



Works Approval Number	W6090/2017/1
Works Approval Holder	BMT Australia Pty Ltd
ACN	614 363 647
Registered business address	Level 3, 1060 Hay Street WEST PERTH WA 6005
File Number	DER2017/001541
Duration	8/05/2018 to 7/05/2021
Date of issue	8/05/2018
Date of amendment	10 January 2020
Premises	Kwinana Mercury Treatment Plant Lot 101 Donaldson Rd, Kwinana Beach WA 6167 Legal description - Part of Lot 101 on Plan 73740 As defined by the coordinates in the Premises Map in Schedule 1 (Maps)

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)	Assessed production / design capacity
Category 39: Chemical or oil recycling	2,000 tonnes per year
Category 61A: Solid waste facility	2,000 tonnes per year

This amended Works Approval is granted to the Works Approval Holder, subject to the following conditions, on 10 January 2020, by:

Amine Callegari
A/Manager, Process Industries
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Works Approval history

Date	Reference number	Summary of changes
8/5/2018	W6090/2017/1	New Works Approval granted.
22/05/2019	W6090/2017/1: Amendment Notice 1	Amendment to: <ul style="list-style-type: none"> increase the storage capacity for MCW from 200 to 400 tonnes increase throughput from 1,000 tonnes per year to 2,000 tonnes per year; and authorise commissioning and time limited operation of the premises infrastructure.
10/01/2020 (This amendment)	W6090/2017/1	Amendment to increase the storage capacity for MCW and stabilised mercury sulphide from 400 to 500 tonnes at any one time.

Interpretation

In this works approval:

- the words ‘including’, ‘includes’ and ‘include’ in conditions mean “including but not limited to”, and similar, as appropriate;
- where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;
- where tables are used in a condition, each row in a table constitutes a separate condition;
- any reference to an Australian or other standard, guideline, or code of practice means the version of the standard, guideline, or code of practice in force at the time of granting of this works approval and includes any amendments to the standard, guideline or code of practice which may occur from time to time during the course of the works approval;
- unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and
- unless specified otherwise, all definitions are in accordance with the EP Act.

NOTE: This works approval requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this works approval.

Definitions and interpretation

Definitions

In this Works Approval, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
AS4323.1-1995	means the Australian Standard <i>Stationary source emissions - Selection of sampling positions</i> (Standards Australia, 1995)
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 JOONDALUP DC WA 6919 info@dwer.wa.gov.au
Commissioning	means an activity or sequence of activities undertaken after Pre-commissioning has demonstrated the integrity of the plant and equipment. The purpose of Commissioning is to test equipment, infrastructure, and processes after the input of raw materials, to confirm design specifications, optimise process conditions, and to monitor/validate emissions or discharges in order to establish a steady-state operation. Commissioning also includes the acceptance of waste material onto the premises for storage pending processing.
Condition	means a condition to which this Works Approval is subject under s.62 of the EP Act.
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.
Discharge	has the same meaning given to that term under the EP Act.
DWER	Department of Water and Environmental Regulation
Emission	has the same meaning given to that term under the EP Act.
Environmental Harm	has the same meaning given to that term under the EP Act.
EP Act	means the <i>Environmental Protection Act 1986</i> (WA).
EP Regulations	means the <i>Environmental Protection Regulations 1987</i> (WA).
H ₂ S	Hydrogen Sulphide
HVAC	means the mercury treatment process building Heating, Ventilation and Air Conditioning system
Implementation Agreement or Decision	has the same meaning given to that term under the EP Act.
MCW	means mercury contaminated waste, including but not limited to sludges, catalysts and filters from LNG projects
Material Environmental Harm	has the same meaning given to that term under the EP Act.

Mg/m ³	milligrams per cubic metre
Pollution	has the same meaning given to that term under the EP Act.
Pre-commissioning	<p>Means an activity or sequence of activities undertaken after construction (but prior to Commissioning) to test equipment and infrastructure for functionality, and for any installation defects or failures. Examples include hydraulic pump, pipeline and valve testing; hydrostatic testing of vessels, tanks and ponds; electrical component testing; and liner integrity tests for landfills, tailings storage facilities, and wastewater treatment ponds.</p> <p>During this time, no emissions to the environment are authorised to occur and/or no waste or process material or chemicals are authorised to be deposited in the containment infrastructure.</p>
Premises	refers to the premises to which this Works Approval applies, as specified at the front of this Works Approval and as shown on the Premises map in Schedule 1 (Maps) to this Works Approval.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Serious Environmental Harm	has the same meaning given to that term under the EP Act.
Time Limited Operational Phase	means full processing operations permitted under this Works Approval, subject to the Conditions, whilst an application for licence is being assessed
Unreasonable Emission	has the same meaning given to that term under the EP Act.
USEPA	means United States [of America] Environmental Protection Agency.
USEPA Method 2	means USEPA Method 2 Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)
USEPA Method 11	means USEPA Method 11 Determination of Hydrogen Sulphide Content of Fuel Gas Streams in Petroleum Refineries
USEPA Method 18	means USEPA Method 18 Determination of Gaseous Organic Compounds Emissions by Gas Chromatography
USEPA Method 29	means USEPA Method 29 Determination of Metals Emissions from Stationary Sources
VESDA	Very Early Smoke Detection Apparatus
VOCs	Volatile Organic Compounds
Waste	has the same meaning given to that term under the EP Act.
Works	refers to preparation, construction/installation and Pre-commissioning works for all infrastructure and equipment described in Table 12 of Schedule 2 (Infrastructure and equipment) of this Works Approval, to be carried out at the Premises subject to the Conditions.
Works Approval	refers to this document, which evidences the grant of the works approval by the CEO under s.54 of the EP Act, subject to the Conditions.
Works Approval Holder	refers to the occupier of the Premises being the person to whom this Works Approval has been granted, as specified at the front of this Works Approval.

