Government of Western Australia
Department of Water and Environmental Regulation

Licence

Licence number	L9109/2017/1
Licence holder	Contract Resources (Karratha) Pty Ltd
ACN	609 929 580
Registered business address	6 Sheriffs Road LONSDALE SA 5160
DWER file number	DER2017/002200-1~5
Duration	2/03/2018 to 1/03/2038
Date of issue	02/03/2018
Date of amendment	07/12/2020
Premises details	Karratha Mercury Treatment Plant 117 Bedrock Turn GAP RIDGE WA 6714 Legal description Lot 117 on Deposited Plan 76660 As defined by the coordinates in Schedule 2

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed design capacity**
Category 39: Chemical or oil recycling	1,000 tonnes per annual period
Category 61: Liquid waste facility	3,500 tonnes per annual period
Category 61A: Solid waste facility	3,500 tonnes per annual period

This licence is granted to the licence holder, subject to the attached conditions, on 07 December 2020 by:

Jarrod Abrahams 2020.12.07 09:46:09 +08'00'

MANAGER WASTE INDUSTRIES
REGULATORY SERVICES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Licence history

Date	Reference number	Summary of changes
2 March 2018	L9109/2017/1	Licence issued for Stage 1 completion of Works Approval W5958/2016/1 to store packaged liquid and solid waste at the Premises
26 November 2019	L9109/2017/1	Amendment Notice 1 Amendment to implement appeal determination (Appeal No. 005/2018) regarding the inclusion of conditions to manage potential risks associated with fire.
13 May 2019	L9109/2017/1	Licence amendment Amendment for the operation of Stage 2 which includes HTTU, TDU, mercury purification unit, evaporation ponds, washpad and associated facilities. Relocation of Catalyst Storage Area B. Allow acceptance of NORM waste. Allow acceptance of third party liquid waste for disposal in the evaporation ponds.
07 December 2020	L9109/2017/1	Licence amendment Amendment to alter the location for the storage of NORM at the Premises

Interpretation

In this licence:

(a) the words ‘including’, ‘includes’ and ‘include’ in conditions mean “including but not limited to”, and similar, as appropriate;

(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 licence:

  (i) if dated, refers to that particular version; and

  (ii) if not dated, refers to the latest version and therefore may be subject to change over time;

(e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and

(f) unless specified otherwise, all definitions are in accordance with the EP Act.

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

Licence conditions

Infrastructure and equipment

1. The Licence Holder must ensure that the infrastructure and equipment specified in Column 1 of Table 1 is maintained in good working order and operated in accordance with the requirements specified in Column 2 of Table 1.

Table 1: Infrastructure and equipment controls table

Column 1	**Column 2**
Site infrastructure and equipment	**Operational requirements**
Liquid Waste Storage Bund	Reinforced impermeable concrete construction; Free of leaks and defects; and Capable of containing 800 t of liquid within the bunded area and stormwater from a 1 in 20 year, 72 hour duration rainfall event.
Spent Catalyst Laydown A	Compacted road base; and Capable of storing 330 t of waste.
Spent Catalyst Laydown B	Compacted road base; and Capable of storing 470 t of waste.
Perimeter fencing	To completely enclose the Premises and be capable of being securely locked; and Minimum of 1.8 m high.
Onsite fire detection system	Operated in accordance with the manufacture's specifications.
Ring main fire system	5 fire hydrants maintained in accordance with the manufacture's specifications; and Fire pump system maintained in order to store 392kl of water at all times.
Warehouse sump and internal graded flooring	Sump to be kept free of liquids and debris to permit full capacity at all times; and Internal graded flooring to be maintained so as to not restrict the flow of spills, leaks, firefighting water and other liquids to the sump.
Evaporation Ponds (Pond 1 and Pond 2)	Storage of the following process effluents: • treated process wastewater from the TDU and HTTU; • treated wastewater from the NORM Decontamination Cell; • Liquid waste types specified in Table 2 that meets the classification of Class II Waste; and • Stormwater and wastewater from containment bunds; Lined with HDPE liner with a permeability of 2 x 10^{-10} m/s or less;

