

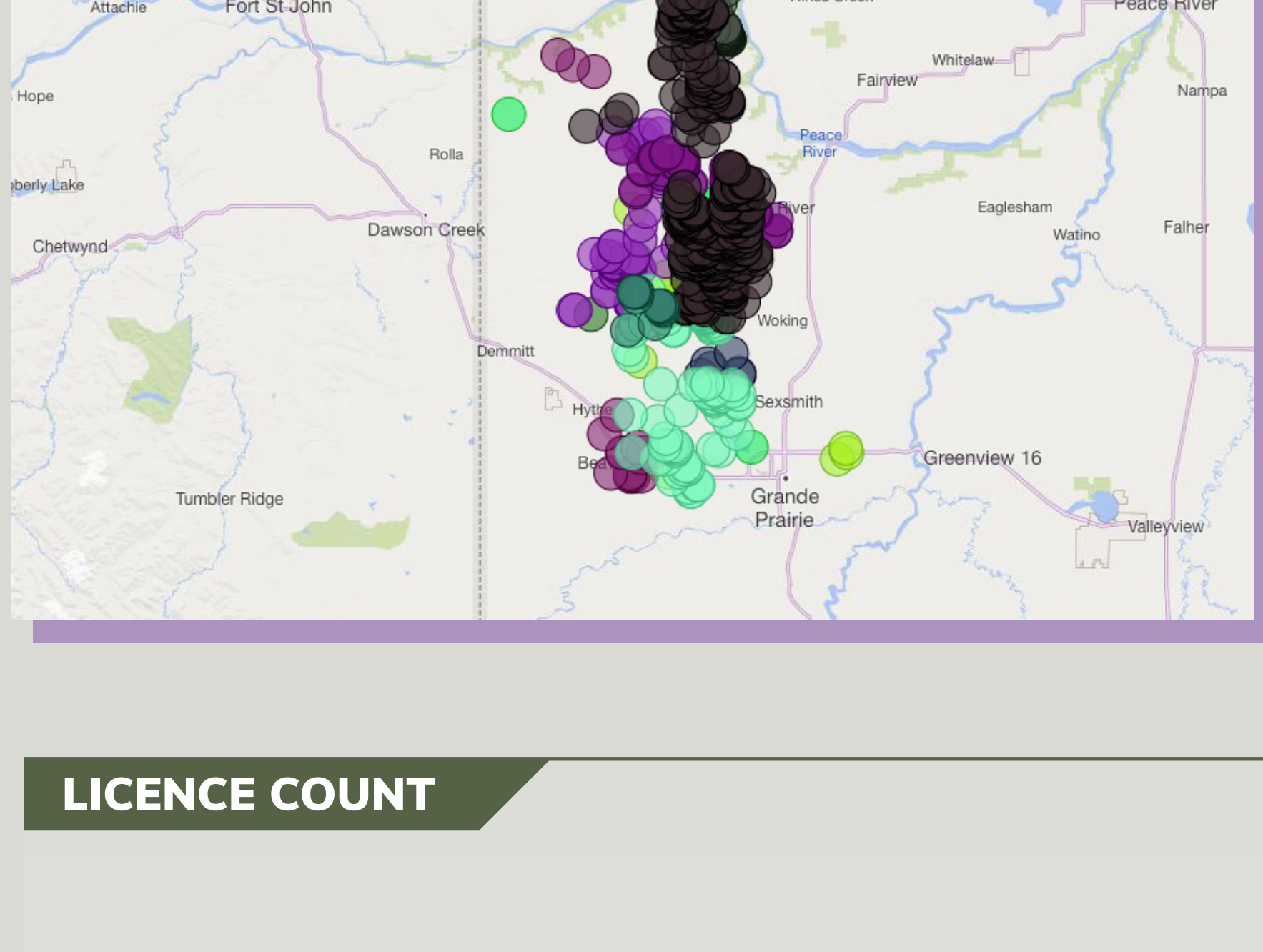
Charlie Lake Rising

The Charlie Lake tight oil play in northwestern Alberta has seen a rapid increase in production since Tourmaline Oil Corp. began drilling it in 2012. Production exited July at 56,500 boe/d including over 30,500 bbls/d of light oil. Technology is driving productivity at Charlie Lake as operators drill longer laterals and increase stage counts resulting in higher initial production.