Interpretation

In this Works Approval:

- (a) the words 'including', 'includes' and 'include' will be read as if followed by the words 'without limitation';
- (b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;
- (c) where tables are used in a Condition, each row in a table constitutes a separate Condition;
- (d) any reference to an Australian or other standard, guideline or code of practice in this Works Approval means the version of the standard, guideline or code of practice in force at the time of granting of this Works Approval and includes any amendments to the standard, guideline or code of practice which may occur from time to time during the course of the Works Approval; and
- (e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act.

Works Approval conditions

The Works Approval Holder must ensure that the following conditions are complied with:

Infrastructure and equipment

1. The Works Approval Holder must undertake the Works:
 - (a) for the infrastructure and equipment;
 - (b) to the requirements; and
 - (c) at the locationspecified in Table 12 of Schedule 2 (Infrastructure and equipment).
2. The Works Approval Holder must not depart from the requirements specified in Table 12 of Schedule 2 (Infrastructure and equipment) except:
 - (a) where such departure does not increase risks to public health, public amenity or the environment; and
 - (b) all other Conditions in this Works Approval are still satisfied.

Emissions

3. The Works Approval Holder must not cause any Emissions from the Works authorised through this Works Approval, and during commissioning and the Time Limited Operational Phase, except for general Emissions described in Table 2, subject to the exclusions, limitations or requirements specified in Table 2.

Table 2: Authorised Emissions table

Emission type	Exclusions, limitations or requirements
Specified Emissions	
Discharges to air	Subject to compliance with conditions 2, 3, 6, 10, 17,18, 19, 20, 21, 22, 23 Emissions must not exceed a period of 6 months.
General Emissions (excluding Specified Emissions)	
Fugitive emissions which arise from undertaking the construction or Pre-commissioning of infrastructure and equipment set out in Table 12 of Schedule 2 (Infrastructure and equipment)	Emissions excluded from General Emissions are: <ul style="list-style-type: none">• Unreasonable Emissions; or• Emissions that result in, or are likely to result in, Pollution, Material Environmental Harm or Serious Environmental Harm; or• Discharges of Waste in circumstances likely to cause Pollution; or• Emissions that result, or are likely to result in, the Discharge or abandonment of Waste in water to which the public has access; or• Emissions or Discharges which do not comply with an Approved Policy; or• Emissions or Discharges which do not comply with prescribed standard; or• Emissions or Discharges which do not comply with the conditions in an Implementation Agreement or Decision; or• Emissions or Discharges the subject of offences under regulations prescribed under the EP Act, including materials discharged under the <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>.

Records

4. The Works Approval Holder must prepare and submit to the CEO an Emergency Response Plan prior to the commencement of Works, which includes:
 - (a) identification and risk assessment of all hazardous areas (e.g. areas with potentially toxic or flammable gas atmospheres) within the Premises;
 - (b) a description of the potential risk events associated with hazardous areas which could have adverse impacts on the public or the environment;
 - (c) all relevant design and storage details which support the mitigation of risk events at the Premises; and
 - (d) the details of emergency procedures in place for risk events if they occur.
5. The Works Approval Holder must submit a construction compliance document to the CEO following the construction of the Works, and at least 10 days prior to commissioning of the same that:
 - (a) includes a detailed description addressing how each as-constructed item of infrastructure and equipment meets the requirements and the location specified in Table 12 of Schedule 2 (Infrastructure and equipment), as required by Condition 1;
 - (b) includes a description of, and explanation for, any departure from the requirements specified in Table 12 of Schedule 2 (Infrastructure and equipment), including how the departure complies with Condition 2;
 - (c) contains photographs of as-constructed Works to support the descriptions provided under (a);
 - (d) contains as-constructed plans for the Works;
 - (e) is signed by a person authorised to represent the Works Approval Holder and contains the printed name and position of that person within the company; and
 - (f) is accompanied by a construction quality assurance validation report that:
 - (i) is written and certified by a suitably qualified, independent, third party professional engineer that has undertaken construction quality assurance on the completed Works;
 - (ii) confirms the details reported by the Works Approval Holder under (a) and (b); and
 - (iii) is signed by the suitably qualified independent third party professional engineer and contains the printed name, position and company of that person.
6. The Works Approval Holder shall notify the CEO in writing within 7 days of commencing commissioning of the Works.
7. The Works Approval Holder shall notify the CEO in writing within 7 days of completing commissioning of the Works.
8. The Works Approval Holder must provide to the CEO a commissioning report within one month of the completion of commissioning of the Works which includes:
 - (a) a description of the commissioning activities and environmental monitoring undertaken during the commissioning phase;

