Quarterly Oil and Gas BCOIL & Gas COMMISSION Water Management Summary



Fourth Quarter 2020 (Oct - Dec)



PURPOSE

This *Quarterly Oil and Gas Water Management Summary* presents short-term water use and water licence data from the Q4 October to December 2020 period.

Previous annual water use reports and quarterly water management summaries are available on the BC Oil and Gas Commission website at www.bcogc.ca.

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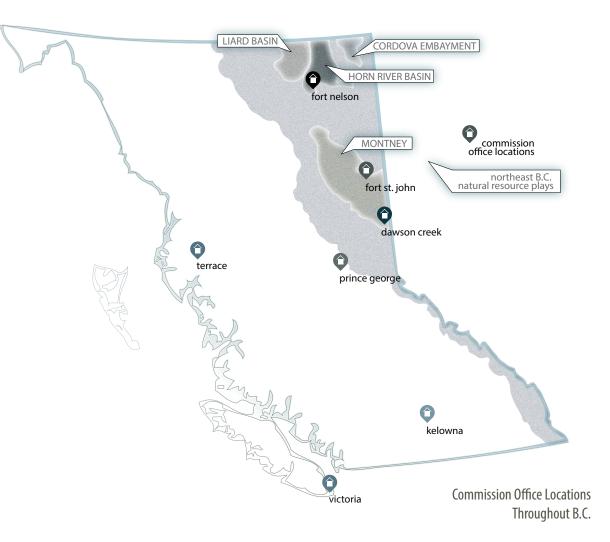
 Role of the

BC OIL AND GAS COMMISSION

he <u>BC Oil and Gas Commission</u> (Commission) is the provincial regulatory agency with responsibilities for regulating oil and gas activities in British Columbia, including exploration, development, pipeline transportation and reclamation.

The Commission's core services include reviewing and assessing applications for industry activity, consulting with First Nations, cooperating with partner agencies, and ensuring industry complies with provincial legislation and all regulatory requirements. The public interest is protected by ensuring public safety, respecting those affected by oil and gas activities, conserving the environment, and ensuring equitable participation in production.

The Commission is responsible for reviewing, assessing, and making decisions on water authorizations from both surface and subsurface water sources. The Commission has the expertise and tools to make informed water allocation decisions, and protecting and maintaining environmental and community water needs are its first priorities.



HOW WATER IS USED

Water is used for various purposes in the oil and gas industry.



The largest use of water for oil and gas activities is for hydraulic fracturing.

However, water is used for other purposes, such as:



Seismic or geophysical exploration

Drilling

Machine washing

Dust control

Water floods (to enhance oil recovery)

Ice road freezing

Hydrostatic testing of pipelines

HOW WATER IS ACCESSED

here 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 the Water Sustainability Act (WSA) for surface and groundwater. The Commission has staff designated as Regional Water Managers with authority for issuing and administering 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 Commission.
- Water source wells authorized by the Commission under the Oil and Gas Activities Act (OGAA). Water source wells are a specific type of well where the water withdrawn is intended for injection into an underground formation 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.

The oil and gas industry can access water by means outside of regulatory oversight:



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

SHORT-TERM WATER APPROVAL AND USE

During October to December of 2020, there were 370 short-term water use approvals in place, representing 957 withdrawal locations, held by 45 companies (Table 1).

The total water volume associated with shortterm approvals active on the last day of the fourth quarter was 19,361,870 m³.

A total of 712,308 m³ was reported as withdrawn by oil and gas operators in 2020.

LONG-TERM WATER LICENCES AND USE

In the fourth quarter of 2020, there were 98 active oil and gas related water licences, representing 103 withdrawal locations, held by 26 companies (Table 2).

The total annual volume available for use for water licences was 32,427,435 m³.

A total of 3,531,423 m³ of licenced water was reported withdrawn in 2020. Companies with active licences in Q4 are listed in Table 3.

	TABLE 1 - SUMMARY OF SHORT-TERM APPROVAL AND USE FOR OIL AND GAS											
	ACTIVITIE	S FROM JANUARY TO DECEMBER 2020	Q1	Q2	Q3	Q4						
		Companies with Active Approvals	49	44	44	45						
		Active Approvals	254	273	305	370						
	SHORT-	Approved Withdrawal Locations	734	768	815	957						
	TERM	Volume Available for Use (m ³)	13,053,459	14,404,277	15,891,446	19,361,870						
		Cumulative Volume Reported Withdrawn (m ³)	192,708	314,524	533,934	712,308						

A break-down of short-term water approval and use by OGC Water Management Basin is listed in Table 4.

	2 - SUMMARY OF WATER LICENCE AND USE FOR OIL AN				
ACTIVI	TIES FROM JANUARY TO DECEMBER 2020	Q1	Q2	Q3	Q4
	Companies with Active Water Licences	23	26	29	26
WATE	Active Water Licences	90	95	98	98
LICEN	Liconcod Withdrawal Locations	95	100	103	103
LICLIN	Annual Volume Available for Use for Water Licences (m ³)	30,383,754	30,687,608	31,247,345	32,427,435
	Cumulative Volume Reported Withdrawn (m ³)	623,394	*1,629,837	*2,666,243	3,531,423

A break-down of water licence allocation and use by OGC Water Management Basin is listed in Table 4. *Totals updated in Q4 due to delayed reporting.

TABLE 3: OIL AND GAS RELATED WATER LICENCES THAT WITHDREW WATER FROM OCTOBER TO DECEMBER 2020

LICENCE #	LICENCEE	SOURCE	OGC WATER MGMT BASIN	ANNUAL APPROVAL (m³/YR)	2020 WATER USE (m ³ /YR)
C112155	Whitecap Resources Inc.	Peace River	Lower Peace River	1,825,000	160,057
C132688	Canadian Natural	Charlie Lake	Lower Beatton River	394,000	1,186
	Resources Ltd (CNRL)			55 1,000	1,100
C133847	Petronas Energy Canada	Unnamed Aquifer	Cameron River	7,374	100
C134093	Petronas Energy Canada	Grewatsch Creek Tributary	Upper Beatton River	54,368	269
C134104	Petronas Energy Canada	Unnamed Stream	Lower Halfway River	50,235	404
C134110	Petronas Energy Canada	Unnamed Stream	Cameron River	79,045	900
C134283	Ovintiv Canada ULC	Kiskatinaw River	Lower Kiskatinaw River	1,000,000	307,036
C134469	ConocoPhilliips Canada	Halfway River	Lower Halfway River	3,650,000	162,241
C134471	Petronas Energy Canada	Sikanni Chief River	Upper Sikanni Chief	2,993,000	109,800
C500172	Tervita Corporation	Aquifer 634	Lower Peace River	36,500	1,200
C500226	Veresen Energy Pipeline	Aquifer 621	Smoky River	5,500	1,059
C500335	Petronas Energy Canada	FSJ Aquifer	Upper Beatton River	13,670	5,309
C500345	Ovintiv Canada ULC	Unnamed Stream	Lower Kiskatinaw River	102,100	89,243
C501120	Canlin Energy Corp.	FSJ Aquifer	Upper Beatton River	1,825	55
C501773	Black Swan Energy Ltd.	FSJ Aquifer	Upper Beatton River	19,710	1,437
C501791	CNRL	Aquifer 931	Milligan Creek	36,500	3,077
C501793	CNRL	Aquifer 931	Milligan Creek	36,500	3,008
C501794	CNRL	Aquifer 931	Milligan Creek	51,100	3,889
C501797	CNRL	Aquifer 931	Milligan Creek	23,725	3,077
C501865	Boundry Lake Sand & Gravel	FSJ Unconsolidated	Lower Peace River	10,950	163
C502134	Petronas Energy Canada	FSJ Unconsolidated	Cameron River	4,015	487
C502277	Peaceland Farm Ltd.	Aquifer 908	Lower Halfway River	360,000	3,449
C502452	CNRL	FSJ Aquifer	Kahntah River	3,650	88
C502455	CNRL	Dawson Creek Aquifer	Smoky River	1,095	89
C502462	CNRL	FSJ Aquifer	Kahntah River	7,300	697
C502467	CNRL	FSJ Aquifer	Upper Beatton River	3,650	56
C502795	CNRL	Aquifer 451	Blueberry River	3,650	264
C502900	Pineview Trucking and Excavating Ltd.	Unconsolidated Aquifer	Parsnip River (Outside NEB	C) 98,550	6,533