Column 1	Column 2
Site infrastructure and equipment	**Operational requirements**
	Designed to capture a 1:20 year, 72 hour duration rainfall event; and Freeboard of 0.5m to be maintained.
Liquid Waste Transfer Bund	Constructed of concrete.
Washpad	Constructed of concrete draining to 2 x 5,000L underground tanks; and Designed to capture a 1:20 year, 72 hour duration rainfall event.
NORM Waste Storage Area	Located within the northern 50 m^2 portion of the washpad as defined by Figure 1 of Schedule 1.
NORM Decontamination Cell	2 x 16.3 m Cargo baskets lined with HDPE to capture liquid waste and wash spray.
Recovered Solids Lay Down	Compacted road base capable of storing 1,250 tonnes of waste.
High Temperature Treatment Unit	Dust filter with automatic jet cleaning system; Alkaline scrubber system with automatic pH monitoring and caustic dosing systems; Impact separator; Dual carbon filters consisting of a primary and secondary sulfur impregnated carbon filter maintained to have a maximum saturation of 80%; and Interlocks restricting the use of recovered oil from the Thermal Desorption Unit as a fuel source for the burner to when the temperature within the combustion chamber exceeds 800°C and is maintained above 750°C.
VacuDry Thermal Desorption Unit	Vapour filter to treat off-gas from the evaporation chamber; and Dual carbon filters consisting of a primary and secondary sulfur impregnated carbon filter maintained to have a maximum saturation of 80%.
Mercury Purification Unit	Dual carbon filters consisting of a primary and secondary sulfur impregnated carbon filter maintained to have a maximum saturation of 80%.

Waste acceptance and storage

2. The Licence Holder must only accept wastes at the Premises if it is of a type specified in Column 1 of Table 2 and is below the quantity specified in Column 2 of Table 2, and meets the any specification listed in Column 3 of Table 2.

Table 2: Waste Acceptance table

Column 1	Column 2	Column 3
Waste Type	**Quantity Limit**	**Specifications**
Liquid Wastes: • B100 Acidic solutions or acids in solid form; • C100 Basic solutions or bases in solid form; • D120 Mercury and mercury compounds; • J100 Waste mineral oils unfit for their intended purpose; • J120 Waste oil and water mixtures or emulsions and hydrocarbon and water mixtures or emulsions; • J130 Oil interceptor waste; • J160 Waste tarry residues arising from refining, distillation or pyrolytic treatment; • J180 Oil sludge; • L150 Industrial wash water.	Combined limit of 4000 tonnes per annual period	L150 Limited to: • Industrial wash waters contaminated with the following controlled wastes: B100, C100, D120, J100, J120, J130, J160 J180 D200, D210, D270 and N160.
Solid Wastes: • D120 Mercury and mercury compounds; • D140 Chromium compounds; • D190 Copper compounds; • D200 Cobalt compounds; • D210 Nickel compounds; • D230 Zinc compounds; • D270 Vanadium compounds; • N160 Encapsulated or chemically fixed, solidified or polymerised controlled waste; • N100 Containers or drums contaminated with residues of a controlled waste; • N190 Filter cake containing a controlled waste; • N205 Industrial waste treatment plant residue	Combined limit of 2500 tonnes per annual period	N100 Limited to: Drums and containers contaminated with the following controlled wastes: B100, C100, D120, J100, J120, J130, J160 J180, D200, D210, D270 and N160. N190 Limited to: • Filter cake containing the following controlled wastes: B100, C100, D120, J100, J120, J130, J160 J180 D200, D210 and D270. N205 Limited to: • Industrial waste treatment plant residues containing the following controlled wastes B100, C100, D120, J100, J120, J130, J160 J180 D200, D210, D270 and N160.
NORM Waste (Solid) • N100 Containers or drums contaminated	1,000 tonnes per annual	Waste containing NORM No waste containing NORM shall

Column 1	Column 2	Column 3
Waste Type	**Quantity Limit**	**Specifications**
with residues of a controlled waste; • N120 Soils contaminated with a controlled waste; • N190 Filter cake containing a controlled waste	period	be accepted into the HTTU or TDU
NORM Waste (Liquid) • J120 Waste oil and water mixtures or emulsions and hydrocarbon and water mixtures or emulsions; • J130 Oil interceptor waste; • J160 Waste tarry residues arising from refining, distillation or pyrolytic treatment; • J180 Oil sludge;	500 tonnes per annual period	

3. The Licence Holder must only store waste containing NORM within the NORM storage area (marked 'NORM Storage') in Schedule 1.

