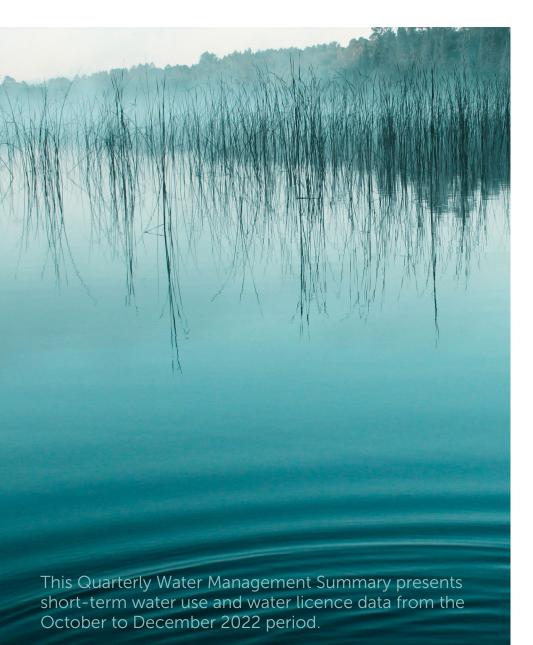
# Quarterly Oil and Gas Water Management Summary

Oct-Dec (Q4) 2022





Previous annual water use reports and quarterly water management summaries are available at bc-er.ca.

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### Vision, Mission and Values



### Mission

We regulate the life cycle of energy resource activities in B.C., from site planning to restoration, ensuring activities are undertaken in a manner that:



Protects public safety and the environment



Supports reconciliation with Indigenous peoples and the transition to low-carbon energy



Conserves energy resources



Fosters a sound economy and social well-being

Respect is our commitment to listen, accept and value diverse perspectives. Integrity is our commitment to the principles of fairness, trust and accountability.

### Values

Transparency is our commitment to be open and provide clear information on decisions, operations and actions. Innovation is our commitment to learn, adapt, act and grow.

#### Responsiveness is

our commitment to listening and timely and meaningful action.

## Role of the BC Energy Regulator (BCER)

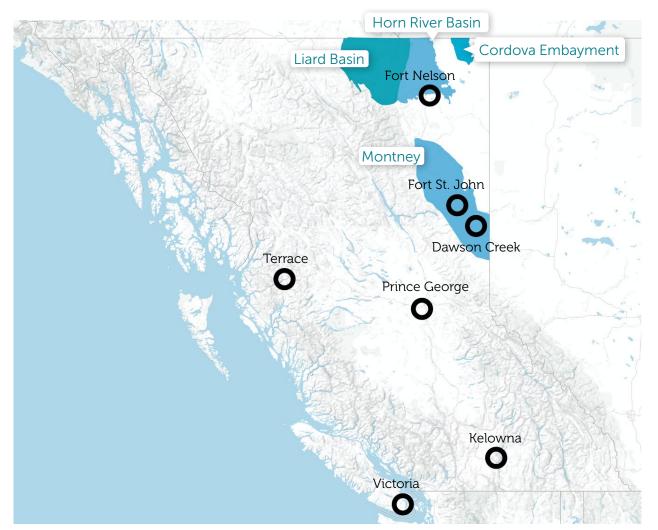
As a provincial Crown agency, we protect public safety and safeguard the environment through the sound regulation of oil, gas and aspects of geothermal activities in B.C. while balancing a broad range of environmental, economic and social considerations.

We regulate resource activities through the <u>Oil and Gas Activities Act (OGAA)</u>, the <u>Petroleum and Natural Gas (PNG) Act</u>, and other associated laws related to heritage conservation, roads, land and water use, forestry, and other natural resources.