(Page 1 of 4) Numbers of MARRAN Marker DTATL WOULDE MARRAN MARKER TOTAL VOULDE MARRAN MARKER TOTAL VOULDE MARRAN MARKER UNAL VOULDE MARRAN MARKER TOTAL MARRAN MARKER URALES VOULDE MARRAN MARKER UNAL VOULDE VOULDE MARRAN MARRAN MARRAN MARRAN MARRAN MARRAN MARKER UNAL VOULDE VOULDE MARRAN MARKER UNAL VOULDE VOULDE MARRAN MARRAN MARRAN MARKER UNAL VOULDE VOULDE MARRAN MARRAN M	TABLE 4 - SUMMARY OF WATER ALLOCATION AND USE FOR OIL AND GAS ACTIVITIES IN 2020,	OIL AN	OIL AND GAS RELATED SHORT-TERM WATER USE APPROVALS - SECTION 10					OIL AND GAS RELATED WATER LICENCES - SECTION 9					
MARIAL WITINDAWAL TOTA VOLUME of MAMA WITINDAWAL MATUAL WITINDAWAL ANNUAL ANNUAL WITINDAWAL ANNUAL WITINDAWAL ANNUAL WITINDAWAL ANNUAL WITINDAWAL ANNUAL WITINDAWAL <	ORGANIZED BY OGC WATER MANAGEMENT BASIN (Page 1 of 4)					WITHDRAWN			LICENCED as	TOTAL	WITHDRAWN	MEAN ANNUAL	
Upper Beatron River 21 365,110 0.073% 46,283 0.009% 18 2,105,519 0.422% 59,865 0.010% 494,940 Middle Beatron River 18 229,395 0.104% 55,163 0.0007% 1 1.055 0.000% 60 0.000% 249,155 Midle Beatron Total (incl. Upper Beatron 15 123,555 0.065% 2,380 0.001% 66 233,65 0.000% 60 0.023% 52,640 0.023% 10,177 0.000% 233,65 Bubberry River 41 1.004,506 0.343% 80,151 0.007% 1 51,100 0.016% 0 0.000% 333,66 Lower Beatron River 22 155,738 0.113% 1.36,698 0.000% 30 2.986,414 0.107 0.000% 0 0.000% 333,66 Lower Beatron River 0		WITHDRAWAL		of MEAN	WITHDRAWN	ANNUAL			ANNUAL		ANNUAL	RUNOFF (m ³)	
Middle Beatton River 18 259,396 0.104% 5,580 0.002% 1 1,095 0.000% 60 0.000% 249,153 Middle Beatton Total (incl. Upper Beatton) 39 624,506 0.003% 51,863 0.000% 19 2,106,614 0.281% 59,225 0.008% 748,561 Mildige network 41 1,004,506 0.343% 80,151 0.027% 3 195,275 0.067% 1,077 0.000% 233,266 Diog River 9 9,000 0.028% 954 0.000% 1 351,00 0.016% 0 0.000% 333,266 Lower Beaton River 129 1,999,300 0.118% 136,698 0.000% 30 2,986,414 0.176% 123,059 0.007% 183,269 Lower Beaton River 0 0 0.000% 0 0.000% 1 72,000 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% </td <td>BEATTON RIVER (sub-basin of Peace River)</td> <td></td>	BEATTON RIVER (sub-basin of Peace River)												
Middle Beatton Total (incl. Upper Beatton) 39 624,506 0.083% 51,863 0.007% 19 2,106,614 0.281% 59,925 0.008% 748,561 Milligan Creek 15 123,550 0.065% 2,380 0.001% 6 235,425 0.123% 52,864 0.028% 191,533 Biueberry River 41 1,004,506 0.343% 80,151 0.027% 3 195,275 0.067% 1,077 0.000% 233,207 Doig River 25 155,738 0.113% 1,350 0.001% 1 394,000 0.285% 9,193 0.007% 188,265 BEATTON TOTAL 12 9,999,300 0.118% 136,698 0.008% 0 0.285% 9,193 0.007% 1,897,02 Upper Malfwag River 0 - - - - 327,02 0.009% 0 0.000% 0,200% 0,000% 0,200% 0,000% 0,000% 0,000% 0,000% 0,000% 0,000% 0,000% 0,000%	Upper Beatton River	21	365,110	0.073%	46,283	0.009%	18	2,105,519	0.422%	59,865	0.012%	499,408,440	
Milligan Creek 115 123,550 0.065% 2,380 0.001% 6 235,25 0.123% 52,864 0.028% 191,533 Blueberry River 41 1,004,506 0.343% 80,151 0.027% 3 195,275 0.067% 1,077 0.000% 233,775 Dig River 9 91,000 0.028% 954 0.001% 1 51,100 0.016% 0 0.000% 233,675 Dig River 25 155,738 0.118% 136,698 0.008% 30 2,986,414 0.176% 123,059 0.007% 1,82,67 BEATTON TOTAL 129 1,999,300 0.118% 136,698 0.008% 30 2,986,414 0.176% 123,059 0.007% 1,634,708 HALFWAY RIVER (sub-basin of Peace River) 0 0 0.000% 0 0.000% 1 72,000 0.009% 0 0.000% 1,22,989 Graham River 1 2,400 0.007% 123,928 0.005% 28<	Middle Beatton River	18	259,396	0.104%	5,580	0.002%	1	1,095	0.000%	60	0.000%	249,152,995	
Blueberry River 41 1,004,506 0.333% 80,151 0.027% 3 195,275 0.067% 1,077 0.000% 293,277 Doig River 9 9,000 0.028% 954 0.000% 1 51,100 0.016% 0 0.000% 233,061 Lower Beatton River 129 129 139,9300 0.118% 136,698 0.008% 13 394,000 0.285% 9,193 0.007% 1,697,708 HALFWAY RIVER (sub-basin of Peace River) 129 136,698 0.008% 10 72,000 0.009% 0 0.007% 1,697,708 72,007 0.009% 0 0.007% 1,22,007 1,22,009 0.009% 0 0.000% 1,122,989 1,22,989 1,22,989 1,22,989 1,22,989 0,617% 1,22,989 0,617% 1,22,989 0,617% 1,22,989 0,617% 1,22,989 0,617% 1,22,989 0,617% 1,22,989 0,618% 1,22,989 0,618% 1,22,989 0,618% 1,22,989 0,618% <t< td=""><td>Middle Beatton Total (incl. Upper Beatton)</td><td>39</td><td>624,506</td><td>0.083%</td><td>51,863</td><td>0.007%</td><td>19</td><td>2,106,614</td><td>0.281%</td><td>59,925</td><td>0.008%</td><td>748,561,435</td></t<>	Middle Beatton Total (incl. Upper Beatton)	39	624,506	0.083%	51,863	0.007%	19	2,106,614	0.281%	59,925	0.008%	748,561,435	
Doig River 9 91,000 0.028% 954 0.000% 1 51,100 0.016% 0 0.000% 332,061 Lower Beatton River 25 155,738 0.113% 1,350 0.001% 1 394,000 0.285% 9,193 0.007% 138,261 BEAT RIVER (sub-basin of Peace River) 0 1 72,000 0.009% 0 0.007% 138,261 Upper Halfway River 0 1 72,000 0.009% 0 0.000% 725,961 Upper Halfway Total (includes Chowade) 0 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 122,989 Graham River 24 1,215,696 0.543% 116,346 <th< td=""><td>Milligan Creek</td><td>15</td><td>123,550</td><td>0.065%</td><td>2,380</td><td>0.001%</td><td>6</td><td>235,425</td><td>0.123%</td><td>52,864</td><td>0.028%</td><td>191,536,686</td></th<>	Milligan Creek	15	123,550	0.065%	2,380	0.001%	6	235,425	0.123%	52,864	0.028%	191,536,686	