- (b) a summary of monitoring results recorded under Condition 21;
- (c) a list of any original monitoring reports submitted to the Works Approval Holder from third parties for the commissioning period;
- (d) a summary of the environmental performance of the plant as installed, against the design specifications set out in Schedule 2 (Table 12);
- (e) a review of performance against the works approval conditions; and
- (f) where they have not been met, measures proposed to meet the design specification and/or works approval conditions, together with timescales for implementing the proposed measures.

9. Following construction of the Works, the Works Approval Holder must ensure that the site infrastructure and equipment listed in Table 3 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirements set out in Table 3.

Table 3: Infrastructure and equipment requirements

Site infrastructure and equipment	Operational requirements	Infrastructure location
Warehouse building	<ul style="list-style-type: none"> No more than 400 500 tonnes of MCW and stabilised mercury sulphide shall be stored within the building. Pre-processing, processing and handling of MCW outside of sealed containers is not permitted within the Warehouse building. External doors shall be kept closed except when personnel are entering or exiting the building, or waste transfer is occurring between the Warehouse and a transport vehicle. The building sealed bunded floor shall be maintained so it is impermeable to mercury and hydrocarbons, free of liquid and obstructions to maintain a capacity of at least 35 m³ of liquid, and to drain to a collection sump. The collection sump shall be maintained free of liquids and obstructions to permit full capacity. 	Location labelled "Warehouse" as shown in the Premises map in Schedule 1 (Maps)
Forklift	<ul style="list-style-type: none"> Shall be capable of accurately weighing all incoming and outgoing waste. The measuring device shall be maintained and calibrated in accordance with manufacturers specifications. 	NA
Warehouse loading/unloading bay	<ul style="list-style-type: none"> Apron is constructed of concrete, graded in a manner which prevents runoff, and drains to a collection sump. The collection sump shall be maintained free of liquids and obstructions to permit full capacity. 	Location labelled "Warehouse" as shown in the Premises map in Schedule 1 (Maps)
Process Building	<ul style="list-style-type: none"> A negative atmospheric pressure shall be maintained through operation of the HVAC system whenever pre-processing, processing or handling of MCW outside of sealed 	Within the location labelled "Process" as shown in the Premises map in

Site infrastructure and equipment	Operational requirements	Infrastructure location
	<p>containers occurs, stabilisation of mercury to form mercury sulphide or maintenance activities on the mercury treatment plant are undertaken.</p> <ul style="list-style-type: none"> Emissions to air shall only be released from the Process Building via the Emissions Stack. MCW waste shall not be stored within the Process Building for more than 24 hours prior to treatment. The building shall be kept free of combustible and flammable materials. The building sealed bunded floor shall be maintained so it is impermeable to mercury and hydrocarbons, free of liquid and obstructions to maintain a capacity of at least 3.5 m³ of liquid, and to drain to a collection sump. The collection sump shall be maintained free of liquids and obstructions to permit full capacity. 	Schedule 1 (Maps)
Mercury Treatment Plant	<ul style="list-style-type: none"> Comprises fifteen retorts and a vacuum distillation unit. Interlocks shall prevent operation of the process unless the HVAC fan is operational and the process building is under negative pressure. All off-gases from the vacuum distillation unit shall be directed to the Activated Carbon Filtration System. Overpressure interlocks shall result in progressive shutdown of the process if flow to the Active Carbon Filtration system is restricted. 	Within the location labelled "Process" as shown in the Premises map in Schedule 1 (Maps)
HVAC System	<ul style="list-style-type: none"> Shall be in operation prior to, and for the duration of, all pre-processing, processing, mercury stabilisation or maintenance activities occurring within the Process Building. Linked to an alarm which initiates a controlled shutdown in the event of a loss of negative pressure. Noise levels shall not exceed 80 dB(A) measured at a distance of 1 m from the HVAC fan. 	Within the location labelled "Process" as shown in the Premises map in Schedule 1 (Maps)
Activated Carbon Filtration System	<ul style="list-style-type: none"> Shall be in operation prior to, and for the duration of, all pre-processing, processing, mercury stabilisation or maintenance activities occurring within the Process Building. Comprises two stages of activated carbon filtration. The first stage shall be a dual-redundant system comprising two parallel sulfur impregnated activated carbon filters containing at least 7m³ of carbon each. The second stage shall comprise an 	Within the location labelled "Process" as shown in the Premises map in Schedule 1 (Maps)