Through combined authority and working with partner agencies, we regulate activities on Crown land, private land, and the Agricultural Land Reserve. When oil, gas, or geothermal permits are granted, we are responsible for ensuring industry compliance with provincial legislation from initial exploration to final reclamation. As more resources have been discovered, techniques for accessing them have advanced, environmental awareness has increased, and stakeholders have let us know they are interested in providing more input.

During our review and decision-making processes, we work closely with <u>land</u> <u>owners</u>, <u>rights holders</u>, and <u>Indigenous</u> communities. The BCER currently has over 280 employees operating out of seven locations: Fort Nelson, Fort St. John, Dawson Creek, Terrace, Prince George, Kelowna and Victoria. The largest number of employees are in the Fort St. John office.

With 25 years' dedicated service, we're committed to ensuring safe and responsible energy resource management for British Columbia.



#### BCER Office Locations Throughout B.C.

#### Territorial Acknowledgement

We acknowledge and respect the many Indigenous Territories and Treaty areas, each with unique cultures, languages, legal traditions and relationships to the land and water, which the BCER's work spans. We also respectfully acknowledge the Métis and Inuit people living across B.C.

### How Water is Used and Accessed

### Water Use

Water is used for various purposes in the oil and gas industry. The largest use of water is for hydraulic fracturing, however, water is used for other purposes, such as:



Seismic or geophysical exploration



Drilling



Machine washing





Water floods (enhances oil recovery)





Ice road freezing



Hydrostatic testing of pipelines

### Water Access

There are different ways the oil and gas industry may access water in British Columbia. Some methods are managed through provincial legislation, including:

- Water licences issued under section 9 of the Water Sustainability Act (WSA) for surface and groundwater. BCER staff designated as Regional Water Managers have the authority to issue and administer long-term water licences.
- Short-term surface water use or diversion approvals issued under section 10 of the WSA. Short-term water use is administered by the BCER.
- Water source wells authorized by the BCER under OGAA are wells where water is withdrawn for injection into underground formations to enhance oil or natural gas recovery.
- Flowback water that returns to the surface after being injected for hydraulic fracturing.
- Produced water that flows to the surface as a by-product of oil and gas production.

#### Industry may also access water by other means:

Private agreements can be made with land owners who have a source of surface water supply such as a dugout or groundwater well. In some cases, private agreements may require a Waterworks water licence under the WSA.

### Oil and Gas Activity Water Use: Short-term Approvals & Long-Term Licences

### Short-Term Water Use

During October to December there were 323 water use approvals in place, representing 590 withdrawal locations, held by 32 companies (Table 1).

The total water volume available for use by short-term approvals active on the last day of December was 14,150,202 m<sup>3</sup>.

A total of 1,386,065 m<sup>3</sup> was reported as withdrawn in 2022.

### Long-Term Water Use

During October to December, there were 110 active oil and gas related water licences, representing 112 withdrawal locations, held by 32 companies (Table 2).

The total annual volume available for use for water licences was 33,348,905 m<sup>3</sup>.

A total of 3,793,461 m<sup>3</sup> was reported as withdrawn in 2022.

TABLE 1 - SHORT-TERM APPROVALS      AND USE IN 2022	End of Q1	End of Q2	End of Q3	End of Q4
Companies with Active Approvals	36	33	30	32
Active Approvals	248	276	293	323
Approved Withdrawal Locations	714	732	705	590
Volume Available for Use (m³)	18,300,693	17,378,385	16,768,485	14,150,202
Cumulative Volume Reported Withdrawn (m <sup>3</sup> )	292,693	486,966	1,050,375	1,386,065

INDEE 2 LONG TERM WITHER EIGENCED	TABLE	2 -	LONG-T	ERM	WATER	LICENCES
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AND USE IN 2022	End of Q1	End of Q2	End of Q3	End of Q4
Companies with Active Water Licences	30	31	31	32
Active Water Licences	106	107	107	110
Licenced Withdrawal Locations	110	111	111	112
Annual Volume Available for Use (m <sup>3</sup> )	32,163,740	32,720,740	32,720,740	33,348,905
Cumulative Volume Reported Withdrawn (m³)	684,428	2,028,017	2,877,377	3,793,461

A break down of short-term approvals and water licence use by BCER Water Management Basin is listed in Table 4 on page 10.