Lower Beatton River 25 155,738 0.113% 1,350 0.001% 1 394,000 0.285% 9,193 0.007% 138,26 BEATON TOTAL 129 1,999,300 0.118% 136,668 0.008% 30 2,986,414 0.176% 123,559 0.007% 1,694,708 HALFWAY RIVER (sub-basin of Peace River) 0 - - 0 - 327,027 Upper Halfway River 0 - 1 72,000 0.009% 0 0.000% 1,22,989 Graham River 1 2,400 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0.00	Blueberry River	41	1,004,506	0.343%	80,151	0.027%	3	195,275	0.067%	1,077	0.000%	293,278,540	
BEATTON TOTAL 129 1,999,300 0.118% 136,698 0.008% 30 2,986,414 0.176% 123,059 0.007% 1,694,708 HALFWAY RIVER (sub-basin of Peace River) 0 0 0 0 30 2,986,414 0.176% 123,059 0.007% 1,694,708 Upper Halfway River 0 0 0.000% 0 0.009% 0 0.009% 0 0.009% 0 0.009% 0 0.009% 0 0.000% 0 30 2,986,414 0.176% 123,059 0.07% 123,059 0.027% 1 72,000 0.009% 0 0.000% 0 0.009% 0 0.009% 0 0.009% 0 0.009% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0	Doig River	9	91,000	0.028%	954	0.000%	1	51,100	0.016%	0	0.000%	323,069,523	
HALFWAY RIVER (sub-basin of Peace River) 0 0 0 327,027 Upper Halfway River 0 1 72,000 0.009% 0 0.000% 795,963 Upper Halfway Total (includes Chowade) 0 0 0.000% 0 0.000% 1 72,000 0.006% 0 0.000% 795,963 Upper Halfway Total (includes Chowade) 0 0 0.000% 0 0.000% 1 72,000 0.006% 0 0.000% 795,963 Graham River 14 2,400 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 223,857 0.032% 223,857 0.055% 7,582 0.005% 28 6,482,607 0.275% 1,100,577 0.047% 2,358,823 MoBerly River 0 0 0.000% 1,101 0.000% 0 0 0.000% 391,714 Moberly River 1 39,000 0.000% 1,101 0.000% 0 0.000% 0 0.000%<	Lower Beatton River	25	155,738	0.113%	1,350	0.001%	1	394,000	0.285%	9,193	0.007%	138,262,629	
Chowade River 0 327,027 Upper Halfway River 0 1 72,000 0.009% 0 0.000% 795,967 Upper Halfway River 0 0 0.000% 0 0.000% 1 72,000 0.009% 0 0.000% 1122,988 Graham River 21 2,400 0.000% 0 0.000% 0 0.000% 0 860,623 623,673 22,589 0.032% 223,673 20,005% 18 961,919 0.430% 72,589 0.032% 223,673 20,005% 9 5,448,688 3.596% 1,027,988 0.678% 151,524 Lower Halfway River 8 842,595 0.556% 7,582 0.005% 28 6,482,607 0.275% 1,00,57% 2,358,823 MOBERLY TOTAL 53 2,060,691 0.000% 1,101 0.000% 0 0.000% 0,017 39,171 MoBERLY TOTAL 0 0 0.000% 1,101 0.000% 0 0.000% 0,	BEATTON TOTAL	129	1,999,300	0.118%	136,698	0.008%	30	2,986,414	0.176%	123,059	0.007%	1,694,708,813	
Upper Halfway River 0 0 0 0.000% 0 0.000% 0 0.000% 795,96. Upper Halfway Total (includes Chowade) 0 0 0.000% 0 0.000% 1 72,000 0.000% 0 0.000% 1,122,989 Graham River 1 2,400 0.000% 0 0.000% 0 0.000% 0 0.000% 0,000% 1,122,989 Graham River 44 1,215,696 0.543% 116,346 0.052% 18 961,919 0.430% 72,589 0.032% 223,673 Lower Halfway River 8 842,595 0.056% 7,582 0.005% 28 6,482,607 0.275% 1,00,777 0.0478 223,673 HALFWAY TOTAL 53 2,060,691 0.087% 123,928 0.005% 28 6,482,607 0.275% 1,00,777 0.0478 233,673 MoBERLY RIVER (sub-basin of Peace River) 7 7 0.000% 0 0 0.000% 0 0.000%	HALFWAY RIVER (sub-basin of Peace River)												
Upper Halfway Total (includes Chowade) 0 0 0.000% 0 0.006% 0 0.000% 1,122,989 Graham River 1 2,400 0.000% 0 0.000% 0 860,627 Graham River 44 1,215,696 0.543% 116,346 0.052% 18 961,919 0.430% 72,589 0.032% 223,679 Lower Halfway River 8 842,595 0.556% 7,582 0.005% 9 5,448,688 3,596% 1,027,988 0.678% 151,520 HALFWAY TOTAL 53 2,060,691 0.087% 123,928 0.005% 28 6,482,607 0.275% 1,100,577 0.047% 2,358,823 MOBERLY RIVER (sub-basin of Peace River)	Chowade River	0					0					327,027,527	
Graham River 1 2,400 0.000% 0 0.000% 0 0 0 860,622 Cameron River 44 1,215,696 0.543% 116,346 0.052% 18 961,919 0.430% 72,589 0.032% 223,679 Lower Halfway River 8 842,595 0.556% 7,582 0.005% 9 5,448,688 3.596% 1,027,988 0.678% 151,520 HALFWAY TOTAL 53 2,060,691 0.087% 123,928 0.005% 9 5,448,688 3.596% 1,027,988 0.678% 151,520 MOBERLY RIVER (sub-basin of Peace River) V V 391,714 0.007% 0 0 0.075% 1,100,577 0.047% 2,358,823 MOBERLY RIVER (sub-basin of Peace River) V V 391,714 0.000% 0 0 0.075% 0.007% 0 0.075% 391,714 PINE RIVER (sub-basin of Peace River) V V 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 0.000% 0 </td <td>Upper Halfway River</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>72,000</td> <td>0.009%</td> <td>0</td> <td>0.000%</td> <td>795,962,409</td>	Upper Halfway River	0					1	72,000	0.009%	0	0.000%	795,962,409	
Cameron River 44 1,215,696 0.543% 116,346 0.052% 18 961,919 0.430% 72,589 0.032% 223,679 Lower Halfway River 8 842,595 0.556% 7,582 0.005% 9 5,448,688 3.596% 1,027,988 0.678% 151,520 HALFWAY TOTAL 53 2,060,691 0.087% 123,928 0.005% 28 6,482,607 0.275% 1,100,577 0.047% 2,358,823 MOBERLY RIVER (sub-basin of Peace River)	Upper Halfway Total (includes Chowade)	0	0	0.000%	0	0.000%	1	72,000	0.006%	0	0.000%	1,122,989,936	
