

Annual Report EL24602 Port Keats, Northern Territory

For the period ending 8 October 2007

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Figure 1. Location of the Port Keats Salt Project

SUMMARY

EL24602 forms part of Minemakers' **Port Keats Salt Project**, located on the Northern Territory's west coast, approximately 200km southwest from Darwin. Minemakers Pty Ltd holds 100% interest in this tenement.

Minemakers aims to drill test a large seismic structure on the Northern Territory coastline. It has previously been interpreted to be a salt dome. If this proves to be the case, conventional solution mining technology could enable the Company to set up a major salt production facility, exporting to the Asian markets.

Whilst the target lies mainly in EL24602, the tenement is entirely covered by the sea. A key to the evaluation of the prospect and subsequent production, should the structure be proved to contain salt, is access to a land tenement so that saturated brines from solution mining may be evaporated. During the tenement year it wasn't possible to meet with the Traditional Owners to discuss the progressing of Minemakers' two terrestrial EL applications (EL24728 & 25555) and meeting was held with senior officers of the Department in August so as to acquaint them with the situation. Subsequent to year end a meeting was held at Wadeye and the company is hopeful that land based exploration may be able to get underway during the 2009 dry season.

TENURE & LOCATION (Figure 1)

EL24602 was granted to Minemakers Australia NL (a wholly owned subsidiary of Minemakers Limited) on 9 October 2006 for a term of 6 years. This off-shore Licence comprises 45 blocks and was granted without referral to the Native Title Act. A minimum expenditure of \$50,000 was prescribed for year 1.

Minemakers Australia NL changed its name to Minemakers Australia Pty Ltd on 4 October 2007.

The Port Keats Salt Project tenements are located on the Keats & Pearce 1:100,000 topographical map and the Port Keats 1:250,000 geological map. Originally Port Keats was set up as an Aboriginal mission by Fr. Richard Docherty about 1934 with the community being established at Wadeye, about 8 km inland, on the Sandfly Creek. Today, the Daly River/Port Keats Aboriginal Land Trust supports a community of over 2,000 people administered by the Thamarrurr Regional Council . Wadeye has an all weather airstrip but is inaccessible by road for several months during the 'wet'.

BACKGROUND

Marine and onshore seismic surveys of the Bonaparte Basin by the oil industry defined several diapiric structures which have been interpreted as salt domes. Offshore and some 30km west, one of them was drilled by the Kinmore No. 1 Well which intersected a salt column over 200m thick, with the well bottoming in rock salt. The operator estimated the rock salt thickness as more than 1,200m as the well attained salt on the shoulder of the dome and 1,000m deeper than the top of that structure.

With an interpreted diameter of 5-10km, the Port Keats Diapir potentially hosts up to 150 million tonnes of rock salt per vertical metre. The oil explorers estimated the top of the dome to be only about 350m deep.

The Port Keats structure lies under shallow waters adjacent to the coast and its development will require access to land for brine evaporation purposes. Access agreements will have to be negotiated with the local Aboriginal community, and during the year it was not possible for a meeting with them to be organised.

Salt is a basic commodity required by all industrialized countries. It is mainly used in the chemical industry in the production of plastics, glass, detergents and a variety of chemicals. It is also used in food processing and food products. The most abundant source of salt is the oceans (comprising about 2.5% NaCl) and which are estimated to contain an amount of salt that would cover the world's continents to a depth of 35 metres. There are two common methods of salt mining, dry underground mining and solution mining. The basic technology of salt extraction involves passing salt water through shallow pans; wind and sun evaporation steadily removes the water thereby increasing salinity and when saturation is reached deposition begins in crystallizing pans.

2004 world salt production figures show the USA was the largest producer with 46.5 million metric tonnes compared with Australian production of 11.2 million metric tonnes. In Australia salt is mainly produced by evaporation of seawater or brine from salt lakes. Prerequisites for economic salt production include high evaporation rate, low rainfall and ready access to seawater. At Dampier and Port Hedland in Western Australia salt is produced from seawater. Salinity is increased through each step of the system; gravity moves the water through a series of concentration ponds after which it is pumped to concentration ponds thence through a series of crystallizer pans. The salt is ready to be harvested when grown to a thickness of 25-40 centimetres. The process is relatively complex, time-consuming and costly as seawater contains a mix of dissolved salts which require extraction by additional precipitation.

The solar energy used in evaporation is equivalent to consuming about 27 million tones of coal per annum (ref Dampier Salt WA).

COMMODITY OUTLOOK

As seawater contains an unlimited supply of salt, price is generally set by production and transport cost parameters. For much of the Asian region, a mix of climatic, topographic and competing land demand problems renders large scale sea-salt production difficult. Recently, China's levels of industrialisation have outstripped its ability to produce salt. In Australia, it is proving difficult to gain permitting for the large land areas impacted by a sea-salt operation. This Project does not conform to the usual Minemakers model, where development potential is linked to commodity prices. Rather, the Company aims to determine whether it can establish a cost advantage through solution mining practices.

