



Orica Kooragang Island Monitoring Points 23-24

Details of Licence Conditions

EPA Licence No: 828
 Link to full license on EPA website: <http://www.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=828&id=828&option=licence&searchrange=licence&range=POEO.licence&prp=no&status=issued>

Licensee Name: ORICA AUSTRALIA PTY LTD
 Licensee Address: 15 Greenleaf Rd, KOORAGANG NSW 2304

Location of Monitoring Points (See licence reference P1.3): http://www.orica.com/images/UserUploadedImages/495/2013_Orica-KI_monitoring_locations.jpg

Concentration Limit: See licence L3.6

Monthly Summary: March 2020 Effluent Discharge - Hunter River

Monitoring Point	Location of Monitoring Point	Date Published	Pollutant	Units of Measure	Monitoring Frequency Required by Licence	No. of Times measured during month	Min. Value	Max. Value	90 percentile Licence Limit	100 percentile Licence Limit	Exceedence? (Yes/No)	Comments
23	Effluent Discharge Point	8/04/20	Arsenic	mg/L	Daily	31	0.009	0.017		0.05	No	
		8/04/20	Chromium (hexavalent)	mg/L	Daily	31	0.001	0.015	0.05	0.2	No	
		8/04/20	Nitrogen (Total)	mg/L	Daily	31	48	226	1500	2000	No	
		8/04/20	Oil and Grease	mg/L	Twice per Week	8	0.1	2		10	No	
		8/04/20	pH	pH	Continuous	31	7.6	9.3		6.2-9.5	No	
		8/04/20	Temperature	Degrees Celsius	Continuous	31	25.7	39.1		43	No	
		8/04/20	Total suspended solids	mg/L	Daily	31	3	31		50	No	
		8/04/20	Zinc	mg/L	Daily	31	0.004	0.16		5	No	
		8/04/20	Flow	kL/day	Daily	31	1963	2925		4500	No	



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Concentration Limit: See licence L3.6

Monthly Summary: February 2020 Effluent Discharge - Hunter River

Monitoring Point	Location of Monitoring Point	Date Published	Pollutant	Units of Measure	Monitoring Frequency Required by Licence	No. of Times measured during month	Min. Value	Max. Value	90 percentile Licence Limit	100 percentile Licence Limit	Exceedence? (Yes/No)	Comments
23	Effluent Discharge Point	11/03/20	Arsenic	mg/L	Daily	29	0.012	0.028		0.05	No	
		11/03/20	Chromium (hexavalent)	mg/L	Daily	29	0.002	0.023	0.05	0.2	No	
		11/03/20	Nitrogen (Total)	mg/L	Daily	29	72	367	1500	2000	No	
		11/03/20	Oil and Grease	mg/L	Twice per Week	8	0.2	0.6		10	No	
		11/03/20	pH	pH	Continuous	29	6.8	8.8		6.2-9.5	No	
		11/03/20	Temperature	Degrees Celsius	Continuous	29	26.0	39.4		43	No	
		11/03/20	Total suspended solids	mg/L	Daily	29	6	29		50	No	
		11/03/20	Zinc	mg/L	Daily	29	0.02	0.32		5	No	
		11/03/20	Flow	kL/day	Daily	29	1436	2733		4500	No	



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Concentration Limit: See licence L3.6

Monthly Summary: January 2020 Effluent Discharge - Hunter River

Monitoring Point	Location of Monitoring Point	Date Published	Pollutant	Units of Measure	Monitoring Frequency Required by Licence	No. of Times measured during month	Min. Value	Max. Value	90 percentile Licence Limit	100 percentile Licence Limit	Exceedence? (Yes/No)	Comments
23	Effluent Discharge Point	14/02/20	Arsenic	mg/L	Daily	31	0.013	0.020		0.05	No	
		14/02/20	Chromium (hexavalent)	mg/L	Daily	31	0	0.022	0.05	0.2	No	
		14/02/20	Nitrogen (Total)	mg/L	Daily	31	65	297	1500	2000	No	
		14/02/20	Oil and Grease	mg/L	Twice per Week	10	0.2	0.3		10	No	
		14/02/20	pH	pH	Continuous	31	6.9	9.0		6.2-9.5	No	
		14/02/20	Temperature	Degrees Celsius	Continuous	31	28.3	40.4		43	No	
		14/02/20	Total suspended solids	mg/L	Daily	31	5	29		50	No	
		14/02/20	Zinc	mg/L	Daily	31	0.03	0.17		5	No	
		14/02/20	Flow	kL/day	Daily	31	1638	2958		4500	No	