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### Oil and Gas Related Water Licences

#### Table 3: Licences that Withdrew Water from October to December 2022

LICENCE #	LICENCEE	SOURCE	BCER WATER MGMT BASIN	ANNUAL APPROVAL (m³/YR)	WATER USE (m³)
C112155	Whitecap Resources Inc.	Peace River	Lower Peace River	1,825,000	146,829
C133805	Peace View Hutterian Brethren Church	Dawson Creek Aquifer	Lower Peace River	250,000	134,350
C134049	Petronas Energy Canada	Unnamed Spring	Upper Beatton River	83,402	2,840
C134092	Petronas Energy Canada	Unnamed Spring	Lower Halfway River	65,971	1,745
C134093	Petronas Energy Canada	Grewatsch Creek Tributary	Upper Beatton River	54,368	3,555
C134104	Petronas Energy Canada	Unnamed Stream	Lower Halfway River	50,235	489
C134110	Petronas Energy Canada	Unnamed Stream	Cameron River	79,045	500
C134111	Petronas Energy Canada	Unnamed Stream	Upper Beatton River	49,588	500
C134469	ConocoPhillips Canada	Halfway River	Lower Halfway River	3,650,000	262,980
C134471	Petronas Energy Canada	Sikanni Chief River	Upper Sikanni Chief	2,993,000	140,101
C500172	Secure Energy Services	Aquifer 634	Lower Peace River	36,500	3,961
C500226	Veresen Energy Pipeline Inc.	Aquifer 621	Smoky River	5,500	1,045
C500334	Petronas Energy Canada	FSJ Aquifer	Upper Beatton River	29,161	3,143
C500344	Petronas Energy Canada	FSJ Aquifer	Lower Halfway River	16,165	573
C500345	Ovintiv Canada ULC	Unnamed Stream	Lower Kiskatinaw River	102,100	43,482
C501029	Ovintiv Canada ULC	Dawson Creek Aquifer	Lower Kiskatinaw River	16,000	135
C501120	Canlin Energy Corp.	FSJ Aquifer	Upper Beatton River	1,825	49
C501398	Umbrella Oilfield Ltd.	Chrissy Creek/FSJ Aquifer	Cameron River	150,000	12,721
C501578	Ovintiv Canada ULC	Aquifer 593	Lower Kiskatinaw River	120,000	52,707
C501672	ConocoPhillips Canada	Aquifer 451	Cache Creek	49,750	2,352
C501685	ConocoPhilips Canada	Aquifer 451	Cache Creek	160,235	43,965
C501773	Tourmaline Oil Corp.	FSJ Aquifer	Upper Beatton River	19,710	855
C501793	Canadian Natural Resources	Aquifer 931	Milligan Creek	36,500	1,266
C501797	Canadian Natural Resources	Aquifer 931	Milligan Creek	23,725	2,852

At the end of December, water used by industry by way of licence was a fraction of a per cent (0.003) of the average runoff replenished annually in northeast B.C.

