Table 8-6	:	APCS Specification for the Flue Gas Desulphurization (FGD) and	8-11	
		Scrubber		
Table 8-7	:	Details for Chimney	8-12	
Table 9-1	:	General BMPs Categories and Objectives	9-8	
Table 9-2	:	Proposed Environmental Monitoring Programme for Proposed Tin Ore	9-27	
		Smelting and Refining Project		





		LIST OF FIGURES	
Figure 1-1	:	Project Site	1-3
Figure 1-1 Figure 1-2		Boundary Coordinates of the Project Site	1-3 1-4
•	•		1-4
Figure 1-3	•	Project Site and the Distance to Major Ports in Port Klang MSC within the Main Industrial Estate (National Physical Plan 3)	
Figure 1-4	:	MSC within the Main Industrial Estate (National Physical Plan 3)	1-13 1-14
Figure 1-5	:	MSC within the Selangor, Kuala Lumpur and Putrajaya Federal Territory Spatial Growth Framework	1-14
Figure 1.6		·	1-15
Figure 1-6	•	MSC within the Supporting Industrial Zone for Port and Maritime	1-15
Figure 1-7 Figure 3-1	:	Location of the Proposed Project Site in BPK 9.1	3-4
•	:	Tin Statistic in Malaysia	5-4 5-4
Figure 5-1	•	Location Plan of The Proposed Tin Ore Smelting and Refining	
Figure 5-2	:	Coordinates of the Proposed Tin Ore Smelting and Refining Facility Master Leveut Plan of the Proposed Tin Ore Smelting and Refining Facility	5-5 5-6
Figure 5-3	:	Master Layout Plan of the Proposed Tin Ore Smelting and Refining Facility	5-6 5-10
Figure 5-4	:	Overall Process Flow Diagram for the Tin Ore Smelting and Refining	5-10
Figure 5-5	•	Process Flow for the Pre-Treatment of Tin Ore Containing Arsenic in the	5-12
Figure F C		Roaster	F 40
Figure 5-6	:	Process Flow for the Pre-Treatment of Tin Ore Containing Arsenic in the	5-13
Figure F 7		Leaching Plant	F 4.4
Figure 5-7	:	Process Flow in the ISASMELT Furnace	5-14
Figure 5-8	:	Process Flow in the Rotary Furnace	5-15
Figure 5-9	:	Process Flow in the Fumer	5-16
Figure 5-10	:	Process Flow in the Refining Kettle	5-17
Figure 5-11	:	Process Flow in the Crystallizer	5-18
Figure 5-12	•	Process Flow in the Vacuum Distillation Unit (VDU)	5-19
Figure 5-13		Process Flow in the Electro Solder Plant	5-20
Figure 5.14	•	Process Flow in the Blending Kettle	5-20
Figure 5-15		Process Flow in the Electro fining Plant	5-21
Figure 5-16	:	Implementation Schedule for the Proposed Tin Ore Smelting and Refining Plant in Pulau Indah	5-23
Figure 5-17	:	Proposed MSC Layout Plan – Existing Equipment and New Installation	5-36
Figure 5-18	:	General Process Activity for the Tin Ore Smelting and Refining	5-38
Figure 6-1	:	Topographical Map of the Project Site	6-2
Figure 6-2	:	Land Use within 5 km from the Project Site	6-11
Figure 6-3	:	Geology Map	6-13
Figure 6-4	:	Soil Map of the Proposed Site	6-14





TABLE OF CONTENTS

LIST OF FIGURES Figure 6-5 : Hydrological Map of the Proposed Site 6-16 Figure 6-6 24-Hour Mean Temperature at Subang 6-17 Figure 6-7 : Average Monthly Rainfall at Subang 6-18 Figure 6-8 : Number of Raindays 6-19 Figure 6-9 : Average Monthly Rainfall vs. Average Number of Raindays 6-20 Figure 6-10 : 24 Hour Mean Relative Humidity at Subang 6-21 Figure 6-11 : Annual Wind Rose at Subang 6-22 Figure 6-12 : Ambient Air Quality Baseline Sampling Location 6-24 Figure 6-13 : Ambient Noise Level Baseline Monitoring Location 6-30 Figure 6-14 : Water Quality Baseline Sampling Location 6-33 Figure 6-15 : Soil and Groundwater Quality Baseline Sampling Location 6-39 Figure 6-16 : Groundwater Elevation and Flow Direction 6-41 Figure 6-17 : Ownership of Vehicles and Other Household Items among the Respondents 6-51 6-53 Figure 6-18 : Respondents' Income in Study Area : Road Network Involved in this Project 6-60 Figure 6-19 7-9 Figure 7-1 : Sungai Perigi Nanas which receives water discharge from MSC Project Area Figure 7-2 : Air Emission Sources 7-18 Figure 7-3 : Location of Sources for Building Wake Effect 7-29 Figure 7-4 : Maximum 24-hour Average PM₁₀ Incremental Concentration (ug/m3) with 7-33 Control Measures Figure 7-5 : Annual Average PM₁₀ Incremental Concentration (ug/m³) 7-34 with Control Measures Figure 7-6 : Maximum 24-hour Average PM₁₀ Incremental Concentration (ug/m³) without 7-36 **Control Measures** : Annual Average PM₁₀ Incremental Concentration (ug/m³) without Control 7-37 Figure 7-7 Measures Figure 7-8 : Maximum 1-hour Average SO₂ Incremental Concentration (ug/m³) with 7-40 Control Measures Figure 7-9 : Maximum 24-hour Average SO₂ Incremental Concentration (ug/m³) with 7-41 Control Measures Figure 7-10 : Maximum 1-hour Average SO₂ Incremental Concentration (ug/m³) without 7-42

