



Annual Audit Compliance Report Form

Environmental Protection Act 1986, Part V Division 3

Once completed, please submit this form either via email to info@dwer.wa.gov.au, or to the below postal address:

Department of Water and Environmental Regulation
Locked Bag 10
Joondalup DC WA 6919

Section A – Licence details			
Licence number:	L8553/2011/1	Licence file number:	
Licence holder name:	BHP Billiton Petroleum Pty Ltd		
Trading as:	BHP Billiton Petroleum Pty Ltd		
ACN:	39 006 923 879		
Registered business address:	125 St Georges Terrace, Perth, Western Australia, 6000		
Reporting period:	01/04/2020 to 31/03/2021		

Section B – Statement of compliance with licence conditions
Did you comply with all of your licence conditions during the reporting period? (please tick the appropriate box)
<input checked="" type="checkbox"/> Yes – please complete: <ul style="list-style-type: none">• section C;• section D (if required); and• sign the declaration in Section F.
<input type="checkbox"/> No – please complete: <ul style="list-style-type: none">• section C;• section D (if required);• section E; and• sign the declaration in Section F.

Section C – Statement of actual production	
Provide the actual production quantity for this reporting period. Supporting documentation is to be attached.	
Prescribed premises category	Actual production quantity
10	1,440,188.224 tonnes
34	527.069 tonnes

Section D – Statement of actual Part 2 waste discharge quantity	
Provide the actual Part 2 waste discharge quantity for this reporting period. Supporting documentation is to be attached.	
Prescribed premises category	Actual Part 2 waste discharge quantity

Section E – Details of non-compliance with licence condition			
Please use a separate page for each condition with which the licence holder was non-compliant at a time during the reporting period.			
Condition no:		Date(s) of non-compliance:	
Details of non-compliance:			
What was the actual (or suspected) environmental impact of the non-compliance? NOTE – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.			
Cause (or suspected cause) of non-compliance:			
Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:			
Was this non-compliance previously reported to DWER?			
<input type="checkbox"/> Yes, and			
<input type="checkbox"/> Reported to DWER verbally		Date: / /	



Section E – Details of non-compliance with licence condition

<input type="checkbox"/> Reported to DWER in writing	Date: / /
--	-----------------

Section F – Declaration

I / We declare that the information in this Annual Audit Compliance Report is true and correct and is not false or misleading in a material particular¹.

I / We consent to the Annual Audit Compliance Report being published on the Department of Water and Environmental Regulation’s (DWER) website.

Signature ² :		Signature:	
Name: (printed)		Name: (printed)	
Position:	Manager Field Operations	Position:	Manager HSE
Date:	27/04/2021	Date:	27/04/2021
Seal (if signing under seal):			

¹ It is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give information on this form that to their knowledge is false or misleading in a material particular.

² AACRs can only be signed by the licence holder or an authorised person with the legal authority to sign on behalf of the licence holder.

Supporting Information for Licence Compliance Macedon

Licence: L8553/2011/1
 Form: AR1
 Name: Monitoring of point source emissions to air

Licensee: BHP Billiton Petroleum Pty Ltd
 Period: 01 April 2020 – 31 March 2021

Form AR1: Monitoring of point source emissions to air							
Emission point	Parameter	Result (mg/m ³) ¹	Results (g/s)	Averaging period	Method	Sample date & times	Licence Conditions Met (Y/N)
A1 SGC A	Nitrogen oxides	<7	<0.1	60 minutes	USEPA 7E	15-10-2020 10:02	Y
	Carbon monoxide	<7	<0.1	60 minutes	USEPA 10		Y
	Volatile organic compounds	<2	<0.03	60 minutes	USEPA 25A		Y
A2 SGC B	Nitrogen oxides	<7	<0.1	60 minutes	USEPA 7E	15-10-2020 07:35	Y
	Carbon monoxide	<7	<0.14	60 minutes	USEPA 10		Y
	Volatile organic compounds	<2	<0.03	60 minutes	USEPA 25A		Y
A3 SGC C	Nitrogen oxides	<7	<0.1	60 minutes	USEPA 7E	14-10-2020 12:42	Y
	Carbon monoxide	<7	<0.1	60 minutes	USEPA 10		Y
	Volatile organic compounds	<2	<0.03	60 minutes	USEPA 25A		Y

Note 1: All units are referenced to STP dry and corrected to 15% O₂

Signed on behalf of BHP Billiton Petroleum Pty Ltd: Date:

Form: AR1: Monitoring of point source emissions to air cont'd

Emission point	Parameter	Result (mg/m³)¹	Results (g/s)	Averaging period	Method	Sample date & times	Licence Conditions Met (Y/N)
A4 GTG A	Nitrogen oxides	66	0.11	60 minutes	USEPA 7E	14-10-2020 08:35	Y
	Carbon monoxide	310	0.52	60 minutes	USEPA 10		Y
	Volatile organic compounds (as Methane)	410	0.68	60 minutes	USEPA 25A		Y
A5 GTG B	Nitrogen oxides	68	0.13	60 minutes	USEPA 7E	14-10-2020 07:09	Y
	Carbon monoxide	240	0.44	60 minutes	USEPA 10		Y
	Volatile organic compounds	220	0.41	60 minutes	USEPA 25A		Y
A6 GTG C	Nitrogen oxides	NA	NA	60 minutes	USEPA 7E	Offline	NA
	Carbon monoxide	NA	NA	60 minutes	USEPA 10		NA
	Volatile organic compounds	NA	NA	60 minutes	USEPA 25A		NA
A7 GTG D	Nitrogen oxides	93	0.16	60 minutes	USEPA 7E	13-10-2020 16:03	Y
	Carbon monoxide	230	0.4	60 minutes	USEPA 10		Y
	Volatile organic compounds	280	0.48	60 minutes	USEPA 25A		Y

Note 1: All units are referenced to STP dry and corrected to 15% O₂



Signed on behalf of BHP Billiton Petroleum Pty Ltd:

^{=B}
T

Date:

Monitoring of point source emissions to air - Cumulative volumes flared						
Emission point	Parameter	Result (m³)	Averaging period	Frequency	Method	Licence Conditions Met (Y/N)
A8	Cumulative volume flared	238,334	Annual	Continuous	NGER (Measurement) Determination 2008	Y
A9	Cumulative volume flared	348,612	Annual	Continuous	NGER (Measurement) Determination 2008	Y

All monitoring was undertaken in compliance to conditions 1.2.2, 2.2, 3.1.2, 3.1.3, 3.1.4 and 3.2.

All air emission results (except cumulative flared volumes) were obtained from Ektimo report number R009565r (Annual Emissions Monitoring 2020 Macedon Gas Facility).

Cumulative Flare Volumes were obtained from BHP Petroleum's Enterprise Upstream system.

Signed on behalf of BHP Billiton Petroleum Pty Ltd:



Date:

Licence: L8553/2011/1
 Form: GR1
 Name: Monitoring of Groundwater

Licensee: BHP Billiton Petroleum Pty Ltd
 Period: 01 April 2020 – 31 March 2021

Form GR1: Monitoring of groundwater								
Emission point	Parameter	Result	Unit	Averaging period	Method	Sample date & times	Licence Conditions Met (Y/N)	
MB01	pH	7.28	pH Unit	Spot Sample	EA005P	13.10.2020 15:00	Y	
	Standing water level	-0.320	mAHD					Y
	Electrical conductivity	59.90	mS/cm		EA010P		Y	
	Total Petroleum Hydrocarbons	<0.050	mg/L		EP080/071		Y	
	Benzene	<0.001	mg/L		EP080		Y	
	Toluene	<0.002	mg/L		EP080		Y	
	Ethylbenzene	<0.002	mg/L		EP080		Y	
	Xylene	<0.002	mg/L		EP080		Y	
	Mercury	<0.0001	mg/L		EG035F		Y	
	Lead	<0.005	mg/L		EG020F		Y	
	Arsenic	<0.005	mg/L		EG020F		Y	
	Copper	0.008	mg/L		EG020F		Y	
	Nickel	0.008	mg/L		EG020F		Y	
	Cadmium	<0.0005	mg/L		EG020F		Y	
Chromium	0.038	mg/L	EG020F	Y				

Signed on behalf of BHP Billiton Petroleum Pty Ltd:



Date:

Form GR1: Monitoring of groundwater contd							
Emission point	Parameter	Result	Unit	Averaging period	Method	Sample date & times	Licence Conditions Met (Y/N)
MB02	pH	7.70	pH Unit	Spot Sample	EA005P	13.10.2020 17:00	Y
	Standing water level	-0.220	mAHD				Y
	Electrical conductivity	58.90	mS/cm		EA010P		Y
	Total Petroleum Hydrocarbons	0.090	mg/L		EP080/071		Y
	Benzene	<0.001	mg/L		EP080		Y
	Toluene	<0.002	mg/L		EP080		Y
	Ethylbenzene	<0.002	mg/L		EP080		Y
	Xylene	<0.002	mg/L		EP080		Y
	Mercury	<0.0001	mg/L		EG035F		Y
	Lead	<0.005	mg/L		EG020F		Y
	Arsenic	<0.005	mg/L		EG020F		Y
	Copper	0.021	mg/L		EG020F		Y
	Nickel	0.017	mg/L		EG020F		Y
	Cadmium	<0.0005	mg/L		EG020F		Y
Chromium	0.024	mg/L	EG020F	Y			

All monitoring was undertaken in compliance to conditions 1.2, 1.3, 3.1.1, 3.1.2, and 3.8.