			BCER WATER	ANNUAL	WATER
LICENCE #	LICENCEE	SOURCE	MGMT BASIN	APPROVAL (m <sup>3</sup> /YR)	USE (m <sup>3</sup> )
C501865	Boundry Lake Sand & Gravel	FSJ Aquifer	Lower Peace River	10,950	186
C502134	Petronas Energy Canada	FSJ Aquifer	Cameron River	4,015	460
C502277	Peaceland Farm Ltd.	Aquifer 908	Lower Halfway River	360,000	2,876
C502448	Canadian Natural Resources	Dawson Creek Bedrock	Murray River	5,475	285
C502452	Canadian Natural Resources	FSJ Aquifer	Kahntah River	3,650	50
C502455	Canadian Natural Resources	Dawson Creek Aquifer	Smoky River	1,095	277
C502462	Canadian Natural Resources	FSJ Aquifer	Kahntah River	7,300	669
C502467	Canadian Natural Resources	FSJ Aquifer	Upper Beatton River	3,650	41
C502795	Canadian Natural Resources	Aquifer 451	Blueberry River	3,650	339
C502900	Pineview Trucking &	Unconsolidated Aquifer	Outside of NEBC	98,550	14,105
	Excavating Ltd.				
C502957	Time Travel Services Ltd.	Aquifer 928	Upper Peace River	10,000	3,107
C503048	Albright Flush Systems	Aquifer 451	Cache Creek	2,920	695
C503155	Inga Water Source Ltd.	Aquifer 451	Cache Creek	76,285	14,082
C500355	Ovintiv Canada	Dugout nr Eight Mile Creek	Lower Peace River	90,000	15,909

TABLE 4 - SUMMARY OF WATER ALLOCATION	OIL ANI	) GAS RELATED SH	ORT-TERM WATER	USE APPROVAL	S - SECTION 10		OIL AND	GAS RELATED	WATER LICENCE	S - SECTION 9	
AND USE FOR OIL AND GAS ACTIVITIES IN 2022, ORGANIZED BY BCER WATER MANAGEMENT BASIN (Page 1 of 4)	NUMBER OF		TOTAL VOLUME	TOTAL	TOTAL VOLUME WITHDRAWN	NUMBER OF		TOTAL VOLUME LICENCED AS		TOTAL VOLUME WITHDRAWN	
MAJOR and Sub-Basin Name	APPROVED WITHDRAWAL LOCATIONS	TOTAL VOLUME APPROVED (m <sup>3</sup> )	APPROVED AS % OF MEAN ANNUAL RUNOFF	VOLUME WITHDRAWN IN 2022 (m <sup>3</sup> )	AS % OF MEAN ANNUAL RUNOFF	LICENCED WITHDRAWA LOCATIONS	VOLUME L LICENCED	% OF MEAN ANNUAL RUNOFF	VOLUME WITHDRAWN IN 2022 (m <sup>3</sup> )	AS % OF MEAN ANNUAL RUNOFF	
<b>BEATTON RIVER</b> (sub-basin of Peace River)											
Upper Beatton River	8	647,000	0.130%	12,135	0.002%	17	1,575,519	0.315%	519,711	0.104%	
Middle Beatton River	16	75,000	0.030%	3,364	0.001%	1	1,095	0.000%	0	0.000%	
Middle Beatton Total (incl. Upper Beatton)	24	722,000	0.096%	15,499	0.002%	18	1,576,614	0.211%	519,711	0.069%	
Milligan Creek	11	29,100	0.015%	0	0.000%	6	235,425	0.123%	19,848	0.010%	
Blueberry River	12	268,801	0.092%	32,399	0.011%	5	827,090	0.282%	25,145	0.009%	
Doig River	4	29,000	0.009%	2,740	0.001%	1	51,100	0.016%	0	0.000%	
Lower Beatton River	2	519,600	0.376%	4,612	0.003%	1	20,730	0.015%	0	0.000%	
BEATTON TOTAL	53	1,568,501	0.093%	55,250	0.003%	31	2,710,959	0.160%	564,704	0.033%	1
HALFWAY RIVER (sub-basin of Peace River)											
Chowade River	0					0					
Upper Halfway River	1	500,000	0.063%	18,853	0.002%	1	72,000	0.009%	0	0.000%	
Upper Halfway Total (includes Chowade)	1	500,000	0.045%	18,853	0.002%	1	72,000	0.006%	0	0.000%	1
Graham River	0	0	0.000%	0	0.000%	0					
Cameron River	16	703,370	0.314%	61,086	0.027%	19	1,111,919	0.497%	47,059	0.021%	
Lower Halfway River	0	0	0.000%	0	0.000%	9	5,448,688	3.596%	648,338	0.428%	
HALFWAY TOTAL	17	1,203,370	0.051%	79,939	0.003%	29	6,632,607	0.281%	695,397	0.029%	2
<b>MOBERLY RIVER</b> (sub-basin of Peace River)											
Moberly River	0					0					
MOBERLY TOTAL	0	0	0.000%	0	0.000%	0	0	0.000%	0	0.000%	
<b>PINE RIVER</b> (sub-basin of Peace River)											
Burnt River	3	94,002	0.013%	3	0.000%	0					
Sukunka River	4	140,000	0.013%	62,748	0.006%	0					
Sukunka River Total (includes Burnt)	7	234,002	0.013%	62,751	0.004%	0	0	0.000%	0	0.000%	1
Upper Pine River	0	0	0.000%	1,977	0.000%	0					
Murray River	4	87,352	0.003%	920	0.000%	1	5,475	0.000%	1,013	0.000%	

