Acquisition Opportunity

Nenana Basin
Central Alaska

Opportunity to acquire a significant position in a highly attractive evolving oil and gas rift-basin play with recent drilling encountering hydrocarbons, in an under-explored region of onshore central Alaska benefiting from attractive fiscal terms

Doyon Limited is offering interested parties the opportunity to secure a substantial interest in its high potential Nenana Leases, in return for funding a multi-year exploration campaign plus state rentals and a contribution to past costs

- 400,000 acres/160,000 hectares covering the vast majority of the Nenana Basin
- Up to 75% working interest (and operatorship) available
- Attractive Tertiary play, structurally comparable to the producing Cook Inlet Basin, with extensive heritage data enhanced by modern data and studies
- Wet-gas hydrocarbon system proven by recent 2013 drilling and surface micro-seeps
- Billion barrel oil potential
- An active exploration program leading to further potential drilling by 2016
- Near roads, rail, power transmission lines, refineries and the Trans-Alaska Pipeline System with ullage available

Doyon equity is also available in the nearby Yukon Flats Basin (separate Flyer), together offering around 1.8 million acres/725,000 hectares across Central Alaska

Doyon Limited is an Alaska-based, state-chartered for-profit company with over 18,000 Native American shareholders. It is the largest private landowner in the State and has a long and productive history of working with industry to explore its lands (and nearby public lands) for hydrocarbons and precious/base metals. Projects range from 100% Doyon funded to conventional landowner lessor/lessee relationships with third parties. Doyon is heavily involved in support services, especially to the oil and gas industry, with seven drill rigs making it a leader in Arctic drilling for over 30 years.
Opportunity Details

The Nenana Basin is an attractive, underexplored part of Interior Alaska, some 40 miles/65 km west of Fairbanks and adjacent to major road, rail and transmission systems and to the Trans-Alaska Pipeline System (TAPS).

Defined on gravity/magnetic data, the late Cretaceous-Tertiary extensional Nenana basin covers ~1,200 miles\(^2\)/3,000 km\(^2\) with up to 25,000 ft/7,600 m of sedimentary fill.

In October 2012, Doyon was awarded 78 contiguous State of Alaska 7-year Leases (total ~400,000 acres/160,000 hectares) covering most of the Basin, the majority with primary terms extending to the end of 2020 (earliest to end 2019).

The Nenana Basin is covered by 489 miles/787 km of 2D seismic comprising Shell 1981, Doyon 2005 and Doyon 2012 (North Nenana) surveys. In addition, two recent exploration wells (Nunivak #1, #2 & #2ST) have been drilled in the centre of the Basin and two older and shallower wells (Totek Hills #1 and Nenana #1) on its southern and western margins.

Oil export is readily available via the TAPS (where ullage is available), while Heads of Agreement has been signed by the State of Alaska, Exxon, BP, ConocoPhillips and the Alaska Gasline Development Corporation on a potential North Slope gas pipeline, which will also pass through or close to the Basin.

Prospectivity

The Nenana Basin formed during the early Tertiary (Paleocene, late Cretaceous?) as a localized continental rift basin. It contains a non-marine fill comprising fluvio-deltaic reservoirs and deeper basin centre turbidites, along with interbedded lacustrine shales and coals. Eocene-Oligocene compression resulted in folding and uplift of the Paleocene sequence, with subsequent erosion providing the potential for structural and stratigraphic traps.

Abundant organic rich shales and hydrogen-rich, oil-prone humic coals (>200 ft/60 m in the Nunivak #1 well) form the main potential source for oil and gas. Identified as ‘excellent quality’ by the USGS (oil expulsion >2,000 bbl oil/acre-ft), these offer multi-billion barrel oil expulsion potential. Additional source rocks may also be present in deep anoxic lacustrine shales.

Hydrocarbon shows encountered in the Nunivak #1 well (Doyon 2009), include fluorescence, cut, stain and C2-5 gas. The recent Nunivak #2 & #2ST (Doyon 2013, TD 8,667 ft/2,642 m), although uncommerical, further proved the presence of a thermogenic wet gas system, encountering excellent quality reservoir sands with residual gas, competent top seals and source rocks actively expelling wet gases.

Significant coals, again offering good to excellent source rocks for mixed oil and gas, were also encountered in the Totek Hills #1 well (Arco Alaska 1984) on the southern basin margin, and thermogenic micro-seeps have been encountered in surface sediments across the Basin, confirming its widespread oil/gas potential.
**Exploration Areas**

The Nenana Basin can be divided into two areas, north and south of the Nunivak wells, with the deeper basin occurring in the north. While earlier focus was on the southern area, this has recently moved to the north where basin modelling indicates that even a 16 ft/5 m source rock (compared with ~200 ft/60 m composite thickness found in the Nunivak wells) would generate 5.7 bln barrels oil potential.

Planning is currently ongoing for further seismic acquisition in the Nenana Basin, in the north to evaluate oil-prone leads on a large structural horst (currently identified on 2D seismic) potentially adjacent to mature source rock, and in the south to focus on maturing gas opportunities.

Similar potential is envisaged in Doyon’s nearby, undrilled Yukon Flats Basin acreage (subject of a separate Flyer). Other analogues are the non-marine coal-sourced Australian Gippsland/Bass Basins (~5 bln bbl oil/12 TCF gas discovered) and lacustrine-sourced interior rift basins in China (>21 bln bbl oil reserves), Thailand Phitsanulo and the Central African rift.

**Fiscal Environment**

Onshore Alaska offers a highly attractive fiscal environment for oil & gas exploration. Incentives, applicable to all Alaskan State, Federal and private lands include a 40% exploration credit for most seismic/drilling expenses and a 25% loss carry forward credit (for these and a broad range of other expenses), convertible to cash if not offset by actual production taxes, with a rebate turnaround time of ~18-24 months.

Particularly attractive fiscal terms are available for Central Alaskan frontier basin exploration (including the Nenana Basin), with ‘sunset’ of the 40% credit deferred to 2021 (compared with 2016 elsewhere). The 25% credit has no sunset. A further incentive allows for one seismic survey (completed) at 75% rebate (maximum $10 million rebate) and two wells (yet to be drilled) at 80% rebate (maximum $25 million rebate per well) if completed by end June 2016.

Oil and gas production taxes for Central Alaskan frontier basins comprise a 4% gross wellhead value tax (for the 7 year deemed payback period) for each new field brought onto production by 2026 (converting to the North Slope net profit rate thereafter).

**Commercial Terms/Sales Process**

Doyon is offering well-funded, responsible companies who are prepared to fund and execute a multi-year exploration campaign, the opportunity to join with them in maturing and unlocking the attractive prospectivity of its Nenana Basin leases. Up to 75% working interest, including possible operatorship, in all or part of the leases, is available in return for funding the above campaign (plus payment of state rentals and a contribution to past costs).

Companies interested in progressing this opportunity should contact Doyon at the address shown below.

On signing appropriate Confidentiality Agreements access will be given to a data room, to be held in Anchorage (plus online data room), containing the licensed 1981 seismic and 1983 Totek Hills well data, along with Doyon’s own 2005 and 2012 seismic and the Nunivak #1 & #2 well results/evaluations plus extensive recent Doyon studies including RockEval, Palynology, Soils Gas, Magnetics, Gravity, Basin Modelling and seismic reprocessing.

**For further information contact ...**

James Mery, Senior Vice President, Lands and Natural Resources, email: meryj@doyon.com, phone: 907-459-2039

*The information contained herein is illustrative only. It is not warranted and should not be relied on for investment decisions. Interested parties should confirm their evaluation through examination of the original data in the Doyon data room.*