

**LEGISLATIVE COUNCIL**  
**Question On Notice**

**Thursday, 13 February 2020**

**2799. Hon Robin Chapple to the Minister for Regional Development representing the Minister for Water**

I refer to the issue of water consumption in the Pilbara, and I ask:

(a) for each mine in the Pilbara, by company and location, and for the most recently completed reporting year, would the Minister please table:

(i) the licensed water abstraction amounts, inclusive of mine dewatering;

(ii) the licensed aquifer reinjection rates;

(iii) the actual extraction rates; and

(iv) the actual reinjection rates;

(b) what is the total water consumption of the Pilbara region, inclusive of mine dewatering but exclusive of aquifer reinjection and residential consumption;

(c) split out by year and dating back to the beginning of the 2010 reporting year, what is the total amount the Water Corporation has earned in fixed and variable use water charges and rates from industrial and mining companies, exclusive of residential customers;

(d) which mines in the Pilbara have aquifer reinjection schemes in operation; and

(e) for each mine with an aquifer reinjection scheme in operation, can the Minister please outline how each of these schemes work, as split out by operation, describing:

(i) the nature of each scheme itself (i.e. the model used);

(ii) the name of the aquifer being recharged by each scheme; and

(iii) the name of the formation within each aquifer that is being recharged?

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**Answer**

(a) (i) Yes [See tabled paper no.]

(ii) Mines that have licensed aquifer reinjection schemes, with current approved annual reinjection rates and actual reinjection rates (for 2019 water year):

Mines with licensed aquifer reinjection schemes	Approved annual reinjection rates	Actual reinjection rates (2019 water year)
Fortescue Metals Group Ltd Christmas Creek	43 gicalitres	15.148 gicalitres
Fortescue Metals Group Ltd Cloudbreak Mine	150 gicalitres	73.744 gicalitres
Roy Hill Infrastructure Pty Ltd	54.535 gicalitres	0.381 gicalitres
BHP Billiton Iron Ore Pty Ltd Mining Area C	18.615 gicalitres	8.817 gicalitres

(iii) [See tabled paper no.]

(iv) Refer to answer (a)(ii)

- (b) The total water consumption of the Pilbara region, inclusive of mine dewatering but exclusive of aquifer reinjection and residential consumption for the last reported water year (2019) was 372 gegalitres
- (c) The Water Corporation usually enters into major consumer's framework agreements with mining and non-residential scheme customers who require more than 45,000 litres per annum. These agreements with large water consumers in regional areas aim to recover the cost of providing water services to their location, define risk and responsibility, ensure the risk of stranded assets is managed and ensure they support efficient water use.

Water Corporation earnings in fixed and variable use water charges:

	2009-10	2010-11	2011-12	2012-13	2013-14
Revenue	\$31 883 239	\$33 195 591	\$33 325 244	\$33,260,142	\$48,420,603
	2014-15	2015-16	2016-17	2017-18	2018-19
Revenue	\$81 758 229	\$78 882 002	\$70 788 724	\$69,114,058	\$69,988,897

It should be noted that due to limitations in splitting industrial and commercial customers, revenue for industrial, commercial and mining is included in the revenue figures. It excludes residential, vacant land and non-residential concessional land.

- (d) The mines in the Pilbara that have licensed reinjection schemes in place are:

Fortescue Metals Group Ltd – Christmas Creek  
Fortescue Metals Group Ltd – Cloudbreak  
Roy Hill Infrastructure Pty Ltd – Roy Hill  
BHP Billiton Iron Ore Pty Ltd Mining – Area C

- (e) Four mines with aquifer recharge as follows:

**Fortescue Metals Group Ltd Christmas Creek and Cloudbreak**

(i) Fortescue Metals Group Ltd Christmas Creek and Cloudbreak reinjection scheme is designed to reinject excess brackish and saline dewater back to the target aquifer. Aquifer storage through reinjection is undertaken if there is brackish water surplus to site needs.

(ii) The target aquifers for the saline and brackish reinjection are the Hamersley Fortescue, and Hamersley fractured rock aquifers.