Site infrastructure and equipment	Operational requirements	Infrastructure location
	<p>activated carbon filter containing at least 7m³ of carbon.</p> <ul style="list-style-type: none"> A continuous H₂S monitor shall operate upstream of the second stage activated carbon filter. If H₂S ≥1 ppm is detected by the continuous H₂S monitor an alarm shall alert the control room and the applicable first stage activated carbon filter shall be immediately replaced. 	
Emission Stack	<ul style="list-style-type: none"> 24.9 m height 0.37 m diameter Stack monitoring port maintained in accordance with AS4323.1-1995 Process emissions and fugitive emissions from the HVAC system shall be directed through the activated carbon filtration system prior to release from the emission stack. 	Within the location labelled "Emission Stack" as shown in the Premises map in Schedule 1 (Maps)
Reactor (Mercury Stabilisation)	<ul style="list-style-type: none"> Spills of sulphur, mercury and mercury sulphide will be immediately recovered. The reactor is only permitted to be operated when connected to the process vacuum system. The reactor is only permitted to be operated within the process building. 	Within the location labelled "Process" as shown in the Premises map in Schedule 1 (Maps)
Onsite fire detection and response system	<ul style="list-style-type: none"> A two-stage alarm comprising a VESDA (first stage), and a heat detection alarm (second stage) within both the Warehouse and Process Building. Heat detection alarms shall activate a back to base alarm for automated notification to external Emergency Services. A pre-action aerosol fire suppression system in the Process Building activated by the second stage alarm. Minimum four dry powder fire extinguishers (Warehouse). Minimum three dry powder fire extinguishers. (Process Building) The system components are operated and maintained in accordance with the manufacturer's specifications. 	Location labelled "Warehouse" and the location labelled "Process" as shown in the Premises map in Schedule 1 (Maps)
Liquid waste storage tank	<ul style="list-style-type: none"> Located within an impermeable sealed bund free capable of containing 110% of the liquid waste storage tank volume. Maintained to prevent leaks. 	Location labelled "Outside" as shown in the Premises map in Schedule 1 (Maps)
Covered waste storage area	<ul style="list-style-type: none"> Apron is constructed of concrete, graded in a manner which prevents runoff, and drains to a collection sump. The collection sump is to be maintained free of liquids and obstructions to permit full capacity. 	Location labelled "Outside" as shown in the Premises map in Schedule 1 (Maps)

10. The Works Approval Holder must only accept onto the premises waste of a waste

type, which does not exceed the corresponding rate at which waste is received, and which meets the corresponding acceptance specification set out in Table 4.

Table 4: Types of waste authorised to be accepted onto the premises

Waste type	Rate at which waste is received	Acceptance specification
Liquid wastes <ul style="list-style-type: none"> • D120 Mercury and mercury compounds • J120 Waste oil and water mixtures of emulsions and hydrocarbon and water mixtures or emulsions • L150 Industrial wash water 	Combined total of up to 2,000 tonnes per annual period	<ul style="list-style-type: none"> • Must be packaged within sealed United Nations approved Dangerous Goods containers. • Waste must be unloaded within the Warehouse loading/unloading bay and transferred directly into the Warehouse for storage. • If waste is received in damaged packaging it must be transferred into the Process Building. • Radioactive substances (as defined by the Radiation Safety (General) Regulations 1983) must not be accepted onto the premises.
Solid wastes <ul style="list-style-type: none"> • D120 Mercury and mercury compounds • N100 Containers and drums contaminated with residues of a controlled waste • N160 Encapsulated or chemically fixed, solidified or polymerised controlled waste • N190 Filter cake containing a controlled waste • N205 Industrial waste treatment plant residue 		

11. The Works Approval Holder shall ensure that where waste does not meet the waste acceptance criteria set out in condition 10 it is removed from the Premises by the delivery vehicle.
12. The Works Approval Holder shall ensure that wastes accepted onto the Premises are only subjected to the processes and in accordance with any process limits set out in Table 5.

Table 5: Waste accepted onto the premises

Waste type	Process	Process Limits
Liquid Waste types as specified in Table 4 (condition 10)	<ul style="list-style-type: none"> • Stored within the Warehouse within sealed United Nations approved Dangerous Goods containers. • MCW waste shall not be stored within the Process Building for more than 24 hours prior to treatment. • Pre-processing, and handling of MCW outside of sealed containers within the Process building only. • Processing within the Mercury Treatment Plant 	2,000 tonnes per annual period
Solid waste types as specified in Table 4 (condition 10)		

13. The Works Approval Holder must record the total amount of waste accepted onto the premises, for each waste type listed in Table 6, in the corresponding unit, and for each corresponding time period, as set out in Table 6.

Table 6: Waste accepted onto the premises

Waste type	Unit	Time period
Liquid Waste types as specified in Table 4 (condition 10)	tonnes	Each monthly period.
Solid waste types as specified in Table 4 (condition 10)		

14. The Works Approval Holder must record the total amount of waste removed from the premises, for each waste type listed in Table 7, in the corresponding unit, and for each corresponding time period set out in Table 7.