Lower Halfway River 8 842,595 0.556% 7,582 0.005% 9 5,448,688 3.596% 1,027,988 0.678% 151,520 HALFWAY TOTAL 53 2,060,691 0.087% 123,928 0.005% 28 6,482,607 0.275% 1,100,577 0.047% 2,358,823 MOBERLY RIVER (sub-basin of Peace River) 0 0 0 0.000% 1,101 0.000% 0 0 0.047% 2,358,823 MOBERLY RIVER (sub-basin of Peace River) 0 0 0.000% 1,101 0.000% 0 0 0.000% 391,714 PINE RIVER (sub-basin of Peace River) 0 0 0.000% 0 0.000% 0 0.000% 391,714 Burnt River 1 39,000 0.005% 0 0.000% 0 0 0.000% 391,714 Burnt River 12 289,000 0.028% 572 0.000% 0 0 0.000% 1,047,283 Sukunka River Total (includes Burnt) 13 328	Graham River	1	2,400	0.000%	0	0.000%	0					860,627,172	
HALFWAY TOTAL 53 2,060,691 0.087% 123,928 0.005% 28 6,482,607 0.275% 1,100,577 0.047% 2,358,823 MOBERLY RIVER (sub-basin of Peace River) 0 0 0.000% 1,101 0.000% 0 391,714 MOBERLY TOTAL 0 0 0.000% 1,101 0.000% 0 0 0.000% 391,714 MOBERLY TOTAL 0 0 0.000% 1,101 0.000% 0 0 0.000% 391,714 PINE RIVER (sub-basin of Peace River) 1 39,000 0.005% 0 0.000% 0 0 0.000% 391,714 PINE RIVER (sub-basin of Peace River) 1 39,000 0.005% 0 0.000% 0 0 0.000% 391,714 Burnt River 12 289,000 0.028% 572 0.000% 0 0 0.000% 1,047,283 Sukunka River Total (includes Burnt) 13 328,000 0.01% 0 0 0 0.000% <td>Cameron River</td> <td>44</td> <td>1,215,696</td> <td>0.543%</td> <td>116,346</td> <td>0.052%</td> <td>18</td> <td>961,919</td> <td>0.430%</td> <td>72,589</td> <td>0.032%</td> <td>223,679,567</td>	Cameron River	44	1,215,696	0.543%	116,346	0.052%	18	961,919	0.430%	72,589	0.032%	223,679,567	
MOBERLY RIVER (sub-basin of Peace River) U	Lower Halfway River	8	842,595	0.556%	7,582	0.005%	9	5,448,688	3.596%	1,027,988	0.678%	151,526,991	
Moberly River 0 0 0.000% 1,101 0.000% 0 0 391,714 MOBERLY TOTAL 0 0 0 0.000% 1,101 0.000% 0 0.000% 0 0.000% 391,714 PINE RIVER (sub-basin of Peace River) U <thu< th=""> U U</thu<>	HALFWAY TOTAL	53	2,060,691	0.087%	123,928	0.005%	28	6,482,607	0.275%	1,100,577	0.047%	2,358,823,666	
MOBERLY TOTAL 0 0 0.000% 1,101 0.000% 0 0.000% 0 0.000% 391,714 PINE RIVER (sub-basin of Peace River)	MOBERLY RIVER (sub-basin of Peace River)												
PINE RIVER (sub-basin of Peace River) I 39,000 0.005% 0 0.000% 0 737,930 Burnt River 12 289,000 0.028% 572 0.000% 0 1,047,281 1,047,281 1,047,281 1,047,281 1,047,281 1,046,884 1,1466,884	Moberly River	0	0	0.000%	1,101	0.000%	0					391,714,995	
Burnt River 1 39,000 0.005% 0 0.000% 0 0 737,930 737,930 Sukunka River 12 289,000 0.028% 572 0.000% 0 0 0.000% 0 0.000% 0 1,047,283 Sukunka River Total (includes Burnt) 13 328,000 0.018% 572 0.000% 0 0 0.000% 0 0.000% 1,785,212 Upper Pine River 1 18,000 0.001% 0 0 0 0 0.000% 0 0.000% 1,466,884 Murray River 9 223,850 0.008% 6,146 0.000% 1 5,475 0.000% 779 0.000% 2,698,285 Lower Pine River 26 544,510 0.396% 89,135 0.065% 1 650,000 0.472% 101,813 0.074% 137,613	MOBERLY TOTAL	0	0	0.000%	1,101	0.000%	0	0	0.000%	0	0.000%	391,714,995	
Sukunka River 12 289,000 0.028% 572 0.000% 0 1,047,28 1,047,28 Sukunka River Total (includes Burnt) 13 328,000 0.018% 572 0.000% 0 0 0.000% 0 0.000% 1,047,28 Upper Pine River 1 18,000 0.001% 0 0 0 0 0.000% 0 0.000% 1,466,88 Murray River 9 223,850 0.008% 6,146 0.000% 1 5,475 0.000% 779 0.000% 2,698,285 Lower Pine River 26 544,510 0.396% 89,135 0.065% 1 650,000 0.472% 101,813 0.074% 137,613	PINE RIVER (sub-basin of Peace River)												
Sukunka River 12 289,000 0.028% 572 0.000% 0 0 0.000% 0 0.000% 1,047,28 Sukunka River Total (includes Burnt) 13 328,000 0.018% 572 0.000% 0 0.000% 0 0.000% 1,785,212 Upper Pine River 1 18,000 0.001% 0 0 0 0.000% 0 0.000% 1,466,88 Murray River 9 223,850 0.008% 6,146 0.000% 1 5,475 0.000% 779 0.000% 2,698,285 Lower Pine River 26 544,510 0.396% 89,135 0.065% 1 650,000 0.472% 101,813 0.074% 137,615	Burnt River	1	39,000	0.005%	0	0.000%	0					737,930,022	
Upper Pine River 1 18,000 0.001% 0 0 1,466,884 Murray River 9 223,850 0.008% 6,146 0.000% 1 5,475 0.000% 779 0.000% 2,698,285 Lower Pine River 26 544,510 0.396% 89,135 0.065% 1 650,000 0.472% 101,813 0.074% 137,619	Sukunka River	12	289,000	0.028%	572	0.000%	0					1,047,282,572	
Murray River 9 223,850 0.008% 6,146 0.000% 1 5,475 0.000% 779 0.000% 2,698,285 Lower Pine River 26 544,510 0.396% 89,135 0.065% 1 650,000 0.472% 101,813 0.074% 137,615	Sukunka River Total (includes Burnt)	13	328,000	0.018%	572	0.000%	0	0	0.000%	0	0.000%	1,785,212,594	
Lower Pine River 26 544,510 0.396% 89,135 0.065% 1 650,000 0.472% 101,813 0.074% 137,619	Upper Pine River	1	18,000	0.001%	0		0					1,466,884,035	
	Murray River	9	223,850	0.008%	6,146	0.000%	1	5,475	0.000%	779	0.000%	2,698,285,017	
PINE TOTAL 49 1 114 360 0 018% 95 853 0 002% 2 655 475 0 011% 102 502 0 002% 6 089 001	Lower Pine River	26	544,510	0.396%	89,135	0.065%	1	650,000	0.472%	101,813	0.074%	137,619,889	
	PINE TOTAL	49	1,114,360	0.018%	95,853	0.002%	2	655,475	0.011%	102,592	0.002%	6,088,001,535	