Daily Oil Bulletin

Data provided by: Evaluate Energy, gDCdashboards, DIOB Docs, geoEXPLORER

Activity picking up

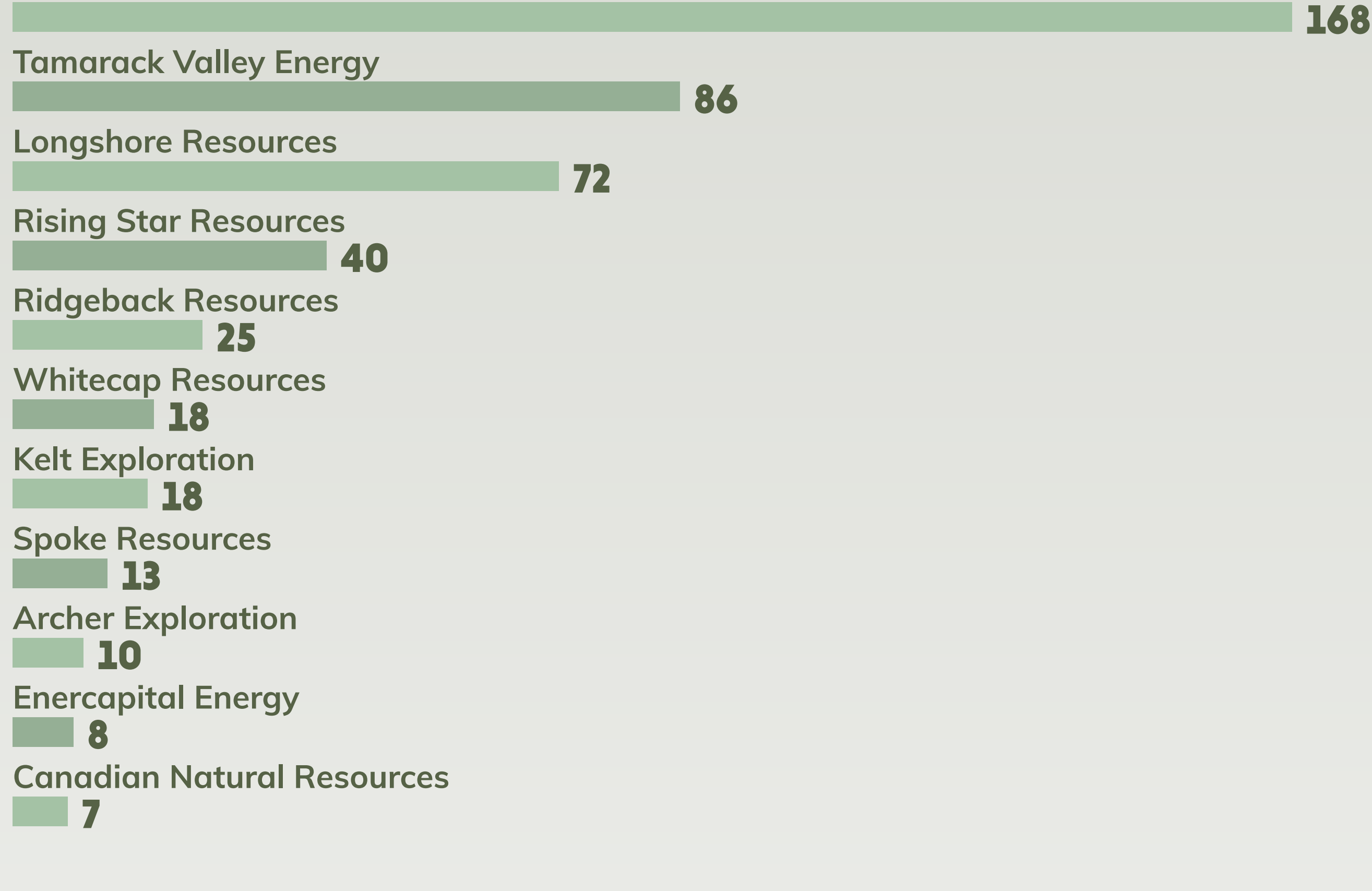


After declining in 2019 and 2020, licence counts at Charlie Lake doubled to reach **111** in 2021. Nine months into 2022, licensing activity continues to be strong as operators chase high oil prices. Well counts have followed a similar trajectory to licences, with **92** Charlie Lake light oil wells drilled in 2021, and **84** drilled in the first nine months of 2022.

