

Project Profile: Tidal Claim Mining

Our Mission: Twisted Pick LLC is a global subsea mining solutions company providing innovative and reliable technology to underwater mining and remediation projects around the world.

The Problem: There is a second “Gold Rush” underway in the waters off Nome, Alaska in the Bering Sea. Since gold was discovered there in 1898, approximately 4.5 million ounces have been mined on-shore. The well-known placer gold deposit extends into the sea, and has only begun to be mined commercially. In 2011, Alaska auctioned off mining rights to 84 tracts covering 23,731 acres. Profitable offshore mining methods have been limited to surface based equipment with material processing constraints. Backhoe excavators mounted on barges or crawling in the surf are limited by bucket recovery time, sluice separation capacity and adverse weather conditions. Limited and expensive subsea core sampling data relegates operators to a ‘hunt and peck’ approach to find high grade material.

The Solution: Twisted Pick is proposing a beach launched **SurfBot**. A subsea mining remotely operated vehicle (ROV) for the unique conditions off the shores of Nome, Alaska. Our cost-effective ROV will provide a stable, whether tolerant platform to process and recover near shore resources. The **CoreBot** core sampling ROV will enable a new level of affordable scientific exploration and resource location subsea.

- The vehicles have low capital and operational costs as compared to the equivalent production of alternative mining solutions
- The subsea ROV platform provides a host of environmental, operational and production advantages over the current technology
- Over 20 miles of coastline near Nome AK are within the offshore excursion range of our mobile mining and core sampling spreads

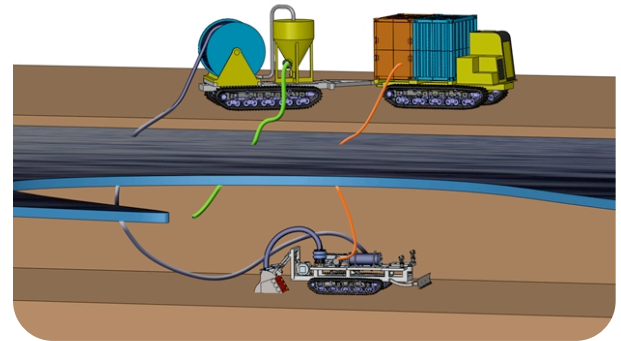
Environmental Advantage: Subsea mining vehicles can reduce the impact when compared to conventional mining operations.

- Since the first level of separation occurs on the seabed, material relocation is minimized.
- Turbidity plume is reduced by replacing open bucket material recovery with controlled hose management.
- Systematic mining plans, accurate positioning, and subsea surveillance all reduce seabed disturbance and over-mining.

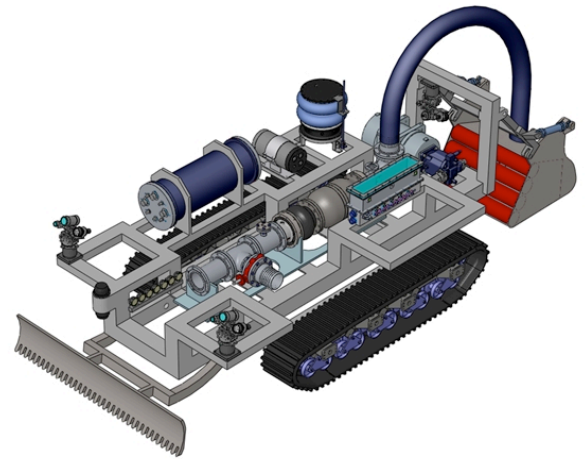
Operations: The shore based ROV spreads can take core samples and mine throughout the tidal claims. Trained operational teams operating over dual shifts can mine safely from shore. A conservative 60% open weather window over the summer seasons is projected.

Project Status: Twisted Pick has assembled an expert management and engineering team positioned to expedite the vehicle build and mobilization program. Nome site visits have aided in forming strategic partnerships, project planning and logistics. Our multi-year mobilization and operation plans are set to participate in the 2015 summer season.

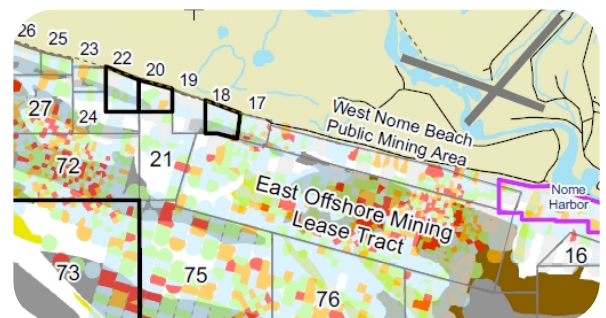
Action: Please contact us to establish a confidentiality agreement and discuss potential partnership options.



Near shore operations conducted from the beach expand weather window and operational days



Proven ROV technology brought to subsea mining will deliver higher cost efficiency and increased production rates



*Image credit:
Alaska Earth Sciences (AES)*

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