SUMMARY OF WATER ALLOCATION AND USE FOR OIL AND	OIL AND GAS RELATED SHORT-TERM WATER USE APPROVALS - SECTION 10						OIL AND GAS RELATED WATER LICENCES - SECTION 9						
GAS ACTIVITIES IN 2020, ORGANIZED BY OGC WATER MANAGEMENT BASIN (Page 2 of 4) MAJOR and Sub-Basin Name	NUMBER OF APPROVED WITHDRAWAL LOCATIONS	TOTAL VOLUME APPROVED (m ³)	TOTAL VOLUME APPROVED as % of MEAN ANNUAL RUNOFF	TOTAL VOLUME WITHDRAWN IN 2020 (m ³)	TOTAL VOLUME WITHDRAWN AS % OF MEAN ANNUAL RUNOFF	NUMBER (LICENCE WITHDRAW LOCATION	D VOLUME /AL LICENCED	TOTAL VOLUME LICENCED as % of MEAN ANNUAL RUNOFF	TOTAL VOLUME WITHDRAWN IN 2020 (m ³)	TOTAL VOLUM WITHDRAWN as % of MEAI ANNUAL RUNOFF	MEAN		
KISKATINAW RIVER (sub-basin of Peace River)	LOCATIONS			111 2020 (111)		LOCATION	JJ (III)		111 2020 (111)	nonorr	(111)		
West Kiskatinaw River	0					0					117,515,115		
East Kiskatinaw River	0					0					105,452,962		
Middle Kiskatinaw River	9	147,846	0.262%	2,533	0.004%	1	600,000	1.065%	0	0.000%	56,347,972		
Middle Kiskatinaw Total (incl. West & East)	9 9	147,846	0.20270	2,555 2,533	0.004%	1	600,000	0.215%	0	0.000%	279,316,049		
Lower Kiskatinaw River	38	1,344,569	1.500%	13,411	0.015%	9	2,948,317	3.288%	811,499	0.905%	89,659,847		
KISKATINAW TOTAL	47	1,492,415	0.404%	15,944	0.004%	10	3,548,317	0.962%	811,499	0.220%	368,975,896		
PEACE RIVER	1	1,472,413	0.40470	13,744	0.004/0	10	5,540,517	0.702/0	011,477	0.220/0	500,775,070		
Peace Arm	0					3	9,125,000	N/A	36,154	N/A	N/A		
Upper Peace River	3	762,000	0.002%	0	0.000%	0	,125,000	14/74	50,154	11771	36,423,413,429		
Lynx Creek	1	4,000	0.013%	0	0.000%	0					30,436,635		
Farrell Creek	6	324,412	0.356%	65,097	0.072%	0					91,018,843		
Cache Creek	8	106,120	0.142%	544	0.001%	5	577,230	0.774%	108,268	0.145%	74,603,546		
Pouce Coupe River	24	850,864	0.333%	48,482	0.019%	4	1,650,200	0.645%	66,131	0.026%	255,686,202		
Lower Peace River	17	813,516	0.711%	48,724	0.043%	8	4,204,919	3.673%	716,122	0.626%	114,470,012		
PEACE TOTAL (incl. Kisk/Pine/Moberly/Half/Beatton)	337	9,527,678	0.020%	536,371	0.001%	90	29,226,162		3,064,402	0.006%	47,891,853,572		
SMOKY RIVER	557	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							<i>,</i>		,0,0.0,0.12		
Smoky River	3	9,000	0.000%	0	0.000%	2	6,595	0.000%	5,212	0.000%	2,669,506,123		
SMOKY TOTAL	3	9,000	0.000%	0	0.000%	2	6,595	0.000%	5,212	0.000%	2,669,506,123		
MUSKWA RIVER (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	0	-		-		0	-		-		646,841,560		
MUSKWA TOTAL	0	0	0.000%	0	0.000%	0	0	0.000%	0	0.000%	4,345,754,887		
PROPHET RIVER (sub-basin of Fort Nelson River)	-					-			-		,,		
Upper Prophet River	2	1,500	0.000%	176	0.000%	1	36,593	0.002%	0	0.000%	1,470,271,289		
Middle Prophet River	6	31,200	0.005%	242	0.000%	0			-		621,428,680		
Middle Prophet Total (incl. Upper Prophet)	8	32,700	0.002%	418	0.000%	1	36,593	0.002%	0	0.000%	2,091,699,969		
Lower Prophet River	1	3,900	0.001%	0	0.000%	0					272,262,427		
PROPHET TOTAL	9	36,600	0.002%	418	0.000%	1	36,593	0.002%	0	0.000%	2,363,962,396		

