Looking like a mad scientist's laboratory, the elbow area of the left spillway reveals the devastation wrought as a result of the record-breaking inflows at Glen Canyon. The hole is approximately 36 feet deep.

Glen Canyon spillway repair

The Bureau of Reclamation is boring an access tunnel into the left spillway to remove accumulations of debris prior to repairing the damaged spillways at Glen Canyon Dam.

The tunneling machine, which started from the machine shop parking lot, has gone 180 feet into the canyon wall and intersected the spillway tunnel. The drilling progressed at a rate of 20 to 40 feet a day.

The contractor also is installing drainage pipes to extract the remaining water, and hooking up utilities, such as compressed air and electricity, prior to moving in heavy equipment to remove the eroded pieces of sandstone and reinforced concrete. The current contract calls for the left spillway debris removal and repair to be completed by mid-April 1984.

(Continued on page 2)
The right spillway repair is expected to be completed by June 15, 1984. Damage in the right spillway is estimated to be only about one-third the magnitude of the left spillway. Total costs could run into the $5 million to $10 million range. Guy F. Atkinson, the prime contractor, is expediting the repair in time for next season's runoff in late June or July.

"Despite the damage, which first had been observed early in June, neither the dam nor the spillways were in danger of failing," said Regional Director Clifford Barrett. "And while there was serious damage to the spillway lining, it was confined to a small area and at no time would it have caused us to shut down the spillways. Considering all the water that was spilled (4.4 million acre-feet including the bypass tubes), it was remarkable how well the spillways performed," he added.

The work in the left spillway will include the removal of approximately 1,000 cubic yards of debris. "We have several holes that have to be backfilled," noted Barrett. About 4,000 to 5,000 cubic yards of concrete is estimated to be needed to fill the holes, plus another 4,000 cubic yards of concrete to restore the damaged reinforced concrete lining.

"To better appreciate the enormity of the work to be done, a large construction truck has a capacity of from 8 to 10 cubic yards," he said.

Atkinson currently has about 80 personnel actively engaged at the site, with expectations of another 70 eventually joining them. Assisting the contractor are 4 Reclamation personnel from the Upper Colorado Region and 6 from other Reclamation regions.

In addition to the repair, an air slot will be cut into the inclined portion of each spillway to counteract future effects of cavitation, a condition in which holes are eroded into the spillway lining. Cavitation occurs when shock waves are created from swiftly flowing water traveling over 100 miles an hour, passing over irregularities in the concrete, and cutting away large pieces of the lining. The air slot will introduce air bubbles which prevent the formation of the destructive shock waves.

This huge boulder, affectionately called, "house rock," and estimated to be from 35 to 40 cubic yards in size, was discovered in the left spillway. The rock had been washed out of a hole in the lining which measured 36 feet at its deepest point.

Workmen wind their way through a maze of twisted rebar near the elbow on the right spillway.

A view from the elbow area looking across the plunge pool exposes a gap approximately 150 feet across and 36 feet deep. Note the eroded concrete lining going into the sandstone. It will take an estimated 2,500 cubic yards of concrete to fill that hole.
River operations meetings held

The Commissioner of Reclamation and Governors and water managers representing the seven States in the Colorado River Basin discussed river operations in Phoenix, Ariz., on August 29, 1983.

According to Commissioner of Reclamation Robert N. Broadbent, the group discussed the recent flood situation, the proposed operation of the Colorado River for the coming year, and the operating criteria used in managing the river.

"There hasn't been a formal review of the operating criteria for the Colorado River in over a decade," Broadbent said. "The recent flood situation points to the necessity of reviewing the way in which the river is operated." Broadbent added that Reclamation would seek some temporary changes in the operation of the river so that repair work could be completed on the damaged spillway sections at Glen Canyon Dam.

Upper Stilwater Dam bid open date change

The bid opening date for the construction contract on Upper Stilwater Dam, a major part of the Central Utah Project's Bonneville Unit, was changed to October 13, 1983, according to Bureau of Reclamation's Upper Colorado Regional Director Clifford Barrett.

"The date was changed," said Barrett, "in order to give the expected large numbers of bidders and suppliers ample time in which to prepare suitable bids. Construction costs could range between $50 million and $100 million." Bids will be opened at 10 a.m., Thursday, October 13, in Suite E on the Upper Level of the Salt Palace in Salt Lake City.

Upper Stilwater Dam, located about 40 miles northwest of Duchesne, Utah, has received world-wide notice because it is to be constructed with a state-of-the-art process using roller-compact concrete.

$3 million CUP road

A Bureau of Reclamation construction contract in excess of $3 million for construction of Sheep Creek - Rays Valley Road of the CUP was recently awarded to two Oregon firms.

The work, a part of the Bonneville Unit of the Central Utah Project, will be located in Utah County about 20 miles east of Spanish Fork, and will consist of constructing 16.6 miles of road and roadway structures, including cattle guards, gates, fencing, and signs; and widening a section of U.S. Highway 6.

Nine bids were received for the contract which the Government estimated at $4,171,320. The low bid was submitted by Marshall Associated Contractors/Columbia Excavating, Inc., a joint venture from Tualatin, Ore., in the amount of $3,248,133. Other bids ranged between $3.3 million and $5.7 million.