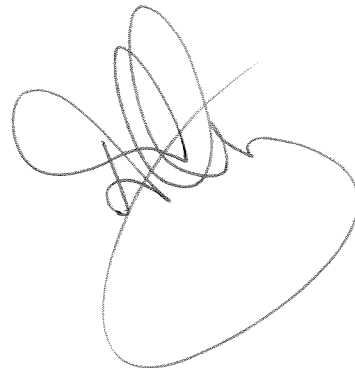
(iii) The formation being recharged by the brackish reinjection is the shallow Tertiary detritals formation. The formation being recharged by the saline reinjection is the deep Oakover formation.

**Roy Hill Infrastructure Pty Ltd – Roy Hill Iron Ore project**

- (i) The Roy Hill project operates a reinjection scheme licensed as a two-year trial as a method to dispose of excess mine dewater.
- (ii) The target aquifer is the Hamersley fractured rock aquifer.
- (iii) The target formation being recharged is the deep Oakover formation.

**BHP Billiton Iron Ore Pty Ltd Mining Area C**

- (i) The BHP Billiton Iron Ore Pty Ltd Mining Area C project operates a managed aquifer recharge project at the A deposit and Juna downs reinjection borefield areas, as a method of disposing excess dewater.
- (ii) The target aquifer is the Hamersley fractured rock aquifer.
- (iii) The formation being recharged is the Wittenoom dolomite formation.



<b>Licence Number</b>	<b>Licence allocation (kL)</b>	<b>Reported abstraction last water year (kL)- licenses&gt;100,000kL</b>	<b>Licensee</b>	<b>Major Pilbara Mine Projects Licensed to take &gt;1GL, plus minor licenses</b>
182856	1500000	543657	Altura Mining Limited	Pilgangoora
184329	20000	Not reported	Altura Mining Limited	minor exploration/mine/camp
167782	2500	Not reported	API Management Pty Limited	minor exploration/mine/camp
167780	38000	Not reported	API Management Pty Limited	minor exploration/mine/camp
172087	385	Not reported	API Management Pty Limited	minor exploration/mine/camp
174332	25000	Not reported	API Management Pty Limited	minor exploration/mine/camp
174888	500000	Not reported	API Management Pty Limited	Yalleen project
175330	75000	Not reported	API Management Pty Limited	minor exploration/mine/camp
176402	5000	Not reported	API Management Pty Limited	minor exploration/mine/camp
178302	5000	Not reported	API Management Pty Limited	minor exploration/mine/camp
178612	10000	Not reported	API Management Pty Limited	minor exploration/mine/camp
179113	1500	Not reported	API Management Pty Limited	minor exploration/mine/camp
179940	340000	Not reported	API Management Pty Limited	Yalleen project
180637	95000	Not reported	API Management Pty Limited	minor exploration/mine/camp
180642	15000	Not reported	API Management Pty Limited	minor exploration/mine/camp
178305	5000	Not reported	API Management Pty Limited	minor exploration/mine/camp
200166	20000	Not reported	Artemis Resources Ltd	minor exploration/mine/camp
200168	45000	Not reported	Artemis Resources Ltd	minor exploration/mine/camp
179990	3000	Not reported	Ascot Resources Ltd	minor exploration/mine/camp
166951	100000	200000	Atlas Iron Limited	minor exploration/mine/camp
175319	650000	148294	Atlas Iron Limited	Mt Dove
179423	50000	Not reported	Atlas Iron Limited	minor exploration/mine/camp
168045	800000	4363	Atlas Iron Limited	Pardoo
176408	1198368	359005	Atlas Iron Limited	Abydos
168543	95000	Not reported	Atlas Iron Limited	minor exploration/mine/camp
175352	95000	Not reported	Atlas Iron Limited	minor exploration/mine/camp