1.221%

0.033%

242,433

308,081

0.176%

0.005%

650,000

655,475

1

2

0.472%

0.011%

400

1,413

1,680,800

2,002,154

8

19

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Lower Pine River

**PINE TOTAL** 

MEAN

(m³)

ANNUAL

RUNOFF

499,408,440

249,152,995

748,561,435

191,536,686

293,278,540 323,069,523

138,262,629

327,027,527

795,962,409

223,679,567

151,526,991

391,714,995

391,714,995

737,930,022 1,047,282,572 1,785,212,594

1,466,884,035

2,698,285,017

6,088,001,535

137,619,889

2,358,823,666

1,122,989,936 860,627,172

1,694,708,813

0.000%

0.000%

SUMMARY OF WATER ALLOCATION AND USE FOR OIL AND	OIL AN	D GAS RELATED SI	HORT-TERM WATER	R USE APPROVAI	S - SECTION 10		OIL AI	ND GAS RELATED	WATER LICENC	ES - SECTION 9	)
GAS ACTIVITIES IN 2022, ORGANIZED BY BCER WATER MANAGEMENT BASIN (Page 2 of 4) MAJOR and Sub-Basin Name	NUMBER OF APPROVED WITHDRAWAL LOCATIONS	TOTAL VOLUME APPROVED (m <sup>3</sup> )	TOTAL VOLUME APPROVED AS % OF MEAN ANNUAL RUNOFF	TOTAL VOLUME WITHDRAWN IN 2022 (m <sup>3</sup> )	TOTAL VOLUME WITHDRAWN AS % OF MEAN ANNUAL RUNOFF	NUMBER LICENCE WITHDRAV LOCATIOI	D VOLUME VAL LICENCED	TOTAL VOLUME LICENCED AS % OF MEAN ANNUAL RUNOFF	TOTAL VOLUME WITHDRAWN	TOTAL VOLUM WITHDRAWN AS % of MEA ANNUAL RUNOFF	I MEAN
KISKATINAW RIVER (sub-basin of Peace River)	LUCATIONS		ANNUAL KUNUTI	IN 2022 (III )	NONOTI	LUCATION	<b>1</b> 5 (111)	NONOTT	IN 2022 (m <sup>3</sup> )	NONOTT	(111)
West Kiskatinaw River	0					0					117,515,115
East Kiskatinaw River	0					0					105,452,962
Middle Kiskatinaw River	1	17 /00	0.031%	810	0.001%	1	600 000	1.065%	167 100	0.297%	56,347,972
	1	17,400				1	600,000		167,102		
Middle Kiskatinaw Total (incl. West & East)	10	<b>17,400</b>	0.006%	<b>810</b>	0.000%	10	<b>600,000</b>	<b>0.215%</b>	<b>167,102</b>	0.060%	<b>279,316,049</b>
Lower Kiskatinaw River	18	428,888	0.478%	8,082	0.009%	10	3,198,317	3.567%	663,919	0.740%	89,659,847
