

CD5 Construction



Project Description

The CD5 project, an extension of the Alpine field, consists of a new production drill site approximately six miles west of the existing Alpine central facilities, with 15 initial wells (and a potential for more wells depending on the results of the initial drilling program). Access to the site is via a new gravel road from the existing Alpine road system and includes four bridges over channels of the Colville River. Flow lines transport the production from CD5 to Alpine for processing.

The project was finished below budget and ahead of schedule. The 6-mile gravel access road and CD5 gravel pad were installed in 2014, along with the L9323, Nigliagvik, L9341 and Nigliq Channel Bridges. During the 2015 ice road season, construction of the Nigliq Channel Bridge was completed, pipelines and power lines were installed and the CD5 drill site materials were delivered on site, including all modules, which were fabricated in Anchorage and Fairbanks. First oil was announced in October 2015.

Key Facts

- **Jobs created:** Approximately 700 jobs during peak construction, with many additional jobs in design and fabrication over the life of the project.
- **Approximate cost to develop:** \$1.1 billion, including drilling (gross)
- **Peak production:** Approximately 20,000 BOPD (gross)
- **Engineering and design contractors:** Nana WorleyParsons (facilities engineering and design); PND Engineers (bridges and bridge pipeline supports); Michael Baker International (pipelines); and Dryden & LaRue (power and fiber optic cables). Golder Associates and ICE Design & Consult also provided engineering and design services in support of the project.

Key Facts (continued)

- **Bridge construction contractors:** Four bridges were built by two groups. The Nigliq Channel Bridge (spanning 1,405 feet) and L9323 bridge (250 feet) were built by a joint venture team, led by PCL Civil Constructors Inc. and including CH2M and Ruskin Construction LTD. North Slope heavy civil contractor Nanuq/AFC Inc. constructed two additional bridges for the project: the Nigliagvik Channel Bridge (355 feet), and the L9341 Bridge (420 feet). Nanuq is a subsidiary of the Kuukpik Corporation of Nuiqsut, Alaska. Doyon Associated, LLC, Doyon Industrial Group, Nana Construction (GIS) and Udelhoven Oilfield Services were also prime contractors in support of the broader CD5 project.
- Bridge foundation piling was fabricated at CH2M's south Anchorage facility. The only available supplier for the large diameter casing and piling was based in Korea. The bridge superstructure was fabricated in Washington State, as it was too large to be accommodated in the local fabrication shops. All of the line pipe was provided by U.S. Steel, and all pipe and module fabrication occurred in Alaska.
- **Labor unions on job:**
 - International Union of Operating Engineers Local 302
 - Laborers Local 942
 - Iron Workers Local 751
 - Piledrivers, Bridge, Dock Builders & Divers Local 2520
 - Carpenters Local 1281
 - Teamsters Local 959
 - Plumbers and Steamfitters Local 375
 - International Brotherhood of Electrical Workers Local 1547
- **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

2011-2012 – Permits received and funding approved

2013 – Completed engineering design work, ordered materials and equipment, began fabrication and prepared for construction

2014- Winter construction on North Slope and module fabrication in Alaska

2015 – Winter through fall construction on North Slope

October 2015 – First oil