Table 7: Waste removed from the premises

Waste type	Unit	Time period
Stabilised mercury sulphide (D120 Mercury and mercury compounds)	tonnes	Each load removed from the premises.

15. The Works Approval Holder must ensure that wastes produced on the premises, specified in Table 8 are managed in accordance with the corresponding requirements specified in Table 8.

Table 8: Waste management specifications

Waste type	Disposal strategy	Specified requirements
Recovered pure liquid mercury	Stabilised within a reactor prior to form stabilised mercury sulphide.	<ul style="list-style-type: none"> Shall only be stored within the Process building within sealed United Nations approved containers for storage of liquid mercury. Shall not be stored for a period of greater than 6 months.
Stabilised mercury sulphide (D120 Mercury and mercury compounds)	Removed from the premises	<ul style="list-style-type: none"> Shall only be stored within the Warehouse building within sealed United Nations approved Dangerous Goods containers. Shall be removed from the premises within 12 months of being generated. Shall not contain free mercury.
Solid waste suitable for disposal at a Class I, II or III landfill		<ul style="list-style-type: none"> Shall be stored within a covered waste storage area. Shall not contain free mercury.
Liquid waste		<ul style="list-style-type: none"> Shall be stored within a liquid waste storage tank surrounded by an impermeable steel bund with capacity to contain 110% of the tank capacity. Shall not contain free mercury.

16. The Works Approval Holder must ensure that the emissions specified in Table 9,

are discharged only from the corresponding discharge point and only at the corresponding discharge point location.

Table 9: Authorised discharge points

Emission	Discharge point	Discharge point location
Mercury	Emission stack	As shown in Schedule 1: Maps Premises Map (of W6090/2018/1)
Benzene		
H ₂ S		

17. The Works Approval Holder must ensure that emissions from the discharge point listed in Table 10 for the corresponding parameter do not exceed the corresponding limit.

Table 10: Emission and discharge limits

Discharge point	Parameter	Limit
Emission stack	Mercury	0.15 mg/m ³

18. The Works Approval Holder must monitor emissions:
- from each discharge point;
 - at the corresponding monitoring location;
 - for the corresponding parameter;
 - at the corresponding frequency;
 - for the corresponding averaging period;
 - in the corresponding unit; and
 - using the corresponding method,
- as set out in Table 11.

Table 11: Emissions and discharge monitoring

Discharge point	Monitoring location	Parameter	Frequency	Averaging period	Unit ^{1, 2}	Method
Emission stack	SP-01	Mercury	Minimum of two separate sample events separated by at least one week. The sample events shall be undertaken prior to the completion of commissioning	120 minutes	mg/m ³	USEPA Method 29
		Benzene		30 minutes		USEPA Method 18
		Total VOCs		30 minutes		USEPA Method 11
		H ₂ S		10 minutes	m ³ /s	USEPA Method 2
		Volumetric Flow rate		30 minutes		

Note 1: All units are referenced to STP dry.