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

Table 3: Waste acceptance monitoring

Waste type[1]	Unit	Time period
Liquid waste	tonnes	Each load accepted at the premises
Solid waste		
NORM waste (Solid)		
NORM waste (Liquid)		

Note 1: As described in Table 2.

Emissions to Air

5. The Licence Holder must ensure that the emissions specified in Table are discharged only from the corresponding discharge point and only at the corresponding discharge point location.

Table 4: Authorised discharge points

Emission	Discharge point	Discharge point location
NOx, CO, SO_2, Hg, TOC, PM	HTTU Stack	As shown in Schedule 1: Premises Map
	TDU Stack	

6. The Licence Holder must ensure that emissions from the discharge points listed in Table for the corresponding parameter do not exceed the corresponding limit.

Table 5: Emission and discharge limits

Discharge point	Parameter	Limit
HTTU Stack	Hg	0.05mg/m^3
TDU Stack		

Monitoring

7. The Licence Holder must monitor emissions:

(a) from each discharge point;

(b) for the corresponding parameter;

(c) at the corresponding frequency;

(d) for the corresponding minimum sampling period;

(e) in the corresponding reporting units; and

(f) using the corresponding method,

as set out in Table .

Table 6: Emissions and discharge monitoring

Discharge points	Parameter	Frequency	Minimum sampling period	Reporting Units[1, 2]	Method
HTTU Stack and TDU Stack	NO_X	Annual	30 minutes	g/min and mg/m^3	USEPA Method 7E
	CO				USEPA Method 10
	SO_2				USEPA Method 6C
	Hg		120 minutes		USEPA Method 29
	TOC		60 minutes		USEPA Method 25A
	PM				USEPA Method 5 or 17
	NO_X	At least one stack test per year, for two years, carried out while the HTTU burner is operating on oil [3,4]	30 minutes		USEPA Method 7E
	CO				USEPA Method 10
	SO_2				USEPA Method 6C
	TOC		60 minutes		USEPA Method 25A
	PM				USEPA Method 5 or 17
	Arsenic		120 minutes		USEPA Method 29
	Cadmium				
	Chromium				
	Lead				
	Mercury				
	Hydrogen chloride		60 minutes		USEPA Method 26
	Hydrogen				

Discharge points	Parameter	Frequency	Minimum sampling period	Reporting Units[1, 2]	Method
	fluoride				

Note 1: All units are referenced to STP dry.

Note 2: Concentration units for all gases are referenced to 11% O_2.

Note 3: Results of testing undertaken in accordance with conditions of Works Approval W5958/2016/1 may be submitted to fulfil this requirement.

Note 4 Recovered oil used as fuel in the HTTU burner must have undergone compositional analysis as required by condition 14 prior to the stack test occurring.

8. The Licence Holder ensure that all non-continuous sampling and analysis undertaken required by condition 7 is undertaken by a holder of NATA accreditation for the relevant methods of sampling and analysis.

9. The Licence Holder must monitor the groundwater for concentrations of the parameter listed in Table 7:

(a) at the corresponding monitoring location;

(b) in the corresponding unit;

(c) at no less that the corresponding frequency;

(d) for the corresponding averaging period; and

(e) using the corresponding method,

as set out in Table .

Table 7: Monitoring of ambient concentrations

Parameter	Monitoring location	Unit	Frequency	Averaging period	Method
pH	BH01, BH02 and BH03 As shown in Schedule 1: Map of monitoring points	-	Annual	Spot sample	AS/NZS 5667.1 AS/NZS 5667.10
Electrical conductivity		µS/cm			
Aluminum		mg/L			
Arsenic					
Chromium					
Copper					
Mercury					
Nickel					
Lead					
Zinc					
Total Recoverable Hydrocarbons		µg/L			
Polycyclic Aromatic Hydrocarbons					

10. The Licence Holder must ensure that all laboratory samples collected in accordance with condition 9 are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured unless indicated otherwise in the relevant table.

11. The Licence Holder must ensure that:

(a) monitoring is undertaken in each six-monthly period such that there are at least 5 months in between the days on which samples are taken in successive periods of six months; and

(b) monitoring is undertaken in each annual period such that there are at least 9 months in between the days on which samples are taken in successive years.