All groundwater results were obtained in the Macedon Gas Plant Groundwater Quality Monitoring Report – 11 November 2020 (Worley, 2020)



Period: 01 April 2020 – 31 March 2021

Condition 5.2.1: The Licensee shall submit to the Director at the Contact Address an Annual Environmental Report within 28 calendar days after of the end of the annual period. The report shall contain the information listed in Table 5.2.1 in the format or form specified in that table.

Table 5.2.1: Annual Environmental Report			
Condition or Table (if relevant)	Parameter	Format or Form¹	BHP Petroleum Comments
-	Summary of any failure or malfunction of any pollution control equipment or any incidents that have occurred during the annual period and any action taken	None specified	On 7 Feb 2021, during an inspection of F-317B Sales gas filter (located at Dampier to Bunbury Natural Gas Pipeline) metering skid, an unmanned metering station 67 km from the Macedon site) was found to be leaking from the vessel lid flange. Leak detection readings using a portable gas detector were 35%LEL at 200 mm distance. Gas volume 36 m ³ . Vessel isolated and the lip seal was pressured up to achieve a better seal, this reduced the leak substantially. Vessel isolated and notification raised to replace Lipseal. This incident was reported to DMIRS in BHP Monthly Recordable Environmental Incident Report Form for Macedon dated February 2021.
Table 2.2.2	Limit exceedances	N1	Form N1 is not Required as no limit exceedances were measured during the reporting period.
Table 3.2.1	Emissions to air	AR1	See Table AR1 above. Monitoring of point emission to air was undertaken in accordance with the licence.
Table 3.2.1	Greenhouse gas emissions	None specified	Cumulative Volumes from point sources A8 and A9 have been reported in Table AR1 above.
Table 3.8.1	Groundwater quality monitoring	GR1	Groundwater quality monitoring was undertaken in accordance with the licence. See Table GR1 above.
5.1.3	Compliance	AACR	AACR submitted in required template as part of this submission.
5.1.4	Complaints summary	None specified	Community Reference Group (CRG) meetings are undertaken in Onslow every 4 months. No complaints were received during the reporting period.

Note 1: Forms are in Schedule 2

Condition 5.2.2: The annual environment report shall also contain:

(a) Any relevant process, production or operational data recorded under Condition 3.1.3;

Refer to Table AR1 which details cumulative flare volumes that are measured via continuous monitoring and results of non-continuous monitoring of point source emissions to air.

(b) An assessment of the information contained within the report against previous monitoring results and Licence limits and/or targets

Groundwater

During the October 2020 Monitoring Event, dissolved chromium was reported in MB01 and MB02 at concentrations consistent with monitoring events from previous years. There are no Marine Waters Groundwater Investigation Levels Criteria (NEPM GILs criteria) for dissolved total chromium. Reported concentrations were consistent with the July 2019 monitoring; data for the nearby Tubridgi Plant indicate that chromium is geochemically present and therefore considered to be naturally occurring in the area.

Copper concentrations have been detected during the 2020 monitoring along with a number of historical monitoring events. Concentrations of copper were reported above the adopted criterion (0.0013 mg/L) in both wells since May 2013, except during the November 2016 monitoring where it was reported below the laboratory Limit of Reporting (LoR) of 0.01 mg/L in both wells. The October 2020 monitoring event observed decreases in copper concentration for both monitoring wells, however both remained above the NEPM Marine Waters GIL criterion.

Nickel concentrations have fluctuated around the LoR in MB01 and MB02 for the duration of the groundwater monitoring program. Nickel was recorded at 0.008 mg/L in MB01 and 0.017 mg/L in MB02 in the October 2020 monitoring, exceeding the NEPM Marine Waters GIL criterion for the monitoring event.

No other dissolved metals were reported above the laboratory limits of reporting and hence the adopted Marine Water criteria (NEPM GIL criteria) in either monitoring well.

TPH concentrations were below the laboratory LoRs in both monitoring wells for the 2020 monitoring event, except for C₁₀-C₁₄ fraction TPH in MB02. All other TPH fractions have remained below reporting limits since December 2013.

BTEX concentrations were below the laboratory LoRs in both monitoring wells and has remained so since the May 2013 monitoring.