KISKATINAW TOTAL	19	446,288	0.121%	8,892	0.002%	11	3,798,317	1.029%	831,021	0.225%	368,975,896
PEACE RIVER	٥					2	0 125 000	NL / A	11 250	NI / A	NI / A
Peace Arm	0	510.000	0.0010/	(2,400	0.0000/	3	9,125,000	N/A	41,356	N/A	N/A
Upper Peace River	1	510,000	0.001%	63,480	0.000%	1	10,000		11,915		36,423,413,429
Lynx Creek	0	0	0.0000/	0	0.0000/	0					30,436,635
Farrell Creek	0	0	0.000%	0	0.000%	0		0.0000/	446.200	0.4060/	91,018,843
Cache Creek	0	0	0.000%	0	0.000%	8	677,605	0.908%	146,289	0.196%	74,603,546
Pouce Coupe River	6	204,016	0.080%	0	0.000%	4	1,650,200	0.645%	110,843	0.043%	255,686,202
Lower Peace River	3	57,200	0.050%	114,644	0.100%	8	4,204,919	3.673%	732,000	0.639%	114,470,012
<b>PEACE TOTAL</b> (incl. Kisk/Pine/Moberly/Half/Beatton)	118	5,991,529	0.013%	630,286	0.001%	97	29,465,082	0.062%	3,134,938	0.007%	47,891,853,572
SMOKY RIVER											
Smoky River	3	27,000	0.001%	0	0.000%	2	6,595	0.000%	3,886	0.000%	2,669,506,123
SMOKY TOTAL	3	27,000	0.001%	0	0.000%	2	6,595	0.000%	3,886	0.000%	2,669,506,123
<b>MUSKWA RIVER</b> (sub-basin of Fort Nelson River)											
Upper Muskwa River	0					0					1,725,201,511
Middle Muskwa River	0					0					1,973,711,816
Middle Muskwa Total (incl. Upper Muskwa)	0	0	0.000%	0	0.000%	0	0	0.000%	0	0.000%	3,698,913,327
Lower Muskwa River	1	22,000	0.003%	0	0.000%	0					646,841,560
MUSKWA TOTAL	1	22,000	0.001%	0	0.000%	0	0	0.000%	0	0.000%	4,345,754,887
<b>PROPHET RIVER</b> (sub-basin of Fort Nelson River)											
Upper Prophet River	0					1	36,593	0.002%	81	0.000%	1,470,271,289
Middle Prophet River	7	63,000	0.010%	0	0.000%	0					621,428,680
Middle Prophet Total (incl. Upper Prophet)	7	63,000	0.003%	0	0.000%	1	36,593	0.002%	81	0.000%	2,091,699,969
Lower Prophet River	2	8,200	0.003%	0	0.000%	0					272,262,427
PROPHET TOTAL	9	71,200	0.003%	0	0.000%	1	36,593	0.002%	81	0.000%	2,363,962,396

