

Table 1: Summary of petroleum exploration plays in the Eagle Plains Basin area

Play Name	Gas/Oil	Play type	Reservoir	Source	Seal	Trap style	Discoveries/shows
1) Lower Paleozoic carbonate pre-Laramide structural	gas	Conceptual	Bouvette, Ogilvie, Mt. Dewdney carbonates	Road River shales, organic-rich layers in Ogilvie carbonates, Canol shales	Road River & Canol shales	anticlinal folds, thrust fault traps, duplex structures	no discoveries or significant shows
2) Lower Paleozoic carbonate Laramide structural	gas	Conceptual	Bouvette, Ogilvie, Mt. Dewdney carbonates	Road River shales, organic-rich layers in Ogilvie carbonates, Canol shales	Road River & Canol shales	anticlinal folds, thrust fault traps	2 gas flows in DSTs, Ogilvie Formation in S. Tuttle N-05 well and Shaeffer Creek O-22 well; traces of gas in 2 other wells
3) Lower Paleozoic carbonate stratigraphic	gas	Conceptual	Bouvette, Ogilvie, Mt. Dewdney carbonates	Road River shales, organic-rich layers in Ogilvie carbonates, Canol shales	Road River & Canol shales	basinward and updip facies changes; dolomitized and fractured carbonate bodies; stratabound interior platform porous zones; combination structural/stratigraphic	1 gas flow in DST, Ogilvie Formation in S. Tuttle N-05 well; traces of gas in 1 other well
4) Imperial/Tuttle sandstone structural (Ellesmerian deformation-Bell Subbasin)	gas/oil	Conceptual	Imperial, Tuttle sandstones & conglomerates	Canol, Ford Lake, Road River and Imperial shales	Bug Creek, Whitestone River & Mount Goodenough shales interbedded shales in Imperial Fm	anticlinal folds, thrust fault traps	no discoveries or significant shows
5) Imperial/Tuttle sandstone stratigraphic/combination	gas/oil	Immature (gas); conceptual (oil)	Imperial, Tuttle sandstones & conglomerates	Canol, Ford Lake, Road River and Imperial shales	Ford Lake shales (both lateral and top seal); interbedded shales in Imperial Fm	subcrop edge pinchouts, intraformational stratigraphic pinchouts; updip facies changes, unconformity subcrop; combination structural/stratigraphic	2 gas pools; Birch B-34, Chance L-08 (M-08); traces of gas in 4 other wells, significant show of oil & gas in 1 other well
6) Canoe River carbonate structural	gas/oil	Conceptual	Canoe River carbonates	Ford Lake shales	well-cemented Chance sandstone; interbedded lime wackestones	anticlinal folds, faulted anticlines, thrust fault traps	minor gas show in 1 well; traces of oil in 4 other wells
7) Canoe River carbonate stratigraphic	gas/oil	Immature	Canoe River carbonates	Ford Lake shales	Ford Lake shales (lateral); Whitestone River shales (top)	updip facies changes, unconformity subcrop; basinward facies changes; combined structural/stratigraphic traps beneath sub-Cretaceous unconformity	1 gas pool; Chance J-19 1 significant oil & gas show; Chance L-08 (M-08) minor gas show in 1 well; traces of oil in 4 other wells
8) Chance sandstone structural	gas/oil	Immature (gas); conceptual (oil)	Chance sandstones	Ford Lake shales	tight limestone, shale and siltstone of Alder Member	anticlinal folds; faulted anticlines, thrust fault traps	1 gas pool; Birch B-34 1 gas flow in DST; E. Porcupine YT I-13 minor gas shows in 2 other wells; traces of oil in 4 other wells
9) Chance sandstone stratigraphic	gas/oil	Immature	Chance sandstones	Ford Lake shales	Whitestone River shales (top); well-cemented Hart River limestone members (lateral)	updip facies changes, unconformity subcrop; combined structural/stratigraphic traps beneath sub-Cretaceous unconformity	2 oil & gas pools; Chance L-08 (M-08) 2 oil pools; Chance G-08, Chance J-19 1 gas pool; Chance L-08 (M-08) 1 oil recovery in DST; W. Parkin D-51 3 gas flows in DST; 2 in East Chance C-18 well, E. Porcupine I-13 minor gas shows in 2 other wells; traces of oil in 4 other wells
10) Alder carbonate structural	gas/oil	Conceptual	Alder carbonates	Ford Lake and Blackie shales, Hart River organic-rich strata	Blackie shales (top)	anticlinal folds; faulted anticlines, thrust fault traps	no discoveries or significant shows
11) Alder carbonate stratigraphic	gas/oil	Conceptual	Alder carbonates	Ford Lake and Blackie shales, Hart River organic-rich strata	Whitestone River shales (top); well-cemented Alder limestone layers (lateral)	porosity pinchouts, unconformity subcrop; combined structural/stratigraphic traps beneath sub-Cretaceous unconformity	no discoveries or significant shows