Groundwater Monitoring						
		TPH (C10-C14)	TPH (C15-C28)	TPH (C29-C36)	Copper	Chromium
		0.05	0.1	0.05	0.001	0.001
Bore	Date	mg/L	mg/L	mg/L	mg/L	mg/L
MB01	9-Apr-14	<0.050	<0.200	<0.200	<0.001	
	19-Nov-14	<0.050	<0.100	<0.050	0.0370	0.025
	16-Nov-15	<0.005	<0.001	<0.005	0.086	0.026
	21-Mar-16	<0.005	<0.001	<0.005	0.009	0.028
	21-Nov-16	<0.005	<0.100	<0.005	<0.010	0.034
	17-Jul-17	<0.050	<0.100	<0.050	0.012	0.035
	30-Jul-18	<0.050	<0.100	<0.050	<0.050	0.028
	8-Jul-19	<0.050	<0.100	<0.050	0.015	0.044
	13-Oct-20	<0.050	<0.100	<0.050	0.008	0.038
MB02	9-Apr-14	<0.050	0.250	0.330	0.002	-
	19-Nov-14	<0.050	0.140	0.330	0.029	<0.01
	16-Nov-15	<0.005	<0.001	0.100	0.024	0.011
	21-Mar-16	<0.005	0.100	0.230	0.039	<0.005
	21-Nov-16	<0.005	<0.100	<0.005	<0.010	0.013
	17-Jul-17	<0.050	<0.100	<0.100	0.012	0.011
	31-Jul-18	<0.050	<0.100	<0.090	<0.050	0.011
	8-Jul-19	<0.050	<0.100	<0.050	0.026	0.011
	13-Oct-20	0.09	<0.100	<0.050	0.021	0.024

Air Emissions

Point source emissions to air from emission points A1 - A7 sampled in October 2020 are compliant with Licence limits. Comparison with previous air emission monitoring results from December 2013, November 2014, September 2015, September 2016, September 2017, August 2018 and August 2019 shows sales gas compressors (sample points A1-A3) air emissions, which implement SoLoNOx technology, are consistent over the years sampled.

Air Emission Monitoring				
Emission Point	Date	NOx mg/m ³	CO mg/m ³	TOC mg/m ³
A1	13-Dec-13	5	<2	<2
	26-Nov-14	3.9	6.2	<2
	17-Sep-15	4.0	2.9	2.1
	21-Sep-16	5.1	<2	<1
	14-Sep-17	*	*	*
	30-Aug-18	10	<2	<2
	28-Aug-19	<4	<3	<2
	15-Oct-20	<7	<7	<2
A2	11-Dec-13	3.8	2.3	<2
	25-Nov-14	5.8	<2	<2
	17-Sep-15	9.2	2.8	<1.0
	20-Sep-16	7.4	2.9	<1
	14-Sep-17	9.3	2.6	9.5
	30-Aug-18	14	<2	<2
	28-Aug-19	6.9	9.1	<2
	15-Oct-20	<7	<7	<2
A3	11-Dec-13	<2	<2	6.4
	25-Nov-14	6.3	<3	<2
	17-Sep-15	4.8	2.9	<1.0
	21-Sep-16	8.8	2.8	<1
	14-Sep-17	5.8	<2	24
	30-Aug-18	12	3	<2
	28-Aug-19	<4	4.7	<2
	14-Oct-20	<7	<7	<2
A4	10-Dec-13	40	190	290
	26-Nov-14	44	330	200
	18-Sep-15	73	230	180
	22-Sep-16	56	340	370
	13-Sep-17	NA	NA	NA
	29-Aug-18	NA	NA	NA
	28-Aug-19	NA	NA	NA
	14-Oct-20	66	310	410
A5	10-Dec-13	50	180	260
	26-Nov-14	120	120	180
	18-Sep-15	95	190	150
	21-Sep-16	64	230	260
	13-Sep-17	61	280	270
	29-Aug-18	61	350	340
	28-Aug-19	37	360	280
	14-Oct-20	68	240	220
A6	10-Dec-13	15	150	190
	25-Nov-14	63	220	180
	18-Sep-15	57	230	210
	21-Sep-16	79	240	220
	13-Sep-17	74	240	250
	29-Aug-18	53	240	210

Air Emission Monitoring				
		NOx	CO	TOC
Emission Point	Date	mg/m ³	mg/m ³	mg/m ³
	28-Aug-19	54	270	200
	Oct-20	Offline	Offline	Offline
A7	12-Dec-13	28	180	260
	25-Nov-14	60	280	230
	18-Sep-15	*	*	*
	22-Sep-16	58	270	270
	13-Sep-17	57	290	250
	29-Aug-18	110	290	260
	28-Aug-19	37	390	300
	13-Oct-20	93	230	280

NA Sales Gas Compressor unavailable for testing during the sampling event due to decommissioning..

* Gas Turbine Generator was unavailable for testing during the sampling event due to maintenance.

(a) A list of any original monitoring reports submitted to the licensee from third parties in the reporting period and make these reports available on request.

Report Date	Emission Point	Report Title
13 November 2020	A1 - A7	Report Number R009565r – Annual Emission Monitoring 2020 Macedon Gas Facility
11 November 2020	MB01 & MB02	Groundwater Quality Monitoring Report – November 2020