MANAGEMENT BASIN (Page 3 of 4) NUMBER 0F APPORTOR TOTAL YOULNE APPORTOR WITTIND RAWN APPORTOR WITTIND RAWN APPORTOR WITTIND RAWN APPORTOR WITTIND RAWN APPORTOR WITTIND RAWN APPORTOR UCENETO as ANNUAL TOTAL YOULNE APPORTOR WITTIND RAWN ANNUAL SILCATION Cass of astal Annual	SUMMARY OF WATER ALLOCATION AND USE FOR OIL AND	OIL AND GAS RELATED SHORT-TERM WATER USE APPROVALS - SECTION 10						OIL AND GAS RELATED WATER LICENCES - SECTION 9						
SIKANNI CHIEF RIVER (sub-basin of fort Nelson River) u <thu< th=""> u u <</thu<>		APPROVED	TOTAL VOLUME	APPROVED as %	VOLUME	WITHDRAWN AS % OF MEAN	LICENCE	D VOLUME	LICENCED as % of MEAN	VOLUME	WITHDRAWN as % of MEAN	MEAN ANNUAL		
Upper Sikani Chief River 4 50,00 0.005% 5,000% 3,117,680 0.386% 442,061 0.055% 807,771,902 Middle Sikani Chief Total (ind. Upper Sikani) 29 337,473 0.036% 6,500 0.000% 7 3,146,892 0.035% 300 0.000% 1,757,527,462 Lower Sikani Chief Total 74 199,460 0.022% 6,00 7 3,146,892 0.120% 442,361 0.037% 42,363 0.037% 73,757,574 SikAni Chief Total 74 199,460 0.022% 2,022 0.001% 7 3,146,892 0.120% 442,361 0.01% 2,633,205,528 FORT NELSON RIVER	Sub-Basin Name	LOCATIONS	APPROVED (m ³)	ANNUAL RUNOFF	IN 2020 (m ³)	RUNOFF	LOCATION	IS (m ³)	RUNOFF	IN 2020 (m ³)	RUNOFF	(m ³)		
Middle Sikanni Chief River 25 337,473 0.036% 6,500 0.001% 7 3,146,922 0.003% 300 0.000% 949,755,794 Middle Sikanni Chief Total (ind. Upper Sikanni) 29 387,473 0.022% 6,500 0.000% 7 3,146,922 0.177% 442,361 0.02% 1,727,527,466 Cover Sikanni Chief Total 53 586,953 0.022% 22,622 0.001% 7 3,146,892 0.120% 442,361 0.01% 2,633,205,628 Font NELSON RIVER 4 27,200 0.005% 3,915 0.001% 2 10,950 0.001% 3,544 0.005% 591,31,903 Fonta Total (includes Kahntah) 35 205,48 0.021% 6,915 0.001% 2 10,950 0.001% 3,544 0.000% 591,31,903 Upper Fort Keison River 0 727,401 0.018% 292,537 0.001% 9 3,157,842 0.073% 445,905 0.010% 42,313,363,690 Upper Fort Keison River 9 3	SIKANNI CHIEF RIVER (sub-basin of Fort Nelson River)													
Middle Sikanni Chief Total (incl. Upper Sikanni) 29 387,473 0.022% 6,500 0.000% 7 3,146,892 0.179% 442,361 0.025% 17,57,27,466 Lower Sikanni Chief 52 198,400 0.023% 10,122 0.001% 7 3,146,892 0.129% 442,361 0.025% 75,672,486 SikANN KIEF TOTAL 55 56,673 0.001% 3,146,892 0.129% 442,361 0.025% 7,652,72,486 FORT NELSON RIVER 4 27,200 0.005% 3,915 0.001% 2 10,950 0.003% 3,544 0.001% 400,153,483 Fontas Niver 4 27,200 0.015% 6,915 0.001% 2 10,950 0.01% 3,544 0.001% 402,135,483 Upper fort Nelson River 0 0 0.018% 29,537 0.001% 9 3,157,842 0.073% 445,905 0.01% 430,305,690 Middle Fort Nelson River 0 0 0.009% 5,121 0.001% 0 <t< td=""><td>Upper Sikanni Chief River</td><td>4</td><td>50,000</td><td>0.006%</td><td>0</td><td>0.000%</td><td>3</td><td>3,117,689</td><td>0.386%</td><td>442,061</td><td>0.055%</td><td>807,771,692</td></t<>	Upper Sikanni Chief River	4	50,000	0.006%	0	0.000%	3	3,117,689	0.386%	442,061	0.055%	807,771,692		
lower Skanni Chief 24 199,480 0.023% 16,122 0.002% 0 Skanni Chief ToTAL 53 58,6953 0.022% 22,622 0.001% 7 3,146,592 0.12% 442,361 0.017% 2,633,205,628 Kahntala River 31 178,248 0.044% 3,000 0.001% 2 10,950 0.003% 3,544 0.001% 400,582,093 Fontas Total (includes Kahntah) 4 27,200 0.005% 3,915 0.001% 0 0 0 91,31,903 91,31,51,610 91,31,903 91,31,	Middle Sikanni Chief River	25	337,473	0.036%	6,500	0.001%	4	29,203	0.003%	300	0.000%	949,755,794		
SikANNI CHIEF TOTAL 53 586,953 0.022% 22,622 0.01% 7 3,146,892 0.12% 442,361 0.01% 2,633,205,628 FORT NELSON RIVER 31 178,248 0.044% 3,000 0.001% 2 10,950 0.03% 3,544 0.01% 993,151,903 Fontas River 4 27,200 0.005% 3,915 0.001% 2 10,950 0.003% 3,544 0.001% 993,151,903 Fontas Total (includes Kahntah) 35 205,448 0.021% 6,915 0.001% 2 10,950 0.001% 3,544 0.001% 442,361 0.01% 442,361 0.01% 993,151,903 Juper Fort Nelson River 4 27,200 0.005% 3,915 0.001% 2 10,950 0.001% 442,961 0 442,961 0 442,961 0 442,961 0 442,961 0 442,961 0 442,961,352 0.01% 443,961,552 0.01% 443,961,552 310,763,522 310,763,522 <td>Middle Sikanni Chief Total (incl. Upper Sikanni)</td> <td>29</td> <td>387,473</td> <td>0.022%</td> <td>6,500</td> <td>0.000%</td> <td>7</td> <td>3,146,892</td> <td>0.179%</td> <td>442,361</td> <td>0.025%</td> <td>1,757,527,486</td>	Middle Sikanni Chief Total (incl. Upper Sikanni)	29	387,473	0.022%	6,500	0.000%	7	3,146,892	0.179%	442,361	0.025%	1,757,527,486		
FORT NELSON RIVER 1 78.2 8 0.044% 3,000 0.001% 2 10.950 0.003% 3,544 0.001% 400,582,903 Fontas River 4 27.200 0.005% 3,915 0.001% 2 10,950 0.001% 3,544 0.000% 992,114,806 Klua Creek 0 0 0 0 0 400,582,903 Upper Fort Nelson River 0 0 0 0 0 402,133,448 Maktar Srek 0 0 0 0 0 445,905 0.010% Shake River 0 0 0 0 0 3,157,842 0.073% 445,905 0.001% Shake River 0 0 0 0.000% 0 0 3,197,63,522 310,763,522 310,763,522 310,763,522 310,763,522 310,763,522 310,763,522 310,763,522 310,763,522 310,763,522 310,763,522 310,763,522 310,763,522 310,763,522 310,763,522 <t< td=""><td>Lower Sikanni Chief</td><td>24</td><td>199,480</td><td>0.023%</td><td>16,122</td><td>0.002%</td><td>0</td><td></td><td></td><td></td><td></td><td>875,678,142</td></t<>	Lower Sikanni Chief	24	199,480	0.023%	16,122	0.002%	0					875,678,142		
Kahntah River 31 178,248 0.044% 3,000 0.001% 2 10,950 0.003% 3,544 0.001% 400,582,903 Fonta S River 4 27,200 0.005% 3,915 0.001% 2 10,950 0.001% 3,544 0.001% 400,582,903 Fonta S Total (includes Kahntah) 35 205,448 0.021% 6,915 0.001% 2 10,950 0.001% 3,544 0.001% 400,582,903 Upper Fort Nelson Total (incl. Sikanni Chief Total, Klua) 792,401 0.018% 29,537 0.001% 0.01% 3,157,842 0.001% 3,544 0.000% 400,735,448 Upper Fort Nelson Total (incl. Sikanni Chief Total, Klua) 792,401 0.018% 29,537 0.001% 0	SIKANNI CHIEF TOTAL	53	586,953	0.022%	22,622	0.001%	7	3,146,892	0.120%	442,361	0.017%	2,633,205,628		
Fontas River 4 27,200 0.005% 3,915 0.001% 0	FORT NELSON RIVER													
Fontas Total (includes Kahntah) 35 205,448 0.021% 6,915 0.001% 2 10,950 0.001% 3,544 0.000% 992,114,806 Upper Fort Nelson Niver 0<	Kahntah River	31	178,248	0.044%	3,000	0.001%	2	10,950	0.003%	3,544	0.001%	400,582,903		