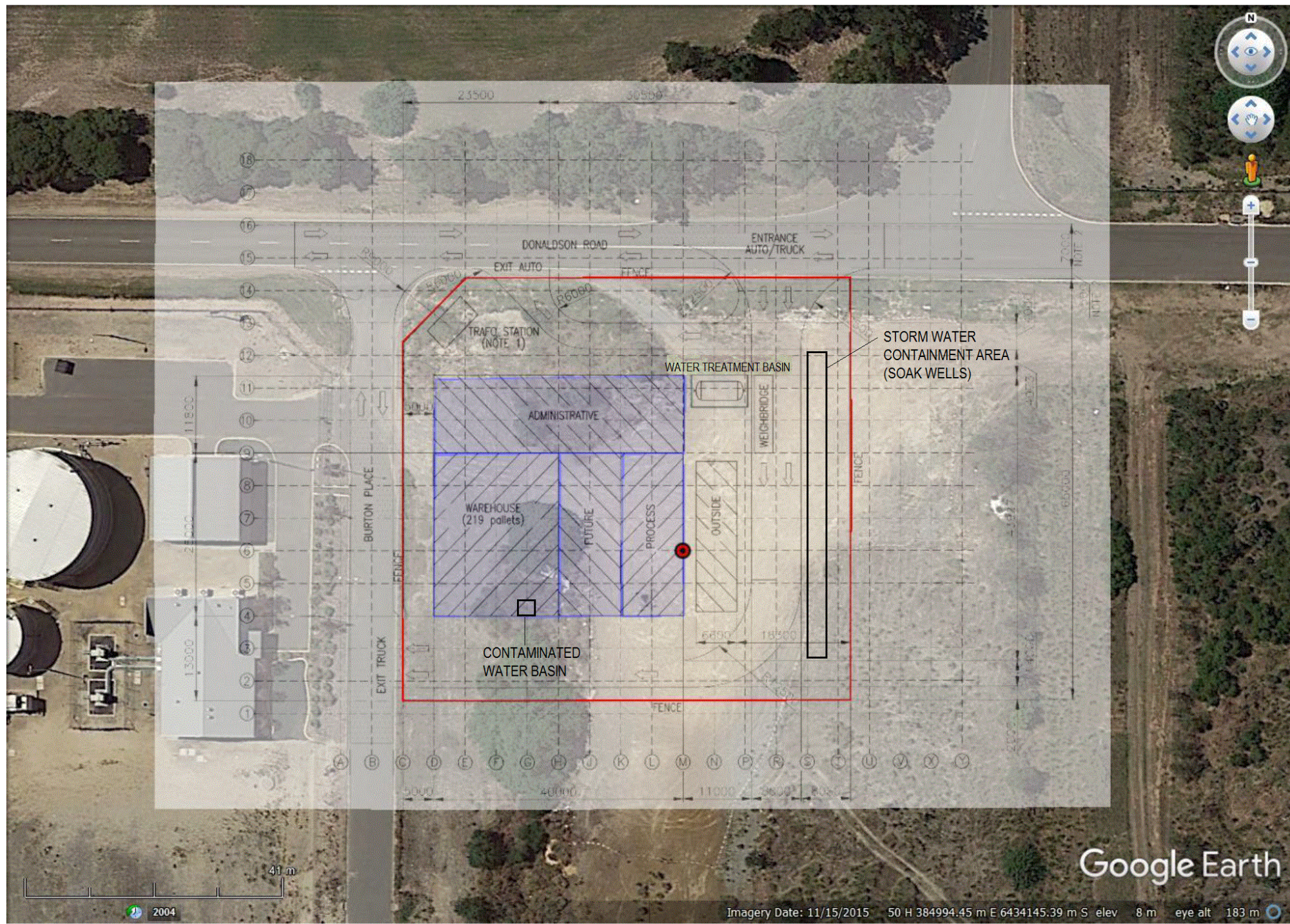
Note 2: Concentration units for all gases are referenced to 11% O₂.

19. The Works Approval Holder must ensure that sampling required by condition 18 is undertaken at sampling locations in accordance with the current version of AS4323.1-1995.
20. The Works Approval Holder must ensure that all non-continuous sampling and analysis undertaken required by condition 18 is undertaken by a Holder of NATA accreditation for the relevant methods of sampling and analysis.
21. The Works Approval Holder must record the results of all monitoring activity required by condition 18.
22. The Works Approval Holder must, within 7 days of becoming aware of any non-compliance with an emission limit specified in condition 17 of this works approval, notify the CEO in writing of that non-compliance and include in that notification the following information:
 - a) the emission limit that was not complied with;
 - b) the time and date when the non-compliance occurred;
 - c) if any environmental impact occurred as a result of the non-compliance and if so what that impact is and where the impact occurred;
 - d) the details and result of any investigation undertaken into the cause of the non-compliance;
 - e) what action has been taken and the date on which it was taken to prevent the non-compliance occurring again; and
 - f) what action will be taken and the date by which it will be taken to prevent the non-compliance occurring again.
23. The Works Approval Holder must securely lock the Premises when not attended to prevent unauthorised access.

Schedule 1 (Maps)