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176960	100000	Not reported	Atlas Iron Limited	minor exploration/mine/camp
177240	1198368	783365	Atlas Iron Limited	Abydos
177500	50000	Not reported	Atlas Iron Limited	minor exploration/mine/camp
177664	64000	Not reported	Atlas Iron Limited	minor exploration/mine/camp
179086	50000	Not reported	Atlas Iron Limited	minor exploration/mine/camp
184565	300000	Not reported	Atlas Iron Limited	minor exploration/mine/camp
179211	19440	Not reported	Australian Aboriginal Mining Corporation Pty Ltd	minor exploration/mine/camp
180583	19440	Not reported	Australian Aboriginal Mining Corporation Pty Ltd	minor exploration/mine/camp
175692	90000	Not reported	B J Young Earthmoving Pty Ltd	minor exploration/mine/camp
178635	90000	Not reported	Beatons Creek Gold Pty Ltd	minor exploration/mine/camp
182493	210000	0	Beatons Creek Gold Pty Ltd	Nullagine
172221	15000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
158573	90000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
168392	5000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
171321	40000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
89501	20650520	8778096	BHP Billiton Iron Ore Pty. Ltd.	Yandicoogina
171858	50000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
172110	50000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
172106	50000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
173887	45000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
181492	10000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
110044	36500000	13965714	BHP Billiton Iron Ore Pty. Ltd.	Mining Area C
156786	1861500	406861	BHP Billiton Iron Ore Pty. Ltd.	Orebody18
158795	22000000	6134029	BHP Billiton Iron Ore Pty. Ltd.	Jimblebar
160418	8000000	7876584	BHP Billiton Iron Ore Pty. Ltd.	OreBody29,30,35-Newman Ops
164559	75000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp

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166008	75000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
166329	60000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
166477	1500000	0	BHP Billiton Iron Ore Pty. Ltd.	Mining Area C
166549	100000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
168873	10000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
170150	25000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
170659	45000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
171330	946080	371501	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
171862	50000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
172219	10000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
172439	25000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
172861	5000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
173403	15000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
174613	50000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
174879	50000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
176314	50000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
177235	4500000	2481772	BHP Billiton Iron Ore Pty. Ltd.	Mt Whaleback-Ophthalmia dam
181025	16200000	2481772	BHP Billiton Iron Ore Pty. Ltd.	Orebody 18
182237	10920000	5149707	BHP Billiton Iron Ore Pty. Ltd.	Mt Whaleback-Eastern ridge
65148	6000000	2180272	BHP Billiton Iron Ore Pty. Ltd.	Mt Whaleback
65219	10000000	3497585	BHP Billiton Iron Ore Pty. Ltd.	Mt Whaleback-Ophthalmia dam
74556	14600000	3429767	BHP Billiton Iron Ore Pty. Ltd.	Mt Whaleback-Eastern ridge
107452	4240000	0	BHP Billiton Iron Ore Pty. Ltd.	Shay Gap
166007	60000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
166389	1500000	1491133	BHP Billiton Iron Ore Pty. Ltd.	Mining area C-South Flank
171866	50000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
172438	5000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp

Licence Number	Licence allocation (kL)	Reported abstraction last water year (kL)- licenses>100,000kL	Licensee	Major Pilbara Mine Projects Licensed to take >1GL, plus minor licenses
174833	100000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
176316	50000	Not reported	BHP Billiton Iron Ore Pty. Ltd.	minor exploration/mine/camp
176285	10000	Not reported	Brockman East Pty Ltd	minor exploration/mine/camp
166889	37000	Not reported	Brockman Mining Australia Pty Ltd	minor exploration/mine/camp
170749	360000	0	Brockman Mining Australia Pty Ltd	minor exploration/mine/camp
179197	14020	Not reported	Bungaroo South Pty Ltd	minor exploration/mine/camp
179769	2400	235574	Cauldron Energy Limited	minor exploration/mine/camp
166200	150000000	59388000	Chichester Metals Pty Ltd	Cloudbreak
178646	1100000	179000	Chichester Metals Pty Ltd	Cloudbreak
177836	150000000	59388000	Chichester Metals Pty Ltd	Cloudbreak
178642	1100000	179000	Chichester Metals Pty Ltd	Cloudbreak
178644	1100000	179000	Chichester Metals Pty Ltd	Cloudbreak
201863	200000	0	Christopher Robert Flessler	minor exploration/mine/camp
202261	500000	0	Citic Pacific Mining Management Pty Ltd	minor exploration/mine/camp
201437	6000000	6015879	Citic Pacific Mining Management Pty Ltd	Cape Preston
167324	273750	178780	Citic Pacific Mining Management Pty Ltd	minor exploration/mine/camp
183717	280000	235574	Days Contracting WA Pty Ltd	minor exploration/mine/camp
176501	450	Not reported	Department of Mines and Petroleum	minor exploration/mine/camp
200094	100000	Not reported	Flinders Mines Limited	minor exploration/mine/camp
171278	1009000	328636	FMG Nullagine Pty Ltd	Nullagine
200825	20000	Not reported	FMG Nullagine Pty Ltd	minor exploration/mine/camp
164546	4760000	Not reported	Forge Resources Swan Pty Ltd	Balla Balla
203634	1740000	Not reported	Forge Resources Swan Pty Ltd	Balla Balla
175742	10000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
180538	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
201960	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
175224	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp

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169986	40000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
171239	40000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
172589	40000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
173156	40000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
175139	16000000	2089188	Fortescue Metals Group Limited	Solomon
175228	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
175266	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
175315	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
175328	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
175391	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
175426	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
175739	10000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
175747	20000	809944	Fortescue Metals Group Limited	minor exploration/mine/camp
176913	2200000	Not reported	Fortescue Metals Group Limited	Solomon
177110	600000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
177976	8100000	Not reported	Fortescue Metals Group Limited	Solomon
178151	80000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
178634	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
178952	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
179437	60000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
179647	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
179704	60000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
180676	80000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
180708	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
180838	100000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
180932	60000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
181054	60000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp



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181092	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
181388	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
182502	80000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
182539	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
183073	60000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
200222	60000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
200328	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
200329	60000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
200332	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
200349	100000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
200512	60000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
200694	40000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
202094	100000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
202596	1600000	Not reported	Fortescue Metals Group Limited	Eliwana
202685	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
202927	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
203002	95000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
181138	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
183367	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
172447	10000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
173187	40000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
173556	70000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
174095	1300000	Not reported	Fortescue Metals Group Limited	Solomon
177974	8100000	Not reported	Fortescue Metals Group Limited	Solomon
179439	60000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
179706	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
178255	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp

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167593	50000000	39912000	Fortescue Metals Group Limited	Christmas Creek
173061	30000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
173274	10000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
173554	45000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
173576	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
174630	95000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
175309	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
175404	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
175684	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
178219	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
179011	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
179434	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
179490	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
179492	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
180630	60000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
180654	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
180742	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
180818	40000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
180843	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
181144	40000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
181198	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
181202	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
181578	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
181726	60000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
182111	40000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
182547	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
201847	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp

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201850	40000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
203348	20000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
164321	90000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
200890	40000	Not reported	Fortescue Metals Group Limited	minor exploration/mine/camp
155914	470000	114490	Fox Radio Hill Pty Ltd	minor exploration/mine/camp
159850	336000	0	Fox Radio Hill Pty Ltd	minor exploration/mine/camp
181791	0	Not reported	Global Advanced Metals Pty Ltd	minor exploration/mine/camp
176730	200000	208245	Grita Holdings Pty Ltd	minor exploration/mine/camp
161143	500000	509804	Hamersley HMS Pty Ltd	minor exploration/mine/camp
172872	2000000	38710252	Hamersley HMS Pty Ltd	Hope Downs 4-West Angelas
173443	473000	522152	Hamersley HMS Pty Ltd	minor exploration/mine/camp
161141	40150000	36751664	Hamersley HMS Pty Ltd	Hope Downs 1
161814	95000	Not reported	Hamersley HMS Pty Ltd	minor exploration/mine/camp
174242	15000	Not reported	Hamersley Iron Pty. Limited	minor exploration/mine/camp
171469	135000	Not reported	Hamersley Iron Pty. Limited	minor exploration/mine/camp
173395	45000	Not reported	Hamersley Iron Pty. Limited	minor exploration/mine/camp
201832	800	Not reported	Hamersley Iron Pty. Limited	minor exploration/mine/camp
174257	45000	Not reported	Hamersley Iron Pty. Limited	minor exploration/mine/camp
172873	45000	Not reported	Hamersley Iron Pty. Limited	minor exploration/mine/camp
176596	80000	Not reported	Hancock Prospecting Pty Ltd	minor exploration/mine/camp
202096	8000	Not reported	Hancock Prospecting Pty Ltd	minor exploration/mine/camp
159658	90000	Not reported	Hancock Prospecting Pty Ltd	minor exploration/mine/camp
167239	16000	Not reported	Hancock Prospecting Pty Ltd	minor exploration/mine/camp
176061	750	Not reported	Hanson Construction Materials Pty Ltd	minor exploration/mine/camp
203777	1000	Not reported	Hanson Construction Materials Pty Ltd	minor exploration/mine/camp
176212	280	Not reported	Hanson Construction Materials Pty Ltd	minor exploration/mine/camp
172991	32000	Not reported	Holcim (Australia) Pty Ltd	minor exploration/mine/camp