Specified actions

12. The Licence Holder must immediately clean up and dispose of any spills of waste on the Premises.

13. The Licence Holder must securely lock the Premises when not attended.

14. The Licence Holder must undertake monitoring of recovered waste oil from the Thermal Desorption Unit to be used as a fuel in the High Temperature Treatment Unit for the parameters listed in Table :

(a) at the corresponding frequency;

(b) for the corresponding averaging period;

(c) in the corresponding unit;

(d) using the corresponding method,

as set out in Table .

Table 8: Monitoring of recovered oil

Parameter	Frequency	Average period	Unit	Method
Flash point	At least once prior to undertaking stack testing while operating the HTTU on the recovered oil.	Spot sample	°C	ASTM D93-18 or ASTM D3278 96
Arsenic			mg/kg, dry basis[1]	USEPA 3051A and USEPA 6010C
Cadmium				
Chromium				
Lead				
Mercury[2]				UOP 938-00
Total chlorine[2]				USEPA 330.5

Note 1: Dry mass means that the samples are dried to a constant weight at ~100 degrees Celsius

Note 2: non-NATA analysis permitted.

15. The Licence Holder must ensure that all laboratory samples collected in accordance with condition 14 are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured unless indicated otherwise in the relevant table.

Record-keeping

16. The Licence Holder must maintain accurate and auditable Books including the following records, information, reports and data required by this Licence:

(a) the calculation of fees payable in respect of this Licence; and

(b) the maintenance of infrastructure required to ensure that it is kept in good working order in accordance with Condition 1 of this Licence.

In addition, the Books must:

(c) be legible;

(d) if amended, be amended in such a way that the original and subsequent amendments remain legible and are capable of retrieval;

(e) be retained for at least 3 years from the date the Books were made; and

(f) be available to be produced to an Inspector or the CEO.

17. The Licence Holder must record the number and details of any complaints received by the Licence Holder relating to its obligations under this Licence and its compliance with Part V of the EP Act at the Premises, and any action taken by the Licence Holder in response to the complaint. Details of complaints must include:

(a) an accurate record of the concerns or issues raised, for example a copy of any written complaint or a written note of any verbal complaints made;

(b) the name and contact details of the complainant, if provided by the complainant;

(c) the date of the complaint; and

(d) the details and dates of the actions taken by the Licence Holder in response to the complaints.

18. The Licence Holder must:

(a) undertake an audit of their compliance with the conditions of this licence during the preceding annual period; and

(b) prepare and submit to the CEO by no later than 1 March each year an Annual Audit Compliance Report in the approved form.

19. The Licence Holder must submit to the CEO by no later than 1 March each year, an Annual Environmental Report for the preceding annual period for the conditions listed in Table , and which provides information in accordance with the corresponding requirement set out in Table .

Table 9. Annual Environmental Report

Condition	Requirement
4 Waste input monitoring	None specified
7 Monitoring of emissions to air	Tabulated monitoring data results and time-series graphs in Microsoft Excel format for each monitoring location showing concentrations of all parameters over a minimum three year period (where sufficient data allows). An interpretation of the monitoring data including comparison to historical trends and emission limits (where applicable) Copies of original monitoring, laboratory and analysis reports submitted to the Licence Holder by third parties.
9 Ambient monitoring	
14 Specified actions	

17 Complaints	Summary of complaints received and any action taken to investigate or respond to any complaint

20. The Licence Holder must comply with a Department Request, within 14 days from the date of the Department Request or such other period as agreed to by the Inspector or the CEO.

21. The Licence Holder must notify the CEO of any fire which occurs at the Premises within 24 hours of becoming aware of the fire, including the date/time of becoming aware, the extent and severity of the fire, the measures already taken or being taken to control the fire and any potential environmental or public health impacts that have occurred or are occurring as a result of the fire.

22. The Licence Holder must, within seven days of becoming aware of any non-compliance with an emission limit specified in condition 6 of the Licence, notify the CEO in writing of that non-compliance and include in that notification the following information:

(a) which emission limit 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.

Definitions

In this licence, the terms in Table 10 have the meanings defined.

