

## Article for Clark Constructions's Superstructure Newsletter

Atkinson Construction received the notice to proceed for the design of the U1h shaft in October 1999. Design of the shaft was done by Laurentian Engineering of Duluth, Minnesota. The shaft is 20 feet in diameter and will be 1,045 feet deep upon completion. Construction of the first 110 feet, known as the collar, began in December 1999. The collar construction consisted of excavation of the 110 feet, installation of rebar, and placing concrete. Also included in this phase was the installation of the sinking headframe, sinking hoist, and the hoist house. The collar was completed on March 2000 and the team then went into production sinking.

The production phase consisted of sinking the U1h shaft to a depth of 1,045 feet including the excavation of the station at an approximated depth of 1,000 feet. By the beginning of April we had reached a production rate of 10 feet per day. However, due to monetary constraints from the owner we were shut down to 1 shift per day at the end of May.

To commemorate reaching the halfway point the staff and crew had a picnic at Willow Creek State Park located on the Colorado River below Hoover Dam on June 10, 2000. Again, due to owner monetary constraints Atkinson Construction received a 90 day stop order effective at the end of June. We have since received a Notice to Proceed and construction will commence on August 7, 2000, which will end our shutdown. The staff; J. D. Martin--Project Superintendent, John Parameter--Safety Manger, Marvin Hill--Master Mechanic, Tom Nearhood and Guy Armiger--Walkers, Larry Pitzer--Business Manager, Brian Briggs--Project Engineer, and Joel Myers--Engineer, are eagerly anticipating the resumption of production.

**Project:** U1H Shaft

**Owner/Client:** Bechtel Nevada (Prime Contractor)  
U. S. Department of Energy (Owner)

**Location:** Nevada Test Site

**Contract Type:** Design/Build

**Contract Amount:** Current: \$6,107,348  
Potential: \$14,699,378



**Key Dates:** Notice to Proceed - Design Phase: October 4, 1999  
Notice to Proceed - Construction Phase: October 29, 1999  
Planned Completion Date: June 2001

**Description:**



The U1H Shaft Project is a design build subcontract to supply the U. S. Department of Energy (DOE) a 1,045 ft. deep, 20 ft. diameter, concrete lined shaft for unspecified purposes. The subcontract awarded to Atkinson Construction by Bechtel Nevada to design and construct the shaft for the DOE has been split into phases with portions of the work being released as dictated by available funding. The first portion released included the design for the shaft, permanent hoist, headframe, and collar arrangement. The second release consisted of constructing the shaft collar to a depth of 110 ft., the service entry, utility trenches, and installation of the temporary sinking plant. The temporary sinking plant included the installation of the sinking headframe, the sinking hoist, two deck winches, the shaft form, the sinking work deck,

and temporary utilities required to sink the shaft. Both the design and collar construction were completed on schedule. The third release consisted of excavating and lining the shaft to the station depth of approximately 950 feet. Work is currently proceeding on this production sinking phase. At a depth of approximately 600 feet, Atkinson has surpassed production expectation and is more than 3 months ahead of schedule. Atkinson has employed the use of a Bobcat 331 excavator as the primary means of excavation. the shaft is being excavated entirely in an alluvial deposit with varying degrees of calcium carbonate cementation.

Several more work packages are expected to be released in the near future. The remaining work packages include, construction of the shaft station a depth of 975 ft. and construction of the shaft sump to a depth of 1,045 ft., installation of the loading pocket and station steel and equipment, installation of the shaft steel and guides, installation of the shaft utilities, and installation of the permanent headframe, hoist, collar utilities, and facilities.

**Key Personnel:**

Project Manager:	Ronald B. Gabitzsch/Glen Sykes
Superintendent:	J. D. Martin

**Bechtel Nevada Contact:**

Ralph Musick  
Project Site Technical Representative (STR)  
1.702.295.5616