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176518	120000	Not reported	Holcim (Australia) Pty Ltd	minor exploration/mine/camp
84876	150000	127796	Holcim (Australia) Pty Ltd	minor exploration/mine/camp
101965	150000	32	Holcim (Australia) Pty Ltd	minor exploration/mine/camp
201457	20000	Not reported	John Edward Telfer	minor exploration/mine/camp
201197	95000	3942	Karratha Gold Pty Ltd	minor exploration/mine/camp
202110	95000	9934	Karratha Gold Pty Ltd	minor exploration/mine/camp
200979	10000	Not reported	Kumina Iron Pty Ltd	minor exploration/mine/camp
201056	10000	Not reported	Kumina Iron Pty Ltd	minor exploration/mine/camp
201626	10000	Not reported	Kumina Iron Pty Ltd	minor exploration/mine/camp
152109	49000	Not reported	M.R.Millwood Pty. Ltd.	minor exploration/mine/camp
161702	2000000	1299184	Millennium Minerals Limited	Nullagine
182884	42000000	Not reported	Mineral Resources Limited	Iron Valley
200093	100000	Not reported	Mineralogy Pty Ltd	minor exploration/mine/camp
200263	11000	Not reported	Mobile Concreting Solutions Pty Ltd	minor exploration/mine/camp
166203	1460000	22340	Moly Metals Australia Pty Ltd	Spinifex Ridge
177962	2300000	Not reported	Mount Bruce Mining Pty Limited	Koodaideri
156732	1460000	956000	Northern Star Resources Ltd	Paulsens/Mt Olympus gold mine
160528	20000	Not reported	Northwest Nonferrous Australia Mining Pty Ltd	minor exploration/mine/camp
156359	800	Not reported	Nowland, Phillip John	minor exploration/mine/camp
169022	15000	Not reported	Paladin Energy Minerals NL	minor exploration/mine/camp
168819	1000000	722766	Pastoral Management Pty Ltd	Cape Preston-Eramurra
158473	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
168125	220000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
107413	3230000	1409432	Pilbara Iron Company (Services) Pty Ltd	Brockman/Turee Creek
107414	1500000	584074	Pilbara Iron Company (Services) Pty Ltd	Channar
107420	36500000	21365255	Pilbara Iron Company (Services) Pty Ltd	Marandoo
107421	55000000	26747756	Pilbara Iron Company (Services) Pty Ltd	Brockman 2/Nammuldi

Licence Number	Licence allocation (kL)	Reported abstraction last water year (kL)- licenses>100,000kL	Licensee	Major Pilbara Mine Projects Licensed to take >1GL, plus minor licenses
109318	9000000	6161174	Pilbara Iron Company (Services) Pty Ltd	Paraburdoo
110697	95000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
153153	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
153403	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
158662	400	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
163986	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
164398	6900000	4805291	Pilbara Iron Company (Services) Pty Ltd	Brockman 4
164697	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
165495	140000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
167297	11000000	4365627	Pilbara Iron Company (Services) Pty Ltd	Turner syncline
168415	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
169174	150000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
170173	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
170174	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
171729	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
172362	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
172580	60000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
173125	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
173219	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
173473	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
176260	20000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
177017	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
156125	300000	23074	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
177274	220000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
154268	3650	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
173141	200000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
174320	480000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp

<b>Licence Number</b>	<b>Licence allocation (kL)</b>	<b>Reported abstraction last water year (kL)- licenses&gt;100,000kL</b>	<b>Licensee</b>	<b>Major Pilbara Mine Projects Licensed to take &gt;1GL, plus minor licenses</b>
162582	200000	4423	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
172581	60000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
176259	10000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
202543	70000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
110695	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
158835	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
158838	190000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
160634	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
164672	95000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
165652	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
166205	83000000	49605211	Pilbara Iron Company (Services) Pty Ltd	Yandicoogina
167618	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
171728	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
171851	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
172052	95000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
173487	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
176257	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
171847	45000	Not reported	Pilbara Iron Company (Services) Pty Ltd	minor exploration/mine/camp
202550	1500000	Not reported	Pilbara Iron Pty Ltd	Koodaideri
107418	11000000	5990406	Pilbara Iron Pty Ltd	Tom Price operations
202549	1500000	Not reported	Pilbara Iron Pty Ltd	Koodaideri
150949	63000000	30317990	Pilbara Manganese Pty Ltd	Woodie Woodie
65080	630000	11090	Pilbara Manganese Pty Ltd	minor exploration/mine/camp
175700	20000000	0	Pilbara Water and Power Pty Ltd	North Star
179289	2500000	146000	Pilbara Water and Power Pty Ltd	North Star
183354	5400000	396053	Pilgangoora Operations Pty Ltd	Pilbara Minerals-Pilgangoora
179365	250000	248456	Polaris Metals Pty Ltd	minor exploration/mine/camp

<b>Licence Number</b>	<b>Licence allocation (kL)</b>	<b>Reported abstraction last water year (kL)- licenses&gt;100,000kL</b>	<b>Licensee</b>	<b>Major Pilbara Mine Projects Licensed to take &gt;1GL, plus minor licenses</b>
175202	80000	Not reported	Process Minerals International Pty Ltd	minor exploration/mine/camp
174940	450000	Not reported	Process Minerals International Pty Ltd	minor exploration/mine/camp
175109	720000	Not reported	Process Minerals International Pty Ltd	minor exploration/mine/camp
178531	1500	Not reported	Rio Tinto Exploration Pty Limited	minor exploration/mine/camp
179817	1000	Not reported	Rio Tinto Exploration Pty Limited	minor exploration/mine/camp
180970	1000	Not reported	Rio Tinto Exploration Pty Limited	minor exploration/mine/camp
180988	1000	Not reported	Rio Tinto Exploration Pty Limited	minor exploration/mine/camp
183744	2000	Not reported	Rio Tinto Exploration Pty Limited	minor exploration/mine/camp
184306	1000	Not reported	Rio Tinto Exploration Pty Limited	minor exploration/mine/camp
183492	100	Not reported	Rio Tinto Exploration Pty Limited	minor exploration/mine/camp
180966	1000	Not reported	Rio Tinto Exploration Pty Limited	minor exploration/mine/camp
180991	1000	Not reported	Rio Tinto Exploration Pty Limited	minor exploration/mine/camp
182763	10000	Not reported	Rio Tinto Exploration Pty Limited	minor exploration/mine/camp
179715	1000	Not reported	Rio Tinto Exploration Pty Limited	minor exploration/mine/camp
180977	1000	Not reported	Rio Tinto Exploration Pty Limited	minor exploration/mine/camp
203965	1500000	1030762	Robe River Mining Co. Pty Ltd	Mesa A
160064	40000	Not reported	Robe River Mining Co. Pty Ltd	minor exploration/mine/camp
103136	3102500	1466104	Robe River Mining Co. Pty Ltd	West Angelas-Turee B
107678	30000000	10239299	Robe River Mining Co. Pty Ltd	Mesa J-Pannawonica
155831	95000	Not reported	Robe River Mining Co. Pty Ltd	minor exploration/mine/camp
158517	95000	Not reported	Robe River Mining Co. Pty Ltd	minor exploration/mine/camp
160060	80000	Not reported	Robe River Mining Co. Pty Ltd	minor exploration/mine/camp
160067	45000	Not reported	Robe River Mining Co. Pty Ltd	minor exploration/mine/camp
160075	40000	Not reported	Robe River Mining Co. Pty Ltd	minor exploration/mine/camp
160076	45000	Not reported	Robe River Mining Co. Pty Ltd	minor exploration/mine/camp
161792	95000	Not reported	Robe River Mining Co. Pty Ltd	minor exploration/mine/camp
166559	140000	5859	Robe River Mining Co. Pty Ltd	minor exploration/mine/camp