Premises map

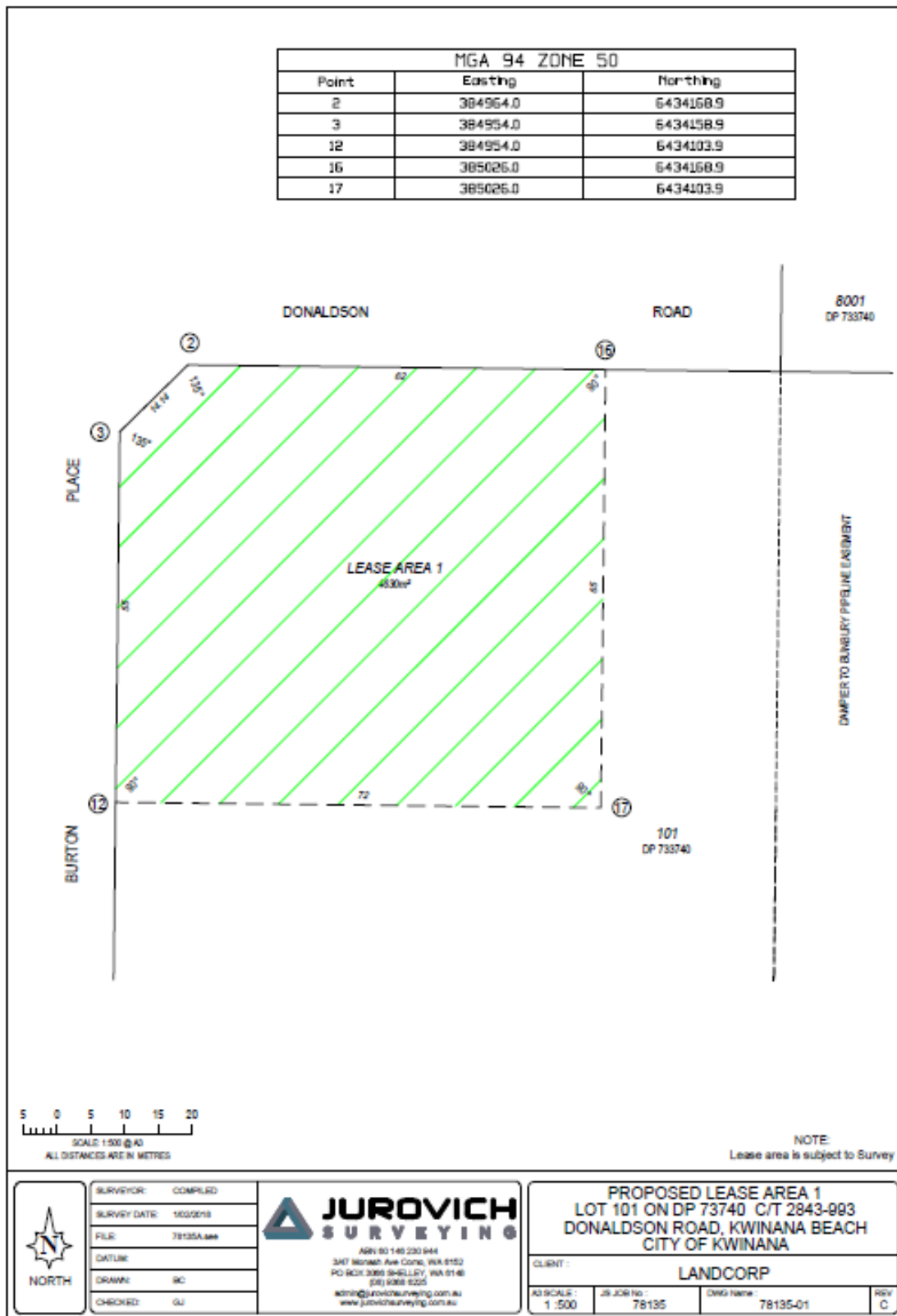
The Premises is shown in the map below.



- Fenceline
- Buildings
- Emission stack

Premises boundary

The Premises boundary is defined by the lease area, shown below.



Schedule 2 (Infrastructure and equipment)

The minimum design and construction requirements for infrastructure and equipment on the Premises are detailed in Table 12 below.

Table 12: Infrastructure and equipment requirements

Infrastructure and equipment	Requirements	Location
Process Building overall	<ul style="list-style-type: none"> a) Designed and constructed to be fully enclosed and fit for the purpose of maintaining a negative atmospheric pressure generated by the HVAC system. b) Designed and constructed to include a sealed hardstand floor which is impermeable to mercury and hydrocarbons, and is surrounded with an equally impermeable bund which is fit for the purpose of preventing spilt material escaping the hardstand. c) Designed and constructed so that the sealed hardstand floor drains to an impermeable sump to contain any spillage/wash down water, sized to hold a volume at least 10% greater than the largest vessel housed within the Process Building (3.5 m³ minimum). 	Location labelled “Process” as shown in the Premises map in Schedule 1 (Maps)
Process Building – Level 1	<ul style="list-style-type: none"> a) Contains 6 process vessels with alarms and interlocks to prevent overfilling; designed, constructed and fit for the purpose of allowing sufficient residence time for the separation of condensed liquids. b) Contains 2 pumps designed, constructed and fit for the purpose of transferring liquids from separation process vessels to liquid collection/storage process vessels, and adequately sized to match maximum condensate production. c) Contains 2 liquid ring vacuum pumps designed, constructed and fit for the purpose of creating a vacuum in the process to aid in distillation. d) Contains a reactor designed, constructed and fit for the purpose of safely stabilising at least 10 tonnes per annum of recovered mercury into mercury sulphide, with no free mercury present. 	Location labelled “Process” as shown in the Premises map in Schedule 1 (Maps)
Process Building – Level 2	<ul style="list-style-type: none"> a) Contains cooling package designed, constructed and fit for the purpose of achieving a level of cooling that adequately condenses process gases. b) Contains gas cyclone designed, constructed and fit for the purpose of separating solids from process gases to reduce fouling of downstream equipment. c) Contains 2 heat exchangers designed, constructed and fit for the purpose of condensing vapour from vessels. 	Location labelled “Process” as shown in the Premises map in Schedule 1 (Maps)