Control Measures





		LIST OF FIGURES	
Figure 7-11	:	Maximum 24-hour Average SO ₂ Incremental Concentration (ug/m ³) without Control Measures	7-43
Figure 7-12	:	Maximum 1-hour Average NO ₂ Incremental Concentration (ug/m³) with	7-47
		Control Measures	
Figure 7-13	:	Maximum 24-hour Average NO ₂ Incremental Concentration (ug/m³) with	7-48
E'		Control Measures	7.40
Figure 7-14	:	Maximum 1-hour Average NO ₂ Incremental Concentration (ug/m³) without Control Measures	7-49
Figure 7-15	:	Maximum 24-hour Average NO ₂ Incremental Concentration (ug/m³) without Control Measures	7-50
Figure 7-16	:	Annual Average Lead Incremental Concentration (ug/m³) with Control	7-53
		Measures	
Figure 7-17	:	Annual Average Lead Incremental Concentration (ug/m³) without Control	7-54
		Measures	
Figure 7-18	:	Annual Average Arsenic Incremental Concentration (ug/m³) with Control Measures	7-56
Figure 7-19	:	Annual Average Arsenic Incremental Concentration (ug/m³) without Control	7-57
		Measures	
Figure 7-20	:	Annual Average Tin Incremental Concentration (ug/m³) with Control Measures	7-59
Figure 7-21	:	Annual Average Tin Incremental Concentration (ug/m³) without Control Measures	7-60
Figure 8-1	:	Layout Plan showing the modification to the existing Ore Storage Area -	8-3
		Proposed Installation of Canvas Roller and Hump	
Figure 8-2	:	Air Pollution Control System in Proposed MSC Tin Ore Smelting and	8-4
		Refining Plant	
Figure 8-3	:	Overall layout Plan for Smelting and Refining Equipment's, APCS and	8-13
		chimneys	
Figure 8-4	:	Plan view of Chimney No. 1 and No. 2	8-14
Figure 8-5	:	Plan view of Chimney No. 3	8-15
Figure 8-6	:	Plan view of Chimney No. 4	8-16
Figure 8-7	:	Existing Collection Points of Non-scheduled Waste within the Plant	8-19
Figure 8-8	:	The Storage area for Scheduled Waste	8-21
Figure 8-9	:	Locations of Septic Tank Within the Plant	8-24





		LIST OF FIGURES	
Figure 8-10	:	Location of Tin Slag Storage Area	8-26
Figure 9-1	:	Proposed MSC Environmental Performance Monitoring Committee	9-3
Figure 9-2	:	LD-P2M2 Principles	9-10
Figure 9-3	:	Layout Plan LD-P2M2 for Proposed Project	9-11
Figure 9-4	:	Typical Temporary Earth Drain Design	9-15



Selangor Darul Ehsan



TABLE OF CONTENTS

LIST OF APPENDICES

Appendix 1 Land Title

Appendix 2 Term of Reference (TOR) for S2EIA - Proposed Tin Ore Smelting and

Refining Plant

Appendix 2a DOE Endorsement Letter on Terms of Reference (TOR)

Notification Letter to DOE Putrajaya on Change of EIA Title and Acreage Appendix 2b

Appendix 2c Copy of Revised TOR (Revision 2)

Appendix 2d **TOR Checklist**

Appendix 2e Change of Consultants Approval Letter from DOE Putrajaya

Appendix 3 Letter of Commitment to Close the Operation in Butterworth from MSC

Appendix 4 Layout Plan

Appendix 5 **Environmental Compliance Audit Report**

Appendix 6 Closure Plan Approval Letter

Lab Report and Certificates of Analysis Appendix 7

Appendix 7a Ambient Air Stack Emission Appendix 7b

Appendix 7c : Noise

Appendix 7d Water Quality :

Appendix 7e Soil and Groundwater

Appendix 7f Analysis Result for Raw Material - Tin Ore and Anthracite

Appendix 7g Analysis Result for Tin Slag

Appendix 7h Lead Exposure Monitoring Report

Appendix 8 Air Quality Modelling Report Appendix 9 Socio-economy Questionnaire

Mass Balance Appendix 10

Air Pollution Control System (APCS) Report Appendix 11

APCS Report for EIA MSC (ADROIT) Appendix 11a Appendix 11b APCS Report for EIA MSC (ZABSI)

Land Disturbing Pollution Prevention and Mitigation (LD-P2M2) Plan Appendix 12

Appendix 13 **Emergency Response Plan**