Table 10: Definitions

Term	Definition
ACN	Australian Company Number
Amendment Notice	means an amendment granted under s.59 of the EP Act in accordance with the procedure set out in s.59B of the EP Act.
Annual Period	means a 12 month period commencing from 1 January until 31 December.
Approved form	means the AACR Form template approved by the CEO for use and available via DWER's external website.
AS 4323	means the Australian Standard *AS 4323.1 Stationary source emissions Method 1: Selection of sampling positions.*
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples*
AS/NZS 5667.10	means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters*
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters*
ASTM D93-18	means *ASTM D93-18 Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester*
ASTM D3278-96	means *ASTM D3278-96 Standard Test Methods for Flash Point of Liquids by Small Scale Closed-Cup Apparatus*
Averaging period	means the time over which a limit is measured or a monitoring results is obtained
Class II Waste	has the meaning defined in the Landfill Definitions.
Condition	means a condition to which this Licence is subject under s.62 of the EP Act.
Books	has the same meaning given to that term under the EP Act.

CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the *Environmental Protection Act 1986* Locked Bag 10 JOONDALUP DC WA 6919 info@dwer.wa.gov.au
Compliance Report	means a report in a format approved by the CEO as presented by the Licence Holder or as specified by the CEO (guidelines and templates may be available on the Department's website).
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act.
Department Request	means a request for Books or other sources of information to be produced, made by an Inspector or the CEO to the Licence Holder in writing and sent to the Licence Holder's address for notifications, as described at the front of this Licence, in relation to: (a) compliance with the EP Act or this Licence; (b) the Books or other sources of information maintained in accordance with this Licence; or (c) the Books or other sources of information relating to Emissions from the Premises.
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 *Environmental Protection Act 1986* (WA).
EP Regulations	means the *Environmental Protection Regulations 1987* (WA).
Freeboard	means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point
HDPE	means high density polyethylene
HTTU	means the High Temperature Treatment Unit
Implementation Agreement or Decision	has the same meaning given to that term under the EP Act.

Inspector	means an inspector appointed by the CEO in accordance with s.88 of the EP Act.
Landfill Definitions	means the document titled “Landfill Waste Classification and Waste Definitions 1996” published by the Chief Executive Officer of the Department of Environment as amended from time to time.
Licence	refers to this document, which evidences the grant of a Licence by the CEO under s.57 of the EP Act, subject to the Conditions.
Licence Holder	refers to the occupier of the premises being the person to whom this Licence has been granted, as specified at the front of this Licence.
Material Environmental Harm	has the same meaning given to that term under the EP Act.
NATA	means the National Association of Testing Authorities, Australia.
NATA accredited	means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis.
NORM	means naturally occurring radioactive material
Pollution	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Licence applies, as specified at the front of this Licence and as shown on the map in Schedule 1 to this Licence.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Primary Activities	refers to the Prescribed Premises activities to which this licence applies, as specified in Schedule 2 and as shown on the premises map in Schedule 1 to this Licence.
Serious Environmental Harm	has the same meaning given to that term under the EP Act.
STP dry	means standard temperature and pressure (0° Celsius and 101.325 kilopascals respectively), dry.
TDU	means the VacuDry Thermal Desorption Unit
Unreasonable Emission	has the same meaning given to that term under the EP Act.
UOP Method 938-00	means *Universal Oil Products (UOP) Method 938-00 Total Mercury and Mercury Species in Liquid Hydrocarbons*

USEPA	means United States [of America] Environmental Protection Agency.
USEPA Method 5	means *USEPA Method 5 Determination of Particulate Matter Emissions from Stationary Sources*
USEPA Method 6C	means *USEPA Method 6C Determination of Sulfur Dioxide Emissions From Stationary Sources (Instrumental Analyzer Procedure)*
USEPA Method 7E	means *USEPA Method 7E Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)*
USEPA Method 10	means *USEPA Method 10 Determination of carbon monoxide emissions from stationary sources*
USEPA Method 17	means *USEPA Method 17 Determination of Particulate Matter Emissions From Stationary Sources*
USEPA Method 25A	means *USEPA Method 25A Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer*
USEPA Method 26	means *USEPA Method 26 Determination of Hydrogen Halide and Halogen Emissions From Stationary Sources*
USEPA Method 29	means *USEPA Method 29 Determination of Metals Emissions from Stationary Sources*
USEPA Method 330.5	means *USEPA Method 330.5 Chlorine, Total Residual (Spectrophotometric, DPD)*
USEPA Method 3051A	means *USEPA Method 3051A (SW-846): Microwave Assisted Acid Digestion of Sediments, Sludges, and Oils*
USEPA Method 6010C	means *USEPA Method 6010C (SW-846): Inductively Coupled Plasma-Atomic Emission Spectrometry*
Waste	has the same meaning given to that term under the EP Act.