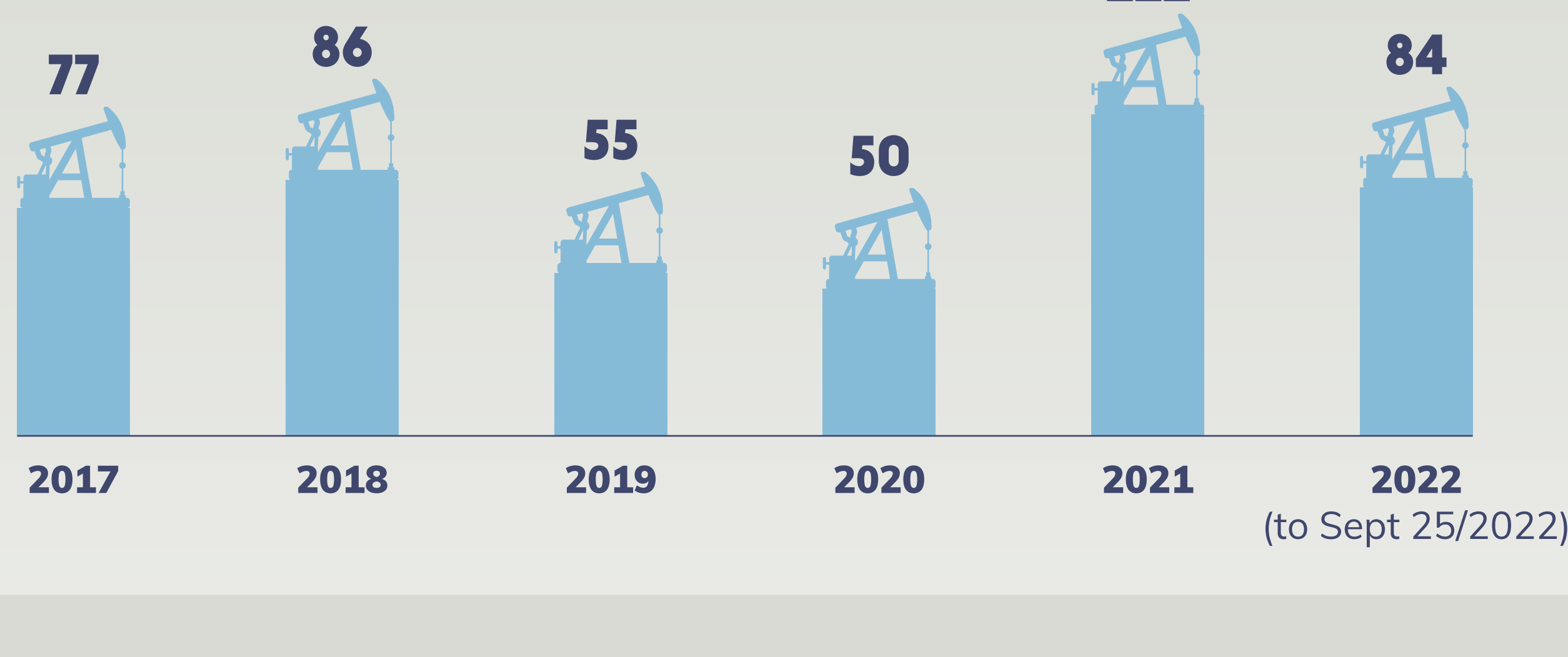
LICENCE COUNT



TOP 10 LICENSEES (2017-SEPTEMBER 25/2022)



WELLS DRILLED



TOP 10 DRILLERS (2017-SEPTEMBER 25/2022)



Rapid rise in production

Oil production has more than doubled in the last five years, exiting July at **30,253 bbls/d**. Natural gas production has almost tripled to reach over **158,000 mcf/d**. Tourmaline Oil, Tamarack Valley Energy and Longshore Resources dominate production, accounting for **70%** of oil production and **two-thirds** of natural gas production.