COST ADVANTAGES OF SOLUTION MINING OF SALT

Australia produced about 10 million tonnes of salt in 2004, and all by evaporation of seawater. The process is relatively complex, time-consuming and costly, as seawater contains a mix of dissolved salts. The production of common salt involves controlled progressive precipitation and removal of other salts by successively pumping the brine to different evaporation ponds.

The two immediate advantages of salt sourced by solution mining of rock salt from domes are that the product tends to be segregated and purer, and that the saturated brine pumped to the evaporation ponds contains over 30% common salt, compared with approximately 3% in sea water: evaporitic production is therefore easier and impacts on a much smaller area.

The Company has been approached by a consortium which is studying the potential to produce fertilizer for export from a plant near Darwin and, separately, by Chinese interests. No deals have yet been signed.

EXPLORATION BY MINEMAKERS DURING THE PERIOD TO 8 OCTOBER 2007

There has been no exploration field work carried out during the period.

Salt deposits may occur in geological diapiric structures which have been interpreted as salt domes and are often found adjacent to petroleum deposits. Offshore, and some 30km west of Port Keats, the Kinmore No.1 Well (petroleum) intersected a salt column over 200m thick and the well bottomed-out in rock salt. The petroleum company estimated the rock salt thickness as more than 1200m.

Marine and onshore seismic surveys have defined several diapiric structures and the structure in Minemakers' offshore EL24602, which has an interpreted diameter of 5-10 km, may host up to 150 million tones of rock salt per vertical metre and the top of the dome is estimated to be only about 350m deep. Land access to drill test the presence of the salt dome and later, if successful, to mine, process and export salt is the primary requirement for the project to progress. Minemakers has made application for 2 Exploration Licences; one centred on Dorcherty Island (EL24728) where appropriate parts of the island may be suitable for the construction of evaporation ponds and process/load-out facilities and the other (EL25555) which provides the closest shore based drill sites. The most cost effective plan for Minemakers entails drilling of the salt dome target from a land based site within EL25555. To this end Minemakers has sought to expedite grant of EL24728 and EL25555 through the Northern Land Council. A meeting planned for 10 August 2007 with the region's Traditional Owners had to be deferred due to ceremonial matters. It was re-scheduled to 15 November 2007.

(Footnote:

An 'on-country' meeting was finally held at Wadeye Aboriginal community on 15 November 2007. This meeting was convened by the NLC in order that Minemakers could make presentation to traditional owners and seek their approval for exploration on Aboriginal freehold land pursuant to the Aboriginal Land Rights (NT) Act. The outcomes were,

- 1. A survey would be arranged such that the TOs will visit the 'country' in EL25555 to assess areas that may be "no go". Consultation would continue re EL24728.
- 2. A final meeting would be convened, **probably in October 2008**, to have a draft agreement between the parties agreed by the TOs and final ratification by the full Council.)

CONCLUSIONS & RECOMMENDATIONS

Mining and Production

Well proven conventional solution mining technology of underground salt deposits is both an efficient and environmentally friendly technique. It would produce a saturated brine from which salt would be precipitated in evaporation ponds. The two immediate advantages of solution mining are that the product tends to be segregated and purer, and that the

saturated brine pumped to the evaporation ponds contains over 30% common salt , compared with approximately 3% in sea water; evaporitic production is therefore easier and impacts on a much smaller land area.

Once the salt deposit is located, water is injected through a well (or wells) drilled into the salt dome. Dissolution of the salt forms a void or cavern in the deposit and salt brine is withdrawn from the cavern and transported by pipeline to an onshore evaporation system. Some salt solution mines consist of a single well with concentric casings extending into the cavern. Others consist of several adjacent wells and the brine is withdrawn either through the outer concentric casing in a single well cavern, or through a separate casing in a multiple well cavern.

The evaporation process of the brine solution would be carried out in a series of evaporation ponds proposed for Dorcherty Island or at an alternative location agreed upon with the traditional landowners. The harvested salt crystal product will require a further wash process to remove insoluble materials and the residual liquor that surrounds the crystals before transportation to a deep water load-out facility the location of which would also be subject of consultation with the traditional landowners.

EXPENDITURE STATEMENT

The following expenditure was incurred on EL24602 in the period to 8 October 2007:

TOTAL	\$13,469
Admin/overheads	\$ 2076
Technical services	\$ 2411
Tenement fees /rent	\$ 1698
Land Access	\$ 2550
Travel & Accomod	\$ 1138
Computing	\$ 480
Geological/economic modelling	\$ 3116



Figure 1. Location of the Port Keats Salt Project