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in the map below (Figure 1).

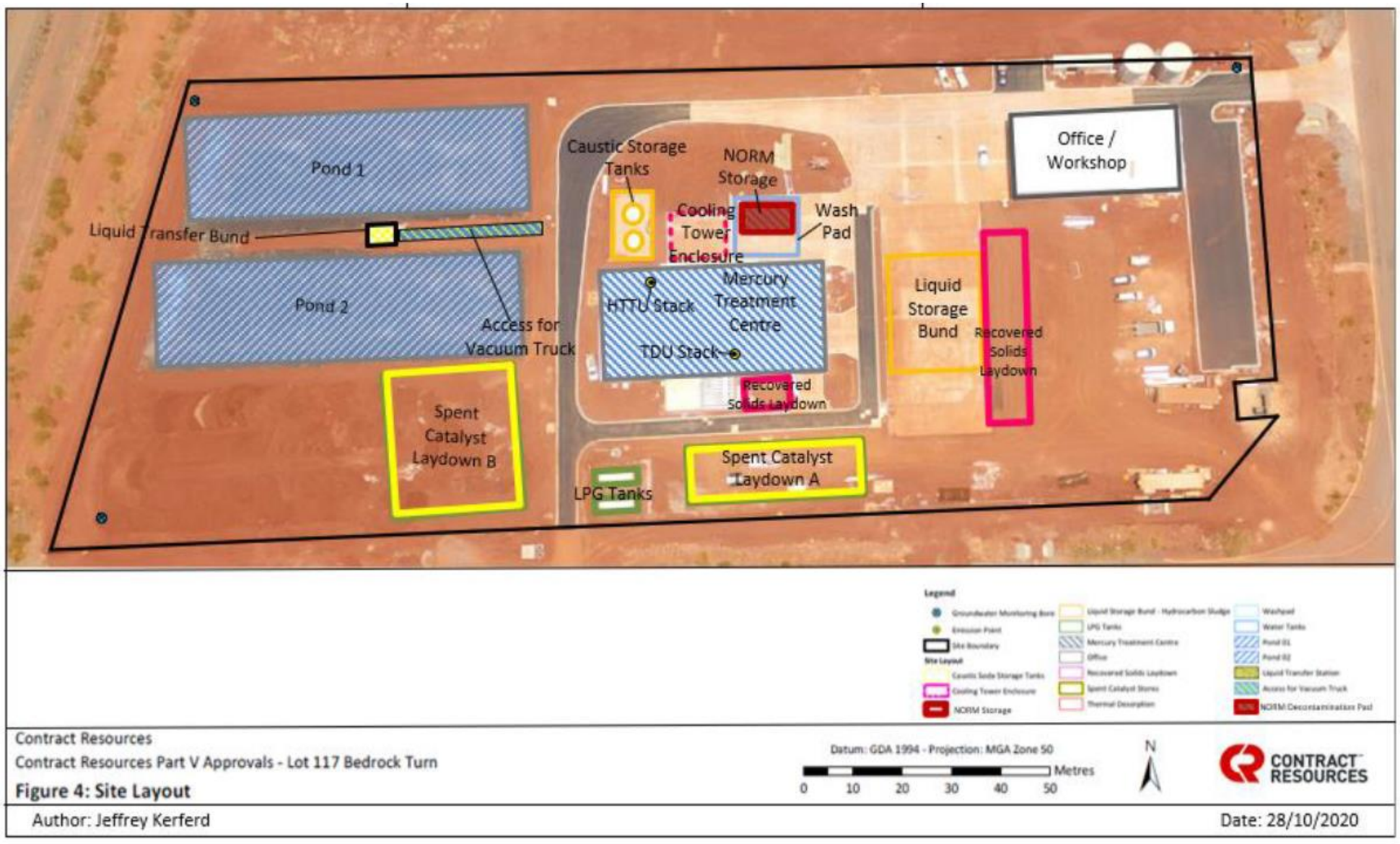
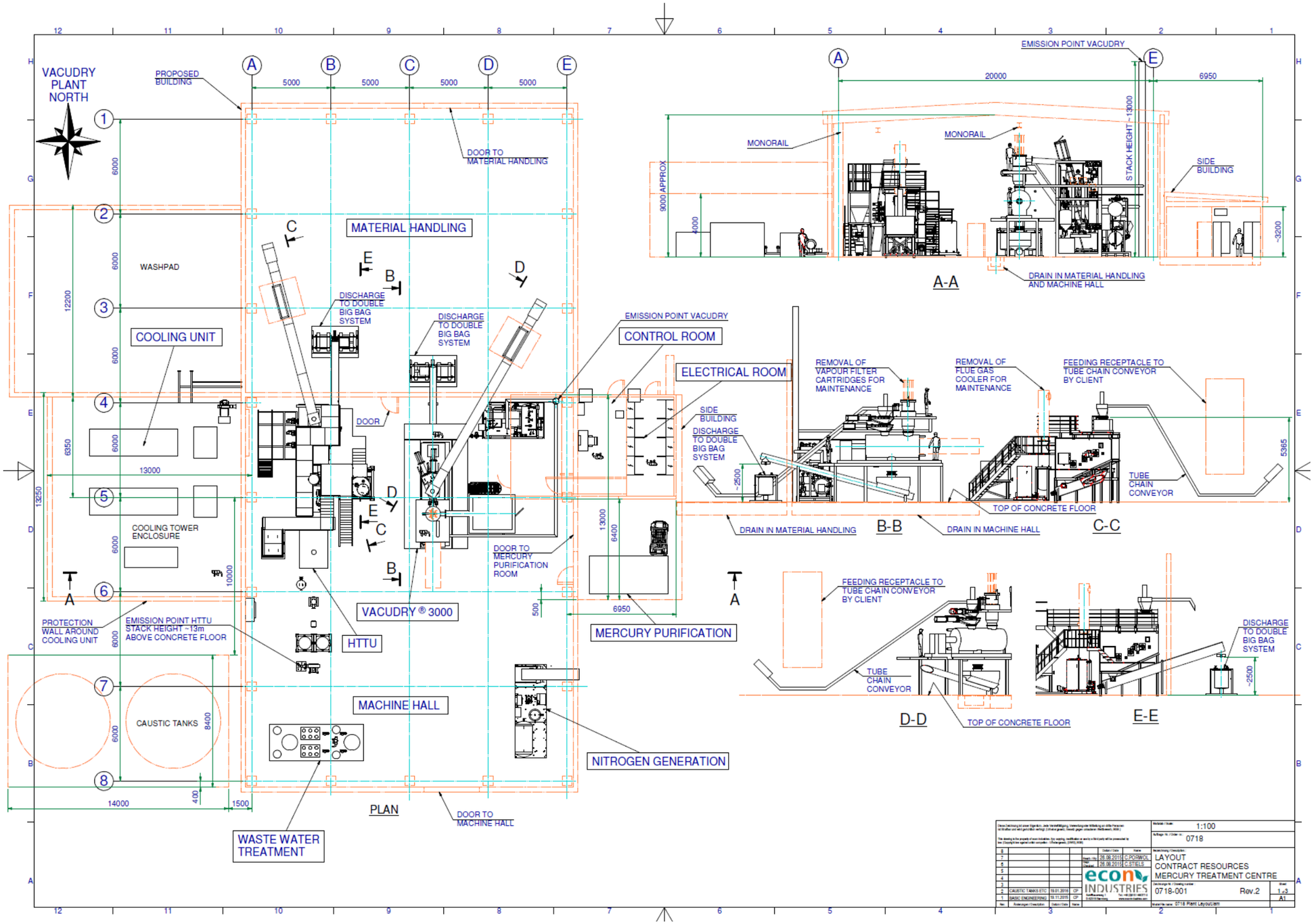