Bureau of Reclamation Commissioner Robert N. Broadbent said: "During the life of the contract, we expect it to provide approximately 25 to 30 jobs with total salaries amounting to $563,000. We hope that this work will get some more people back into the productive job market for the State of Utah."

Hispanic Heritage Week celebrated

Bureau of Reclamation employees joined many other Americans in celebrating Hispanic Heritage Week September 11-17.

The annual celebration, designed to inform Americans of the contributions of Hispanics to society, was proclaimed by President Ronald Reagan. Reclamation's Hispanic Employment Program Committee held a full week of activities to assist Federal employees in seeking better employment. Two displays; one showing the flags of Spain and all the Central and South American countries; and another photographic display of Hispanic-owned businesses were presented in the lobby of the Federal Building. Additionally, an outreach activity to the community included visits to two schools to explain career opportunities in the Bureau of Reclamation.

Wayne Aspinall road surfacing

A nearly $103,000 construction contract for asphalt surfacing of access roads and parking areas of Blue Mesa and Morrow Point Dams was awarded recently by the Bureau of Reclamation to a Colorado firm.

The contract will consist of repairing and replacing bituminous surfacing, placing geotextile fabric, and furnishing chip and seal coat treatments to areas of both Blue Mesa Dam, located in Gunnison County, near Sapinero, Colo., and Morrow Point Dam, located in Montrose County near Gilmanton, Colo. The work is a part of the Colorado River Storage Project's Wayne N. Aspinall Storage Unit.

Two contractors submitted bids for this contract. Schmalz Construction, LTD., of Gunnison, Colo., submitted the low bid of $102,761 for the job which the Government estimated at $83,274. The work is expected to take 90 days to complete.

This new process combines the properties of both an earth-fill embankment dam and a concrete dam. This means that the contractor can use high production equipment which will allow a production rate 10 times faster than for a concrete dam. The dam will be part of the Strawberry Collection System, which will transport water from Utah's Uinta Basin to the Bonneville Basin. The Upper Stillwater Reservoir will serve as an equalizing reservoir and also will provide recreational opportunities.
Temporary office at Strawberry

The Bureau of Reclamation has established a temporary office at Strawberry Reservoir, about 25 miles southeast of Heber City, Utah, to assist cabin and trailer owners in filing moving claims.

The owners are required to vacate the reservoir site by July 1, 1984. Over 150 moving claims have been paid since 1978, and Reclamation estimates that there are still about 850 claims remaining to be filed.

The relocation trailer office is located along the Strawberry West Side Road, approximately one-quarter mile south of the turnoff from U.S. Highway 40. Initially, the office will be open on Monday, Wednesday, and Friday, from 9 a.m. to 7 p.m., with the days and hours extended this fall. The office will be closed during the winter, but will reopen in late May or June 1984.

With completion of Soldier Creek Dam, the Strawberry Dam eventually will be breached and the present Strawberry Reservoir will be enlarged to extend to Soldier Creek Dam. The Strawberry Reservoir Enlargement is part of the Bonneville Unit, Central Utah Project.

The original Strawberry Valley Project was authorized by Congress in 1905, primarily to provide irrigation water in Utah County. Soldier Creek Dam, completed in 1973, eventually will raise the level of Strawberry Reservoir 45 feet, enlarging it to four times its present capacity. The more than 1 million acre-feet of water will be used to meet municipal and industrial, irrigation, fish and wildlife enhancement, and recreation needs.

House Creek boat ramp

A $248,000 contract to build a boat ramp at House Creek was awarded by Bureau of Reclamation recently to a Dolores, Colo. firm.

The work to be done will consist of construction of a concrete boat ramp on House Creek, located 14 miles north of Cortez, Colo., and 4 miles northwest of Dolores in Montezuma County. The work should be completed within 60 days and is considered a part of the Dolores Project.

Mountain Gravel and Construction Company, one of six bidders for the contract, submitted the low bid. The official Government estimate was $245,475.

Pick your favorite caption, or send a better one to Editor, The Spillway, Bureau of Reclamation, 125 S. State St., P.O. Box 11568, Salt Lake City, Utah 84147:

Hello! Bureau of Reclamation? About your dams...

Hello! Is this the riverflow forecast center?

Yes, Ma. I wore my rubbers.

Hello, UTA? What time's the next ferry leaving for Provo? Whataya mean, I'm all wet?

Hello, Department of Agriculture? Is it too late to convert to a rice crop?

Well, doctor, it all started when I had this dream that I was walking across the desert...

Hello, Utah Travel Council? Have you heard the one about Utah being the third driest State?

No, I won't hold for Mark Eubank!

Hello, Senator? I've been "testing the waters" and I don't think your filibuster against CUP funding is gonna' fly, er, float.

Hello, Mortimer? About your plan to introduce dryland farming along the shores of Utah Lake...

Hello, Hogle Zoo? I'll need two of everything.

I don't care if he is in a meeting... well, go wake him up... Hello, Is this Wayne Cook?

Kip Blevin, Editor
FTS 8-588-5403, Code UC-143
Photographs by Tom Fridmann