Table: pg 2 of 4

SUMMARY OF WATER ALLOCATION AND USE FOR OIL AND	OIL ANI	D GAS RELATED SH	IORT-TERM WATER	USE APPROVAL	S - SECTION 10		OIL AN	ID GAS RELATED	WATER LICENC	ES - SECTION 9	
GAS ACTIVITIES IN 2022, ORGANIZED BY BCER WATER MANAGEMENT BASIN (Page 3 of 4)	NUMBER OF APPROVED		TOTAL VOLUME APPROVED AS %	TOTAL VOLUME	TOTAL VOLUME WITHDRAWN AS % OF MEAN	NUMBER C Licenced		TOTAL VOLUME LICENCED AS % OF MEAN	TOTAL VOLUME	TOTAL VOLUME WITHDRAWN AS % OF MEAN	MEAN ANNUAL
MAJOR and Sub-Basin Name	WITHDRAWAL LOCATIONS	TOTAL VOLUME APPROVED (m <sup>3</sup> )	OF MEAN ANNUAL RUNOFF	WITHDRAWN IN 2022 (m <sup>3</sup> )	ANNUAL RUNOFF	WITHDRAW	AL LICENCED	ANNUAL RUNOFF	WITHDRAWN IN 2022 (m <sup>3</sup> )	ANNUAL RUNOFF	RUNOFF (m <sup>3</sup> )
SIKANNI CHIEF RIVER (sub-basin of Fort Nelson River)											
Upper Sikanni Chief River	0	0	0.000%	0	0.000%	3	3,117,689	0.386%	609,151	0.075%	807,771,692
Middle Sikanni Chief River	22	186,355	0.020%	2,293	0.000%	4	29,203	0.003%	159	0.000%	949,755,794
Middle Sikanni Chief Total (incl. Upper Sikanni)	22	186,355	0.011%	2,293	0.000%	7	3,146,892	0.179%	609,310	0.035%	1,757,527,486
Lower Sikanni Chief	13	81,800	0.009%	952	0.000%	0					875,678,142
SIKANNI CHIEF TOTAL	35	268,155	0.010%	3,245	0.000%	7	3,146,892	0.120%	609,310	0.023%	2,633,205,628
FORT NELSON RIVER											
Kahntah River	33	168,648	0.042%	942	0.000%	2	10,950	0.003%	3,413	0.001%	400,582,903
Fontas River	3	17,200	0.003%	0	0.000%	0			,		591,531,903
Fontas Total (includes Kahntah)	36	185,848	0.019%	942	0.000%	2	10,950	0.001%	3,413	0.000%	992,114,806
Klua Creek	0					0					402,135,448
Upper Fort Nelson River	0					0					276,181,026
Upper Fort Nelson Total (incl. Sikanni Chief Tota		454,003	0.011%	4,187	0.000%	9	3,157,842	0.073%	612,723	0.014%	4,303,636,908
Kahntah, Fontas, Klua)	*			,			, ,				
Snake River	0					0					310,763,522
Sahtaneh River	8	32,438	0.007%	1,215	0.000%	0					474,904,729
Middle Fort Nelson River	5	74,000	0.014%	1,811	0.000%	0					515,348,901
Middle Ft Nelson Total (incl. Upper Ft. Nelson total,	94	653,641	0.005%	7,213	0.000%	10	3,194,435	0.026%	612,804	0.005%	12,314,371,343
Muskwa Total, Prophet Total, Snake, Sahtaneh)		,									
Kiwigana River	14	774,100	0.175%	2,579	0.001%	0					441,657,543
Lower Fort Nelson River	2	40,000	0.013%	1,660	0.001%	0					312,768,938
FORT NELSON TOTAL	110	1,467,741	0.011%	11,452	0.000%	10	3,194,435	0.024%	612,804	0.005%	13,068,797,824
LIARD RIVER				,			, ,				
Muncho River	0					0					551,551,360
Upper Liard River	0					0					33,125,817,465
Upper Liard Total (incl. Muncho)	0	0	0.000%	0	0.000%	0	0	0.000%	0	0.000%	33,677,368,825
Grayling River	0					0					630,833,914
Upper Toad River	0					0					1,521,055,576
Racing River	0					0					1,488,336,681
Lower Toad River	0					0					419,472,722
Beaver River	0					0					10,862,659,426
Middle Liard River	0					0					463,652,312
LIARD RIVER con't on next page											Table: pg 3 of 4

**LIARD RIVER** con't on next page

Table: pg 3 of 4

SUMMARY OF WATER ALLOCATION AND USE FOR OIL AND GAS ACTIVITIES IN 2022, ORGANIZED BY BCER WATER MANAGEMENT BASIN (Page 4 of 4)