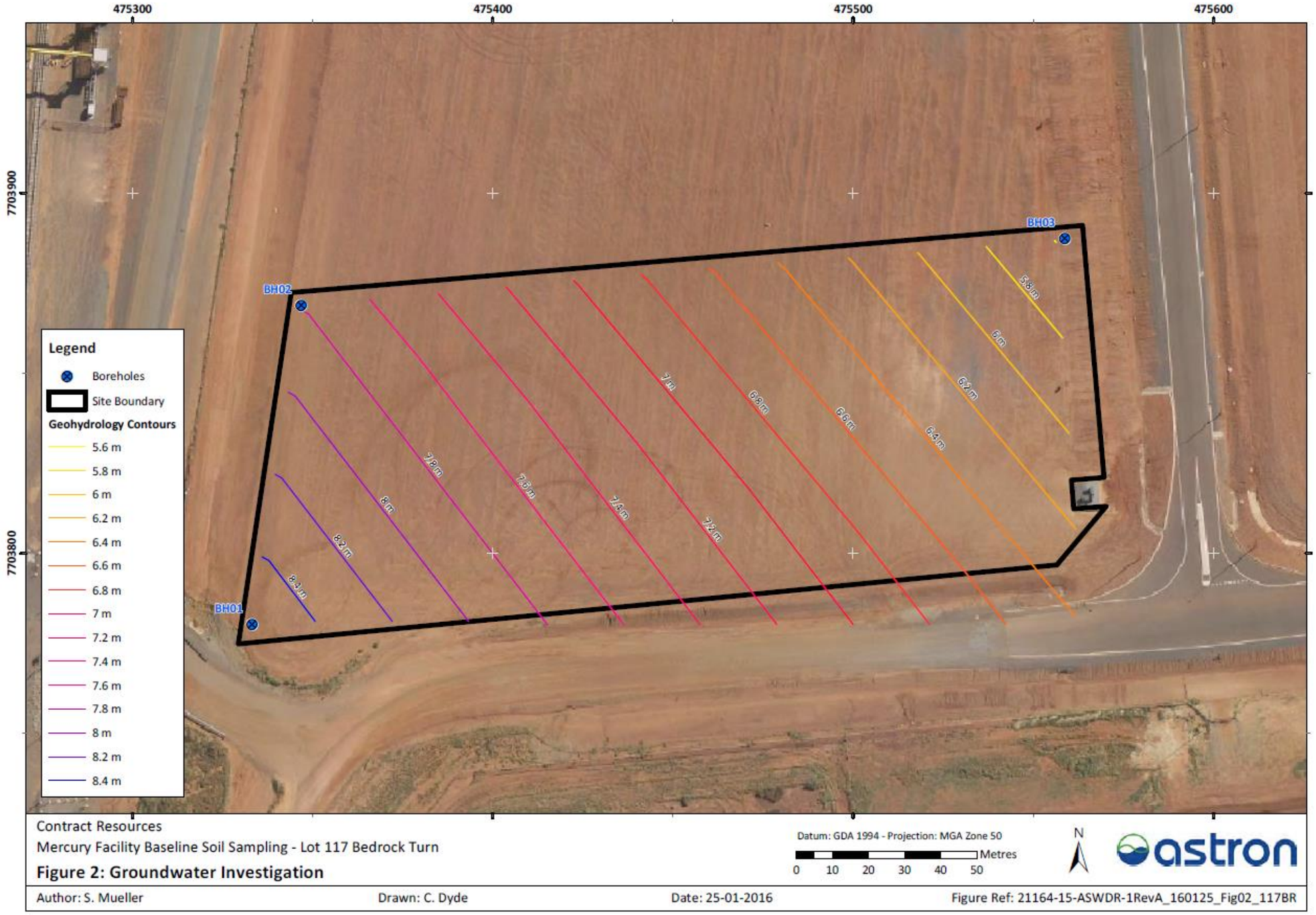
Figure 1: Map of the boundary of the prescribed premises

Process Warehouse (Mercury Treatment Centre) Layout

The location of the HTTU, TDU and Mercury Purification Unit within the Process Warehouse (Mercury Treatment Centre) is shown in the diagram below.



Map of groundwater monitoring points



Schedule 2: Premises boundary

The premises boundary is defined by the coordinates in Table 11.

Table 11: Premises boundary coordinates (GDA 1994 Zone 50)

Easting	Northing
475344	7703872
475564	7703891
475570	7703821
475561	7703820
475561	7703812
475570	7703813
475557	7703797
475329	7703775