



CD5 Construction

Project Description

Alpine satellite CD-5 will consist of a new production drill site approximately 6 miles west of the existing Alpine field, with 15 initial wells (and a potential for more wells depending on the results of the initial drilling program.) Access to the site will be via a new gravel road from the existing Alpine road system and includes four bridges over channels of the Colville River. Flow lines will transport the production from CD5 to Alpine for processing.

Engineering and material acquisition is underway for the 2014 construction effort for CD5. In May, large diameter structural piling and casing for the four bridges was delivered to Anchorage and staged for delivery to the North Slope in late summer/early fall. Bridge foundations, superstructure and decking are being fabricated, and line pipe is on order.

Once on the Slope, construction materials will be moved over ice roads to Alpine and staged for installation this winter. Four bridges will be constructed in 2014 as part of this project, with the Nigliq Channel Bridge requiring an additional year of construction to be completed in 2015. Gravel for the CD5 road and pad will be installed during the ice road season in early 2014.

Key Facts

- **Jobs created:** Approximately 500 jobs during peak construction over the next two winter seasons, plus hundreds more support jobs during construction. In addition to the construction jobs, many additional jobs in design and fabrication will occur over the life of the project.
- **Approximate cost to develop:** Approximately \$1 billion, including drilling (gross)
- **Peak production:** ~18,000 BOPD (gross)
- **Engineering and design contractors:** NanaWorleyParsons (facilities engineering and design); PND Engineers (bridges and bridge pipeline supports); Michael Baker Jr. (pipelines); and Dryden and LaRue (power and fiber optic cables).



Rendering of 1,405' Nigliq Channel Bridge

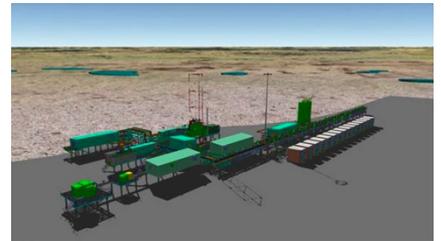




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Key Facts (continued)

- **Bridge construction contractors:** Four total bridges will be built by two groups. The Nigliq Channel Bridge (spanning 1,405 feet) and L9323 bridge (250 feet) will be built by a joint venture team led by PCL Civil Constructors Inc. and includes CH2M Hill and Ruskin Construction LTD. North Slope heavy civil contractor Nanuq/AFC Inc. will construct two additional bridges for the project: the Nigliagvik Channel Bridge (355 feet), and the L9341 Bridge (420 feet). Nanuq is a subsidiary of the Kuukpiik Corporation of Nuiqsut, Alaska.
- Bridge foundation piling is being fabricated at CH2M Hill's south Anchorage facility. The only available supplier for the large diameter casing and piling was based in Korea. The bridge superstructure is being fabricated in Washington State, as it is too large to be accommodated in the local fabrication shops. All of the line pipe will be provided by U.S. Steel, and all pipe and module fabrication will occur in Alaska.
- **On-Site Pad Construction:** Not bid yet
- **Labor unions on job:** TBD
- **Additions to Alpine:** Two new wings were added to the Alpine camp to accommodate construction, one for office space and one for sleeping dorms.



Timeline

2013 – Complete engineering design work, order materials and equipment, begin fabrication and prepare for construction

2014 - Winter construction on North Slope and Module Fabrication in Alaska

2015 –Winter through Fall - construction on North Slope

Late 2015 – First oil