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 Monthly Summary: December 2019 Effluent Discharge - Hunter River

Monitoring Point	Location of Monitoring Point	Date Published	Pollutant	Units of Measure	Monitoring Frequency Required by Licence	No. of Times measured during month	Min. Value	Max. Value	90 percentile Licence Limit	100 percentile Licence Limit	Exceedence ? (Yes/No)	Comments
23	Effluent Discharge Point	10/01/20	Arsenic	mg/L	Daily	31	0.009	0.022		0.05	No	
		10/01/20	Chromium (hexavalent)	mg/L	Daily	31	0.001	0.025	0.05	0.2	No	
		10/01/20	Nitrogen (Total)	mg/L	Daily	31	36	186	1500	2000	No	
		10/01/20	Oil and Grease	mg/L	Twice per Week	10	0.2	0.5		10	No	
		10/01/20	pH	pH	Continuous	31	6.7	8.7		6.2-9.5	No	
		10/01/20	Temperature	Degrees Celsius	Continuous	31	26.5	41.4		43	No	
		10/01/20	Total suspended solids	mg/L	Daily	31	6	23		50	No	
		10/01/20	Zinc	mg/L	Daily	31	0.02	0.14		5	No	
		10/01/20	Flow	kL/day	Daily	31	1951	2776		4500	No	



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 Monthly Summary: November 2019 Effluent Discharge - Hunter River

Monitoring Point	Location of Monitoring Point	Date Published	Pollutant	Units of Measure	Monitoring Frequency Required by Licence	No. of Times measured during month	Min. Value	Max. Value	90 percentile Licence Limit	100 percentile Licence Limit	Exceedence ? (Yes/No)	Comments
23	Effluent Discharge Point	12/12/19	Arsenic	mg/L	Daily	30	0.004	0.02		0.05	No	
		12/12/19	Chromium (hexavalent)	mg/L	Daily	30	0.001	0.022	0.05	0.2	No	
		12/12/19	Nitrogen (Total)	mg/L	Daily	30	68	248	1500	2000	No	
		12/12/19	Oil and Grease	mg/L	Twice per Week	30	0.1	0.5		10	No	
		12/12/19	pH	pH	Continuous	30	6.6	9.0		6.2-9.5	No	
		12/12/19	Temperature	Degrees Celsius	Continuous	30	21.0	39.5		43	No	
		12/12/19	Total suspended solids	mg/L	Daily	30	9	34		50	No	
		12/12/19	Zinc	mg/L	Daily	30	0.03	0.30		5	No	
		12/12/19	Flow	kL/day	Daily	30	1010	2921		4500	No	



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Monthly Summary: October 2019 Effluent Discharge - Hunter River

Monitoring Point	Location of Monitoring Point	Date Published	Pollutant	Units of Measure	Monitoring Frequency Required by Licence	No. of Times measured during month	Min. Value	Max. Value	90 percentile Licence Limit	100 percentile Licence Limit	Exceedence ? (Yes/No)	Comments
23	Effluent Discharge Point	4/11/19	Arsenic	mg/L	Daily	31	0.008	0.029		0.05	No	
		4/11/19	Chromium (hexavalent)	mg/L	Daily	31	0.003	0.039	0.05	0.2	No	
		4/11/19	Nitrogen (Total)	mg/L	Daily	31	107	849	1500	2000	No	
		4/11/19	Oil and Grease	mg/L	Twice per Week	10	0.1	1.7		10	No	
		4/11/19	pH	pH	Continuous	31	7.5	9.1		6.2-9.5	No	
		4/11/19	Temperature	Degrees Celsius	Continuous	31	28.3	39.4		43	No	
		4/11/19	Total suspended solids	mg/L	Daily	31	3	42		50	No	
		4/11/19	Zinc	mg/L	Daily	31	0.02	0.20		5	No	
		4/11/19	Flow	KL/day	Daily	31	1525	2437		4500	No	
		24	Effluent Diversion Pond	4/11/19				No discharge				