Klua Creek 0 402,135,448 Upper Fort Nelson Total (incl. Sikanni Chief Total, Klua) 0 0 0 276,181,026 276,181,026 276,181,026 276,181,026 276,181,026 276,181,026 276,181,026 276,181,026 276,181,026 276,181,026 4,303,636,908 4,303,636,908 4,303,636,908 4,303,636,908 4,303,636,908 4,303,636,908 4,74,904,729 310,763,522 310,763,522 310,763,522 310,763,522 310,763,522 310,763,522 310,763,522 474,904,729 310,763,522 <td>Fontas River</td> <td>4</td> <td>27,200</td> <td>0.005%</td> <td>3,915</td> <td>0.001%</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td>591,531,903</td>	Fontas River	4	27,200	0.005%	3,915	0.001%	0					591,531,903		
Upper Fort Nelson River 0 276,181,026 276,181,016,036	Fontas Total (includes Kahntah)	35	205,448	0.021%	6,915	0.001%	2	10,950	0.001%	3,544	0.000%	992,114,806		
Upper Fort Nelson Total (incl. Sikanni Chief Total, Kahntah, Fontas, Klua) 88 792,401 0.018% 29,537 0.001% 9 3,157,842 0.073% 445,905 0.010% 4,303,636,908 Snake River 0	Klua Creek	0					0					402,135,448		
Kahntah, Fontas, Klua) V	Upper Fort Nelson River	0					0					276,181,026		
Snake River 0 310,763,522 Sahtaneh River 9 35,700 0.008% 1,324 0.000% 0 474,904,729 Middle Fot Nelson River 8 45,230 0.009% 51,11 0.001% 0 515,348,901 Middle Fot Nelson River 8 45,230 0.009% 51,21 0.000% 0 0 0.026% 445,905 0.004% 151,348,901 Miskwa Total, Prophet Total, Snake, Sahtaneh) 7 <th7< th=""> 7 <th7< th=""></th7<></th7<>		, 88	792,401	0.018%	29,537	0.001%	9	3,157,842	0.073%	445,905	0.010%	4,303,636,908		
Sahtaneh River 9 35,700 0.008% 1,324 0.000% 0		0					0					310.763.522		
Middle Fort Nelson River 8 45,230 0.009% 5,121 0.001% 0 515,348,901 515,348,901 12,314,371,343 515,348,901 12,314,371,343 1			35,700	0.008%	1,324	0.000%	0							
Middle Ft Nelson Total (incl. Upper Ft. Nelson total, Snake, Sahtaneh) 114 909,931 0.007% 36,400 0.000% 10 3,194,435 0.026% 445,905 0.004% 12,314,371,343 Kiwigana River 21 179,400 0.041% 1,436 0.000% 0 0 441,657,543 Lower Fort Nelson River 0 0 0.000% 896 0.000% 0 0 312,768,938 FORT NELSON TOTAL 135 1,089,331 0.008% 38,732 0.000% 10 3,194,435 0.024% 445,905 0.003% 13,068,797,824 LIARD RIVER	Middle Fort Nelson River	8			-									
Muskwa Total, Prophet Total, Snake, Sahtaneh) Verton	Middle Ft Nelson Total (incl. Upper Ft. Nelson total,	114	,		-		10	3,194,435	0.026%	445,905	0.004%			
Kiwigana River 21 179,400 0.041% 1,436 0.000% 0 441,657,543 Lower Fort Nelson River 0 0 0 0 0 312,768,938 FORT NELSON TOTAL 135 1,089,331 0.008% 38,732 0.000% 10 3,194,435 0.024% 445,905 0.003 13,068,797,824 LIARD RIVER								, ,		,				
Lower Fort Nelson River 0 0 0.000% 896 0.000% 0 312,768,938 312,768,938 FORT NELSON TOTAL 135 1,089,331 0.008% 38,732 0.000% 10 3,194,435 0.024% 445,905 0.003% 13,068,797,824 LIARD RIVER 0 0 0 0 0 0.024% 445,905 0.003% 13,068,797,824 Muncho River 0 551,551,360 0 33,125,817,465 0 33,125,817,465 Upper Liard Total (incl. Muncho) 0 0 0.000% 0 0.000% 0 0.000% 33,677,368,825 Grayling River 0	• • • • •	21	179,400	0.041%	1,436	0.000%	0					441,657,543		
FORT NELSON TOTAL 135 1,089,331 0.008% 38,732 0.000% 10 3,194,435 0.024% 445,905 0.003% 13,068,797,824 LIARD RIVER 0 0 0 0 0 551,551,360 33,125,817,465 33,125,817,465 33,125,817,465 33,125,817,465 33,125,817,465 33,125,817,465 33,125,817,465 33,125,817,465 33,125,817,368,825 630,833,914 0 0 0 0.000% 0 0.000% 0 0.000% 0 0.000% 33,677,368,825 630,833,914 1,521,055,576 630,833,914 1,521,055,576 630,833,914 1,521,055,576 630,833,914 1,521,055,576 630,833,914 1,521,055,576 630,833,914 1,521,055,576 630,833,914 1,521,055,576 1,488,336,681 1,49,472,722 88aver River 0 419,472,722 10,862,659,426 419,472,722 10,862,659,426 463,652,312 Middle Liard River 0 463,652,312 463,652,312	5	0	-											
LIARD RIVER 0 0 0 0 551,551,360 33,125,817,465 33,125,817,465 33,125,817,465 33,125,817,465 33,125,817,465 33,125,817,465 33,125,817,465 33,125,817,465 33,125,817,465 33,125,817,465 33,125,817,465 33,125,817,465 33,125,817,465 33,677,368,825 66,833,914 91,823,83,914 91,833,914 91,823,83,914 91,823,83,914 91,823,83,914 91,833,83,914 91,833,83,914 91,833,83,914 91,833,83,914 91,833,83,914 91,833,83,914 91,833,83,914 91,833,83,914 91,833,83,914 91,833,83,914 91,833,83,914 91,833,83,914 91,833,83,914 91,833,91,83,914 91,833,91,83,914 91,833,91,83,914 91,833,91,83,914 91,833,91,83,914 91,833,91,83,914 91,833,91,83,914 91,833,91,83,914 91,833,914,914,91,21,21,91,91,91,91,91,91,91,91,91,91,91,91,91		135	1,089,331					3,194,435	0.024%	445,905	0.003%			
Upper Liard River 0 33,125,817,465 Upper Liard Total (incl. Muncho) 0 0 0.000% 0 0.000% 33,677,368,825 33,677,368,825 33,677,368,825 33,677,368,825 33,677,368,825 33,677,368,825 630,833,914 90 90 90,900 90,900 90,900 90,900 93,677,368,825 630,833,914 90,900 9	LIARD RIVER				,			, ,		,				
Upper Liard Total (incl. Muncho) O O O.000% O O.00% O O.000% O O	Muncho River	0					0					551,551,360		
Grayling River0630,833,914Upper Toad River001,521,055,576Racing River001,488,336,681Lower Toad River00419,472,722Beaver River0010,862,659,426Middle Liard River00463,652,312	Upper Liard River	0					0					33,125,817,465		
Upper Toad River01,521,055,576Racing River001,488,336,681Lower Toad River00419,472,722Beaver River0010,862,659,426Middle Liard River00463,652,312	Upper Liard Total (incl. Muncho)	0	0	0.000%	0	0.000%	0	0	0.000%	0	0.000%	33,677,368,825		
Racing River01,488,336,681Lower Toad River0419,472,722Beaver River0010,862,659,426Middle Liard River00463,652,312	Grayling River	0					0					630,833,914		
Lower Toad River0419,472,722Beaver River0010,862,659,426Middle Liard River00463,652,312	Upper Toad River	0					0					1,521,055,576		
Beaver River 0 10,862,659,426 Middle Liard River 0 463,652,312		0					0							
Middle Liard River 0 0 463,652,312		0					0							
		0					0							
	Middle Liard River	0					0					463,652,312		