PRODUCTION



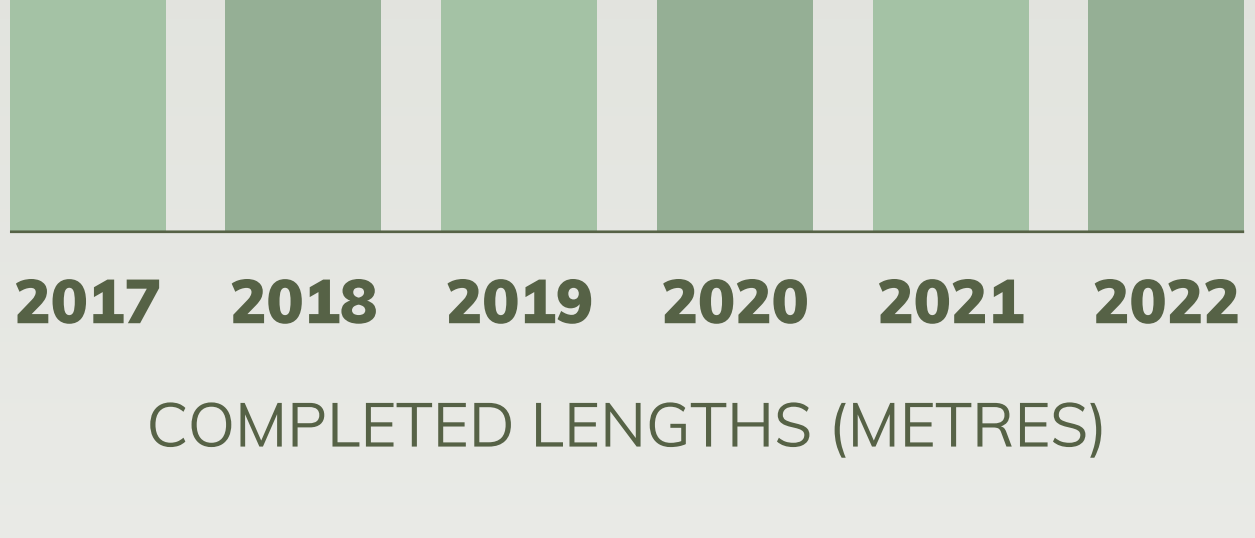
TOP 10 PRODUCERS (JULY 31/2022)

Rank	Company	Oil (bbl/d)	Gas (mcf/d)	Boe/d
1	Tourmaline Oil	8,307	53,873	17,285
2	Tamarack Valley Energy	7,421	24,621	11,524
3	Longshore Resources	4,802	26,691	9,250
4	Rising Star Resources	1,900	16,002	4,567
5	Canadian Natural Resources	570	8,388	1,968
6	Ridgeback Resources	1,365	4,997	2,198
7	Kelt Exploration	774	4,769	1,569
8	Whitecap Resources	2,638	4,471	3,384
9	Archer Resources	664	4,632	1,416
10	Enercapital Energy	1,391	6,337	2,447