OIL AND GAS RELATED SHORT-TERM WATER USE APPROVALS - SECTION 10

**OIL AND GAS RELATED WATER LICENCES - SECTION 9** 

CHINCHAGA RIVER Chinchaga River	<b>56</b>	<b>461,971</b>	0.026%	<b>12,509</b>	0.001%	0	0	0.000%	0	0.000%	1,758,355,971
<b>Kyklo, Shekilie)</b> Hay River	22	140,000	0.026%	7,657	0.001%	0					538,672,352
Lower Kotcho River Lower Kotcho Total (includes Upper Kotcho,	0 <b>34</b>	0 <b>321,971</b>	0.000% <b>0.026%</b>	2,208 <b>4,852</b>	0.001% <b>0.000%</b>	0 0	0	0.000%	0	0.000%	311,519,217 <b>1,219,683,619</b>
Shekilie River	26	307,800	0.068%	1,656	0.000%	0					450,747,494
Upper Kotcho River Kyklo River	2 6	8,171 6,000	0.003% 0.004%	0 988	0.001%	0 0					311,519,217 145,897,691
HAY RIVER											
Lower Petitot River PETITOT TOTAL	21 97	216,400 <b>644,210</b>	0.024%	1,462 <b>11,595</b>	0.000%	0	0	0.000%	0	0.000%	904,314,069 3,766,144,156
Middle Petitot Total (incl. Sahdoanah, Upper Petitot, Tsea)	76	427,810	0.015%	10,133	0.000%	0	0	0.000%	0	0.000%	2,861,830,087
Middle Petitot River	19	100,500	0.014%	840	0.000%	0					698,562,753
Tsea River	21	159,310	0.037%	4,628	0.001%	0					434,062,484
Sahdoanah River Upper Petitot River	6 30	31,600 136,400	0.013% 0.009%	4,665 0	0.002% 0.000%	0					252,625,362 1,476,579,488
PETITOT RIVER		21 (00	0.0120/	4.665	0.0020/	0					
LIARD TOTAL (incl. Fort Nelson)	114	1,525,505	0.002%	19,682	0.000%	10	3,194,435	0.005%	612,804	0.001%	64,373,155,962
Dunedin River Lower Liard River	0 3	42,220	0.003%	6,650	0.001%	0 0					820,464,167 1,236,634,664
<b>Upper Toad, Racing, Lower Toad, Beaver)</b> Capot-Blanc Creek	1	15,544	0.008%	1,580	0.001%	0					183,879,851
LIARD RIVER con't Middle Liard Total (incl. Upper Liard Total, Grayling,	0	0	0.000%	0	0.000%	0	0	0.000%	0	0.000%	49,063,379,456
MANAGEMENT BASIN (Page 4 of 4) MAJOR and Sub-Basin Name	NUMBER OF APPROVED WITHDRAWAL LOCATIONS	TOTAL VOLUME APPROVED (m <sup>3</sup> )	TOTAL VOLUME APPROVED AS % OF MEAN ANNUAL RUNOFF	TOTAL VOLUME WITHDRAWN IN 2022 (m³)	TOTAL VOLUME WITHDRAWN AS % OF MEAN ANNUAL RUNOFF	NUMBER O LICENCED WITHDRAW LOCATION	VOLUME AL LICENCED	LICENCED AS % OF MEAN ANNUAL RUNOFF	TOTAL VOLUME WITHDRAWN IN 2022 (m³)	TOTAL VOLUME WITHDRAWN AS % OF MEAN ANNUAL RUNOFF	MEAN ANNUAL RUNOFF (m <sup>3</sup> )

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Annual water reports and quarterly updates are available on the BCER website at <u>https://www.bc-er.ca/data-reports</u>.

For questions regarding this report, please contact <u>Communications@bc-er.ca</u>.





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