Infrastructure and equipment	Requirements	Location
	<ul style="list-style-type: none"> d) Contains chiller designed, constructed and fit for the purpose of cooling the cooling water to enable efficient operation of the cooling package. e) Contains process vessel with alarms and interlocks to prevent overfilling; designed, constructed and fit for the purpose of separating condensed gases, including appropriate sizing for sufficient residence times. 	
Process Building – Level 3	<ul style="list-style-type: none"> a) Contains 15 retorts designed, constructed and fit for the purpose of heating MCW to a sufficient temperature to break organic mercury bonds. 	Location labelled “Process” as shown in the Premises map in Schedule 1 (Maps)
HVAC System building	<ul style="list-style-type: none"> a) Housed within the Process building. b) Contains an extraction fan designed, constructed and fit for the purpose of extracting fugitive process emissions and maintaining negative atmospheric pressure within the internal environment of the process building. c) Designed and constructed to achieve overall sound levels of less than 80 dB(A) at 1 metre distance. d) Contains a refrigerated cooling system designed, constructed and fit for the purpose of removing process heat from within the process building to achieve a safe and comfortable working environment for personnel. e) Design incorporates an interlock associated with the extraction fan to prevent a process batch from starting unless the extraction fan is operational. f) Alarms on run signal for the HVAC fan and on suction pressure to the fan to indicate it is functional. 	All within the location labelled “Process” as shown in the Premises map in Schedule 1 (Maps)
Activated carbon filtration system and stack	<ul style="list-style-type: none"> a) Designed and constructed for the dispersion of scrubbed process gas and building air from the HVAC system. b) Stack is designed and constructed to be 24.9 m in height; 0.37 m in diameter and achieving 5,520 m³/hr exit gas velocity, fit for the purpose of minimising stack downwash. c) Incorporates two stage activated carbon filtration system designed to be in operation at all times for scrubbing air from process gas and removal of residual mercury, H₂S and VOCs to achieve overall levels of ≤0.002 ppm of mercury, ≤1 ppm of benzene (indicator for VOC's) and ≤1 ppm of 	Within the location labelled “Emission stack” as shown in the Premises map in Schedule 1 (Maps)

Infrastructure and equipment	Requirements	Location
	<p>H₂S in stack exit gases.</p> <ul style="list-style-type: none"> d) First stage of activated carbon filtration is a dual redundant system comprising two independent activated carbon filters, each containing at least 7 m³ of activated carbon and installed in parallel such that one can be operated when the other is offline. e) Second stage activated carbon filtration consists of an activated carbon filter containing at least 7 m³ of activated carbon. f) Design incorporates an interlock associated with the extraction fan to prevent a process batch from starting unless the extraction fan is operational. g) Design incorporates overpressure interlocks to automatically shut down the heating system if there is a restriction in flow detected to the activated carbon filtration system. h) H₂S detector with a minimum level of detection of no greater than 100ppm installed upstream of second stage activated carbon filtration, designed, constructed and fit for the purpose of continuously detecting the presence of any H₂S during process operation. i) Includes a stack sampling port that is designed in accordance with AS4323.1-1995. 	
Warehouse	<ul style="list-style-type: none"> a) Designed, constructed and fit for the purpose of storing up to 500 tonnes of MCW at a time. b) Designed and constructed to include a sealed hardstand floor which is impermeable to mercury and hydrocarbons, and surrounded with an equally impermeable bund which is adequately sized for the purpose of containing spillages and/or fire-fighting water in the event of a fire, or holds at least 35 m³ of liquid (whichever is greater). c) Designed and constructed so that the sealed hardstand floor drains to an impermeable sump to enable the pumping of collected spillage/fire water back into the process, if necessary. 	<p>Location labelled "Warehouse" as shown in the Premises map in Schedule 1 (Maps)</p> <p>Sump c) in location labelled "Contaminated Water Basin" as shown in the Premises map in Schedule 1 (Maps)</p>
Warehouse loading/unloading bay	<ul style="list-style-type: none"> a) Designed and constructed with a concrete loading apron which is contoured to prevent runoff from the apron, and to direct runoff to a collection sump. b) Designed and constructed with an awning intended to prevent rain ingress into the Warehouse. 	<p>Location labelled "Warehouse" as shown in the Premises map in Schedule 1 (Maps)</p>
Covered outside storage:	<ul style="list-style-type: none"> a) Designed and constructed to include discrete areas fit for the purpose of safe storage of liquid nitrogen, residual waste products and activated carbon filters. b) Constructed with a roof over entire area. 	<p>Location labelled "Outside" as shown in the Premises map in Schedule 1 (Maps)</p>

Infrastructure and equipment	Requirements	Location
	<ul style="list-style-type: none"> c) Designed and constructed with a sealed apron for the containment of any spillage during truck transfer movements, sealed with material fit for the purpose of short term exposure to and containment of residual liquids, and which directs contents to the containment sump in the process building. d) Liquid waste storage tank for the storage of water contaminated with soluble hydrocarbons from the treatment process, surrounded by a bund to prevent the jetting of contents which is impervious to the contents and sized to contain at least 110% of the tank contents. 	
Other outside equipment	<ul style="list-style-type: none"> a) Includes a stormwater system, designed, constructed and fit for the purpose of collecting clean rainwater from the roofed areas on the Premises and preventing runoff from the Premises. 	Area labelled "Storm water containment (soak wells)" as shown in the Premises map in Schedule 1 (Maps)