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Monthly Summary: September 2019 Effluent Discharge - Hunter River

Monitoring Point	Location of Monitoring Point	Date Published	Pollutant	Units of Measure	Monitoring Frequency Required by Licence	No. of Times measured during month	Min. Value	Max. Value	90 percentile Licence Limit	100 percentile Licence Limit	Exceedence ? (Yes/No)	Comments
23	Effluent Discharge Point	18/10/19	Arsenic	mg/L	Daily	30	0.005	0.017		0.05	No	
		18/10/19	Chromium (hexavalent)	mg/L	Daily	30	0.001	0.033	0.05	0.2	No	
		18/10/19	Nitrogen (Total)	mg/L	Daily	30	94	280	1500	2000	No	
		18/10/19	Oil and Grease	mg/L	Twice per Week	8	0.1	0.4		10	No	
		18/10/19	pH	pH	Continuous	30	7.8	9.1		6.2-9.5	No	pH measurements from 6.30am on 1 September to 7.30am on 16 September have been excluded due to instrument error. This issue has been rectified
		18/10/19	Temperature	Degrees Celsius	Continuous	30	25.6	37.4		43	No	
		18/10/19	Total suspended solids	mg/L	Daily	30	3	43		50	No	
		18/10/19	Zinc	mg/L	Daily	30	0.02	0.21		5	No	
		18/10/19	Flow	kL/day	Daily	30	1798	2709		4500	No	
		24	Effluent Diversion Pond	18/10/19				No discharge				



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Monthly Summary: August 2019

Effluent Discharge - Hunter River

Monitoring Point	Location of Monitoring Point	Date Published	Pollutant	Units of Measure	Monitoring Frequency Required by Licence	No. of Times measured during month	Min. Value	Max. Value	90 percentile Licence Limit	100 percentile Licence Limit	Exceedence ? (Yes/No)	Comments
23	Effluent Discharge Point	10/09/19	Arsenic	mg/L	Daily	31	0.006	0.014		0.05	No	
		10/09/19	Chromium (hexavalent)	mg/L	Daily	31	<0.001	0.027	0.05	0.2	No	
		10/09/19	Nitrogen (Total)	mg/L	Daily	31	84	564	1500	2000	No	
		10/09/19	Oil and Grease	mg/L	Twice per Week	9	0.2	0.5		10	No	
		10/09/19	pH	pH	Continuous	31	7.7	9.1		6.2-9.5	No	pH measurements from 8.30am on 16 August to 6.30am on 1 September have been excluded due to instrument error. This issue has been rectified.
		10/09/19	Temperature	Degrees Celsius	Continuous	31	17.7	39.2		43	No	
		10/09/19	Total suspended solids	mg/L	Daily	31	6	37		50	No	
		10/09/19	Zinc	mg/L	Daily	31	0.04	0.41		5	No	
		10/09/19	Flow	kL/day	Daily	31	1972	2522		4500	No	
		24	Effluent Diversion Pond	10/09/19				No discharge				



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Concentration Limit: See licence L3.6