12) Ettrian carbonate structural	gas/oil	Conceptual	Ettrian carbonates	Blackie shales	well-cemented Jungle Ridge sandstone; interbedded lime wackestones	anticlinal folds; faulted anticlines, thrust fault traps	no discoveries or significant shows
13) Ettrian carbonate stratigraphic	gas/oil	Conceptual	Ettrian carbonates	Blackie shales	Whitestone River shales	porosity pinchouts, unconformity subcrop; combined structural/stratigraphic traps beneath sub-Cretaceous unconformity	no discoveries or significant shows
14) Jungle Creek sandstone structural	gas/oil	Immature (gas); conceptual (oil)	Jungle Creek sandstones	Blackie shales	Jungle Creek shale members	anticlinal folds; faulted anticlines, thrust fault traps	1 gas pool; Blackie M-59; also minor oil shows 1 gas flow in DST with minor oil shows; E. Porcupine I-13 minor oil and gas shows in 2 other wells
15) Jungle Creek sandstone stratigraphic	gas/oil	Conceptual	Jungle Creek sandstones	Blackie shales	Whitestone River shales; contiguous Jungle Creek shale members	updip facies changes, unconformity subcrop; combined structural/stratigraphic traps beneath sub-Cretaceous unconformity	2 gas flows in DST; E. Porcupine I-13; S. Chance D-63 1 gas recovery in DST; S. Chance D-63 minor oil and gas shows in 2 other wells
16) Jurassic-Lower Cretaceous sandstone pre-Albian structural	gas/oil	Conceptual	Porcupine River, Mount Goodenough, Rat River, and Sharp Mountain coarse clastics	Whitestone River, Mount Goodenough and Porcupine River shales (gas only); Ford Lake and Blackie shales (oil and/or gas)	Whitestone River shales (top); interbedded Mount Goodenough shales; Kingak shales (lateral)	normal faults; tilted fault blocks	no discoveries or significant shows
17) Jurassic-Lower Cretaceous sandstone stratigraphic	gas/oil	Conceptual	Porcupine River, Mount Goodenough, Rat River, and Sharp Mountain coarse clastics	Whitestone River, Mount Goodenough and Porcupine River shales (gas only); Ford Lake and Blackie shales (oil and/or gas)	Whitestone River shales (top); interbedded shales & siltstones; Kingak shales (lateral)	unconformity subcrop; stratigraphic pinchouts; basinward facies changes	1 gas flow in DST; Ridge F-48; traces of oil in same well minor oil and gas in 1 other well minor gas shows in 2 other wells
18) Triangle Zone structural (Bell Subbasin)	gas/oil	Conceptual	Porcupine River, Mount Goodenough, Rat River, and Sharp Mountain coarse clastics	Whitestone River, Mount Goodenough and Porcupine River shales (gas only); Ford Lake and Blackie shales (oil and/or gas)	Whitestone River shales (top); interbedded shales & siltstones; Kingak shales (lateral)	thrust-repeated stacked reservoirs; fault propagation folds; fault bend folds; drag folds on thrust faults, duplex structures; imbricate thrusts; subthrust structures	no discoveries or significant shows
19) Cretaceous sandstone structural	gas/oil	Immature (gas); conceptual (oil)	Eagle Plain Group (Parkin Fm basal and middle ss, Fishing Branch and Cody Creek sandstones)	Whitestone River, Parkin and Burnhill Creek shales (gas only); Ford Lake and Blackie shales (oil and/or gas)	interbedded Eagle Plain Group shales	anticlinal folds; faulted anticlines, thrust fault traps	1 gas pool; Chance L-08 (M-08) 4 gas flows in DSTs; Chance G-08, W. Parkin C-33; E. Porcupine F-18, W. Parkin D-54 traces of oil in 2 of the above wells; minor oil and gas show in 1 other well minor oil shows in 5 other wells; minor gas shows in 4 other wells
20) Cretaceous sandstone shelf stratigraphic	gas/oil	Conceptual	Eagle Plain Group (Parkin Fm basal and middle sandstones, Fishing Branch and Cody Creek sandstones)	Whitestone River, Parkin and Burnhill Creek shales (gas only); Ford Lake and Blackie shales (oil and/or gas)	interbedded Eagle Plain Group shales	valley & channel fills, shelf-margin deltas; offshore bars	5 gas flows in DSTs; Chance L-08 (M-08), Chance G-08, W. Parkin C-33; E. Porcupine F-18, W. Parkin D-54 traces of oil in 2 of the above wells; minor oil and gas show in 1 other well minor oil shows in 5 other wells; minor gas shows in 4 other wells
21) Cretaceous sandstone slope stratigraphic	gas/oil	Conceptual	Eagle Plain Group (Parkin Fm basal and middle sandstones, Fishing Branch and Cody Creek sandstones)	Whitestone River, Parkin and Burnhill Creek shales (gas only); Ford Lake and Blackie shales (oil and/or gas)	interbedded Eagle Plain Group shales	turbidite sands (channels fans and lobes); shelf-margin deltas	no discoveries or significant shows