SUMMARY OF WATER ALLOCATION AND USE FOR OIL AND GAS ACTIVITIES IN 2020, ORGANIZED BY OGC WATER	OIL AND GAS RELATED SHORT-TERM WATER USE APPROVALS - SECTION 10						OIL AND GAS RELATED WATER LICENCES - SECTION 9					
MAJOR and	NUMBER OF APPROVED	TOTAL VOLUME	TOTAL VOLUME APPROVED as %	TOTAL VOLUME	TOTAL VOLUME WITHDRAWN AS % OF MEAN	NUMBER O Licenced	VOLUME	TOTAL VOLUME LICENCED as % of MEAN ANNUAL	TOTAL VOLUME	TOTAL VOLUME WITHDRAWN as % of MEAN	MEAN ANNUAL	
Sub-Basin Name	WITHDRAWAL LOCATIONS	APPROVED (m ³)	of MEAN ANNUAL RUNOFF	WITHDRAWN IN 2020 (m³)	ANNUAL RUNOFF	WITHDRAW LOCATION		RUNOFF	WITHDRAWN IN 2020 (m³)	ANNUAL RUNOFF	RUNOFF (m³)	
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	
Upper Toad, Racing, Lower Toad, Beaver)												
Capot-Blanc Creek	0	0	0.000%	280	0.000%	0					183,879,851	
Dunedin River	0					0					820,464,167	
Lower Liard River	4	52,000	0.004%	11,975	0.001%	0					1,236,634,664	
LIARD TOTAL (incl. Fort Nelson)	139	1,141,331	0.002%	50,987	0.000%	10	3,194,435	0.005%	445,905	0.001%	64,373,155,962	
PETITOT RIVER												
Sahdoanah River	25	75,200	0.030%	3,090	0.001%	0					252,625,362	
Upper Petitot River	35	53,200	0.004%	0	0.000%	0					1,476,579,488	
Tsea River	27	178,234	0.041%	549	0.000%	0					434,062,484	
Middle Petitot River	20	76,700	0.011%	0	0.000%	0					698,562,753	
Middle Petitot Total (incl. Sahdoanah,	107	383,334	0.013%	3,639	0.000%	0	0	0.000%	0	0.000%	2,861,830,087	
Upper Petitot, Tsea)												
Lower Petitot River	30	428,400	0.047%	7,848	0.001%	0					904,314,069	
PETITOT TOTAL	137	811,734	0.022%	11,487	0.000%	0	0	0.000%	0	0.000%	3,766,144,156	
HAY RIVER												
Upper Kotcho River	0					0					311,519,217	
Kyklo River	2	26,720	0.018%	3,523	0.002%	0					145,897,691	
Shekilie River	35	332,100	0.074%	120	0.000%	0					450,747,494	
Lower Kotcho River	3	14,400	0.005%	2,221	0.001%	0					311,519,217	
Lower Kotcho Total (includes Upper Kotcho,	40	373,220	0.031%	5,864	0.000%	0	0	0.000%	0	0.000%	1,219,683,619	
Kyklo, Shekilie)												
Hay River	28	212,300	0.039%	9,444	0.002%	0					538,672,352	
HAY TOTAL	68	585,520	0.033%	15,308	0.001%	0	0	0.000%	0	0.000%	1,758,355,971	
CHINCHAGA RIVER												
Chinchaga River	41	279,100	0.255%	773	0.001%	0					109,492,680	
CHINCHAGA TOTAL	41	279,100	0.255%	773	0.001%	0	0	0.000%	0	0.000%	109,492,680	
OTHER (outside Northeast B.C.)	236	7,007,507	N/A	97,382	N/A	1	243	N/A	15,904	N/A	N/A	
GRAND TOTAL	961	19,361,870	0.016%	712,308	0.001%	103	32,427,435	0.027%	3,531,423	0.003%	120,568,508,464	



Previous annual water reports and quarterly updates are available on the Commission's website at: <u>https://www.bcogc.ca/data-reports</u>.

For specific questions or enquiries regarding this data, please contact: <u>OGC.Communications@bcogc.ca</u>