Monthly Summary: July 2019

Monitoring Point	Location of Monitoring Point	Date Published	Pollutant	Units of Measure	Monitoring Frequency Required by Licence	No. of Times measured during month	Min. Value	Max. Value	90 percentile Licence Limit	100 percentile Licence Limit	Exceedence ? (Yes/No)	Comments on Exceedences	
23	Effluent Discharge Point	9/08/19	Arsenic	mg/L	Daily	31	0.006	0.014		0.05	No		
		9/08/19	Chromium (hexavalent)	mg/L	Daily	31	0.001	0.028	0.05	0.2	No		
		9/08/19	Nitrogen (Total)	mg/L	Daily	31	84	564	1500	2000	No		
		9/08/19	Oil and Grease	mg/L	Twice per Week	9	0.2	0.6		10	No		
		9/08/19	pH	pH	Continuous	31	6.3	9.0		6.2-9.5	No		
		9/08/19	Temperature	Degrees Celsius	Continuous	31	20.1	39.7		43	No		
		9/08/19	Total suspended solids	mg/L	Daily	31	6	31		50	No		
		9/08/19	Zinc	mg/L	Daily	31	0.02	0.118		5	No		
		9/08/19	Flow	kL/day	Daily	31	1531	2522		4500	No		
		24	Effluent Diversion Pond	9/08/19				No discharge					



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Monthly Summary: June 2019

Monitoring Point	Location of Monitoring Point	Date Published	Pollutant	Units of Measure	Monitoring Frequency Required by Licence	No. of Times measured during month	Min. Value	Max. Value	90 percentile Licence Limit	100 percentile Licence Limit	Exceedence ? (Yes/No)	Comments on Exceedences
23	Effluent Discharge Point	8-07-19	Arsenic	mg/L	Daily	30	0.001	0.015		0.05	No	
		8-07-19	Chromium (hexavalent)	mg/L	Daily	30	0.003	0.029	0.05	0.2	No	
		8-07-19	Nitrogen (Total)	mg/L	Daily	30	134	534	1500	2000	No	
		8-07-19	Oil and Grease	mg/L	Twice per Week	8	0.2	0.8		10	No	
		8-07-19	pH	pH	Continuous	30	6.4	8.9		6.2-9.5	No	
		8-07-19	Temperature	Degrees Celsius	Continuous	30	15.9	37.8		43	No	
		8-07-19	Total suspended solids	mg/L	Daily	30	4	25		50	No	
		8-07-19	Zinc	mg/L	Daily	30	0.1	0.210		5	No	
		8-07-19	Flow	kL/day	Daily	30	1523	2778		4500	No	
		24	Effluent Diversion Pond	8-07-19				No discharge				



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Monthly Summary: May 2019

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23	Effluent Discharge Point	3-06-19	Arsenic	mg/L	Daily	31	0.01	0.016		0.05	No	
		3-06-19	Chromium (hexavalent)	mg/L	Daily	31	<0.01	0.023	0.05	0.2	No	
		3-06-19	Nitrogen (Total)	mg/L	Daily	31	115	555	1500	2000	No	
		3-06-19	Oil and Grease	mg/L	Twice per Week	9	0.2	0.8		10	No	
		3-06-19	pH	pH	Continuous	31	6.8	8.7		6.2-9.5	No	
		3-06-19	Temperature	Degrees Celsius	Continuous	31	12.2	40.0		43	No	
		3-06-19	Total suspended solids	mg/L	Daily	31	6	17		50	No	
		3-06-19	Zinc	mg/L	Daily	31	<0.1	0.173		5	No	
		3-06-19	Flow	kL/day	Daily	31	1727	2601		4500	No	
		24	Effluent Diversion Pond	3-06-19				No discharge				



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23	Effluent Discharge Point	13-05-19	Arsenic	mg/L	Daily	30	0.007	0.018		0.05	No		
		13-05-19	Chromium (hexavalent)	mg/L	Daily	30	<0.01	0.02	0.05	0.2	No		
		13-05-19	Nitrogen (Total)	mg/L	Daily	30	96	308	1500	2000	No		
		13-05-19	Oil and Grease	mg/L	Twice per Week	8	0.3	2.3		10	No		
		13-05-19	pH	pH	Continuous	30	6.7	8.6		6.2-9.5	No		
		13-05-19	Temperature	Degrees Celsius	Continuous	30	20.3	42.1		43	No		
		13-05-19	Total suspended solids	mg/L	Daily	30	7	28		50	No		
		13-05-19	Zinc	mg/L	Daily	30	0.042	0.412		5	No		
		13-05-19	Flow	kL/day	Daily	30	1230	2510		4500	No		
		24	Effluent Diversion Pond	13-05-19				No discharge					