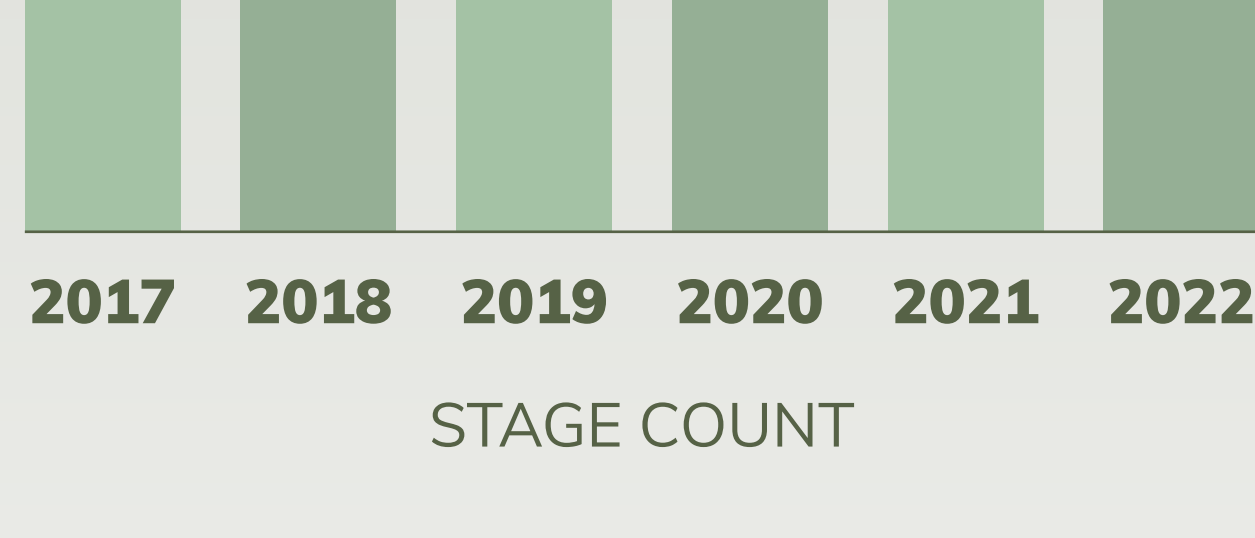
Technology driven productivity shift

Charlie Lake operators have continually increased completed lengths and the number of fracturing stages over the last five years, resulting in vastly improved well productivity. Tourmaline has seen its IP90 performance for wells drilled prior to 2018 and wells drilled after 2018 increase by **85%**. Tamarack Valley has seen a **154%** increase in productivity. While IP90 production totals vary by operator production strategies, the trend across the board is increasing production.

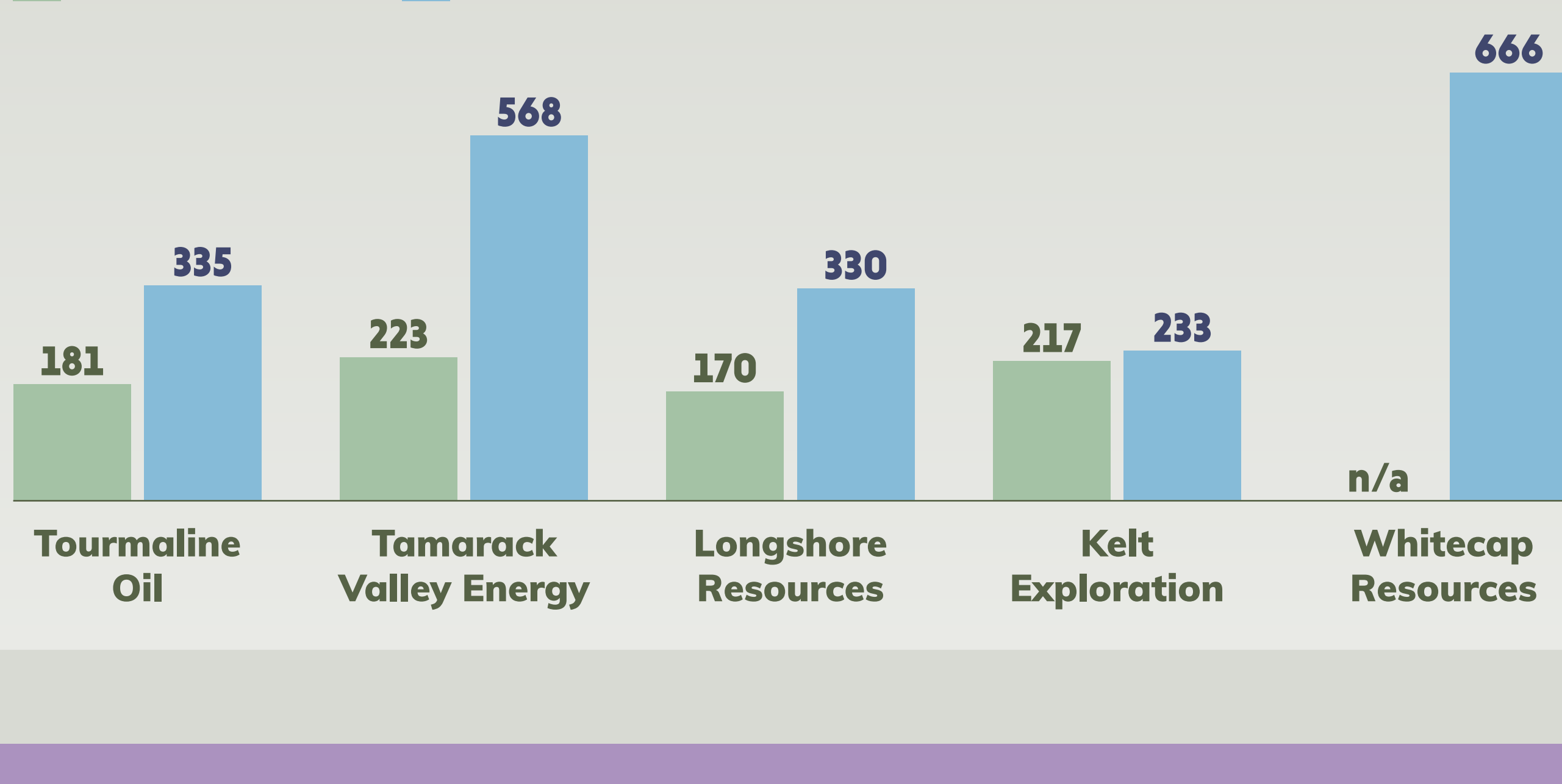
COMPLETIONS (MEDIAN)