<b>Licence Number</b>	<b>Licence allocation (kL)</b>	<b>Reported abstraction last water year (kL)- licenses&gt;100,000kL</b>	<b>Licensee</b>	<b>Major Pilbara Mine Projects Licensed to take &gt;1GL, plus minor licenses</b>
177271	95000	Not reported	Robe River Mining Co. Pty Ltd	minor exploration/mine/camp
158810	95000	Not reported	Robe River Mining Co. Pty Ltd	minor exploration/mine/camp
171933	45000	Not reported	Robe River Mining Co. Pty Ltd	minor exploration/mine/camp
180082	95000	Not reported	Robe River Mining Co. Pty Ltd	minor exploration/mine/camp
180086	95000	Not reported	Robe River Mining Co. Pty Ltd	minor exploration/mine/camp
98740	14000000	2863625	Robe River Mining Co. Pty Ltd	West Angelas
200945	45000	Not reported	Robe River Mining Co. Pty Ltd	minor exploration/mine/camp
155284	100	Not reported	Rocky Crossing Contracting Pty Ltd	minor exploration/mine/camp
174994	100000	Not reported	Roy Hill Infrastructure Pty Ltd	minor exploration/mine/camp
174996	100000	Not reported	Roy Hill Infrastructure Pty Ltd	minor exploration/mine/camp
158412	75000	Not reported	Roy Hill Iron Ore Pty Ltd	minor exploration/mine/camp
172642	70000000	18145209	Roy Hill Iron Ore Pty Ltd	Roy Hill
176893	4500000	663676	Roy Hill Infrastructure Pty Ltd	Roy Hill
179224	500000	1480000	Roy Hill Iron Ore Pty Ltd	minor exploration/mine/camp
166033	180000	57096	Santos WA Northwest Pty Ltd	minor exploration/mine/camp
167151	12000000	6015879	Sino Iron Pty Ltd	Cape Preston
176282	50000	Not reported	SM3-W Pty Ltd	minor exploration/mine/camp
203924	100000	Not reported	Spinifex Crushing and Screening Services Pty Ltd	minor exploration/mine/camp
175751	20000	Not reported	The Trustee for WA Limestone Unit Trust	minor exploration/mine/camp
174830	20000	Not reported	The Trustee for WA Limestone Unit Trust	minor exploration/mine/camp
184170	65000	Not reported	The Trustee for WA Limestone Unit Trust	minor exploration/mine/camp
184171	50000	Not reported	The Trustee for WA Limestone Unit Trust	minor exploration/mine/camp
200323	80	Not reported	Tony Pavlovic	minor exploration/mine/camp
179731	2550	Not reported	Tungsten Mining NL	minor exploration/mine/camp
163511	30000	Not reported	Venturex Pilbara Pty Ltd	minor exploration/mine/camp
95745	900000	181622	Venturex Pilbara Pty Ltd	minor exploration/mine/camp
165207			Venturex Sulphur Springs Pty Ltd	minor exploration/mine/camp



Licence Number	Licence allocation (kL)	Reported abstraction last water year (kL)- licenses>100,000kL	Licensee	Major Pilbara Mine Projects Licensed to take >1GL, plus minor licenses
179784	12000	Not reported	Welcome Exploration Pty Ltd	minor exploration/mine/camp
201116	12000	Not reported	Welcome Exploration Pty Ltd	minor exploration/mine/camp
162325	45000	Not reported	Whim Creek Operations Pty Ltd	minor exploration/mine/camp
154569	365000	294168	Wodgina Lithium Pty Ltd	minor exploration/mine/camp
154570	3150000	1191434	Wodgina Lithium Pty Ltd	Wodgina
179435	145500	Not reported	Yarri Mining Pty Ltd	minor exploration/mine/camp
Total licensed volume to mining in the Pilbara* - 1163GL	*Total licensed volume is the total of all groundwater licenses issued for the purpose of mining.			
Total volume abstracted last water year* - 470GL*	*Total volume abstracted last water year is comprised of all groundwater abstraction during the 2019 water year, as reported through the Department of Water and Environmental Regulation's Water Online reporting system, and totals approximately 450GL. The 'not reported' licenses shown in the list mainly comprise smaller licenses in fractured rock aquifers that are less than 100000kL, issued for mining purposes such as exploration and camp usages, and due to the low volume and minimal resource risk are not required to report abstraction volumes. There are approximately 200 of these licenses currently issued. Estimated use from these licenses, at full entitlement, is 200x100,000 kL=20GL. This is added to the reported volumes of approximately 450GL. Total reported (and non-reported) water abstraction is therefore estimated at 470GL			