STAGE COUNT (MEDIAN)



AVERAGE IP90S (bbls/d)



Consolidation driven by longer horizontal wells

Longer lateral lengths have spurred M&A activity as operators build out core areas to accommodate these bigger wells. Tourmaline recently acquired Rising Star Energy with the stated goal of consolidating its land position to drill longer horizontal legs. The company is currently drilling **2,500 metre** horizontals.

DEALS WITH A SIGNIFICANT AMOUNT OF WELLS IN CHARLIE LAKE 2017 - 2022

Acquirer	Target Company	Brief Description	Deal Type	Date Announced	Total Acquisition Cost (C\$ millions)
Unspecified	Tamarack Valley Energy	Tamarack Valley Energy divests a gross overriding royalty between 2% and 5% on a select portion of the Clearwater and Charlie Lake properties	Asset	2022-07-28	15
Tourmaline Oil	Rising Star Resources	Tourmaline Oil acquires Rising Star Resources	Corporate	2022-07-27	197
Blue Sky Resources	TAQA	Blue Sky Resources acquires light oil and natural gas-producing assets in Alberta and British Columbia from TAQA	Asset	2021-08-03	Undisclosed
Tamarack Valley Energy	Anegada Oil	Tamarack Valley Energy acquires Anegada Oil	Corporate	2021-04-12	486
Topaz Energy	Tamarack Valley Energy	Topaz Energy acquires a 2% GORR in the Charlie Lake light oil assets of Anegada Oil from Tamarack Valley Energy	Asset	2021-04-12	32
Longshore Resources	Rifle Shot Oil; Steelhead Petroleum; Primavera Resources	Longshore Resources acquires Rifle Shot Oil, Steelhead Petroleum, and Primavera Resources	Corporate	2020-06-08	Undisclosed
Tourmaline Oil	Riverstone Holdings LLC	Tourmaline Oil acquires the remaining 25% working interest in the Peace River High complex from Canadian Non-Operated Resources, an affiliate of Riverstone Holdings LLC	Asset	2019-11-06	175
Spartan Delta	Unspecified	Return Energy (now known as Spartan Delta) acquires additional Crown petroleum and natural gas rights in Q3 2018	Asset	2018-11-20	Undisclosed
Far East Energy Limited	Maple Marathon Investments	Far East Energy Limited acquires a 100% interest in Maple Marathon Investments, the holding company of Canlin Energy	Asset	2018-09-24	324
Pieridae Energy Limited	Ikkuma Resources	Pieridae Energy Limited acquires Ikkuma Resources	Corporate	2018-08-24	156
Enercapita Energy	Birchcliff Energy	Enercapita Energy acquires Worsley Charlie Lake light oil assets from Birchcliff Energy	Asset	2017-08-01	100

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