Exc. Eng. Dec. '31

SHOTS FROM THE FIRING LINE

Progress Made in Negotiations for $34,000,000 All American Canal

SECRETARY of the Interior Wilbur recently gave his approval to the form of contract between the water users in the Imperial and Coachella valleys of Southern California, who will be served by the All-American Canal, and the Government. On this project $34,000,000 of Federal money will be spent in the construction of an irrigation ditch six times as big as Uncle Sam has ever dug before, and repaid in installments over a period of 40 years. The total excavation required is between 60,000,000 and 65,000,000 cubic yards. The length of the All-American Canal will be 80 miles, that of the Coachella branch 130 miles.

Its acceptance by the Department is a definite step toward executing the canal feature of the Boulder Canyon Project which is second in importance only to Hoover Dam. The Boulder Canyon Act provides for the construction of the All-American Canal, lying entirely within the United States and its use in place of the former Imperial main canal which runs for some distance through Mexico. The contract now goes back for approval, through a special election to be held by the water users, when it will be ready for final signature by Secretary Wilbur and appropriations by Congress for actual construction.

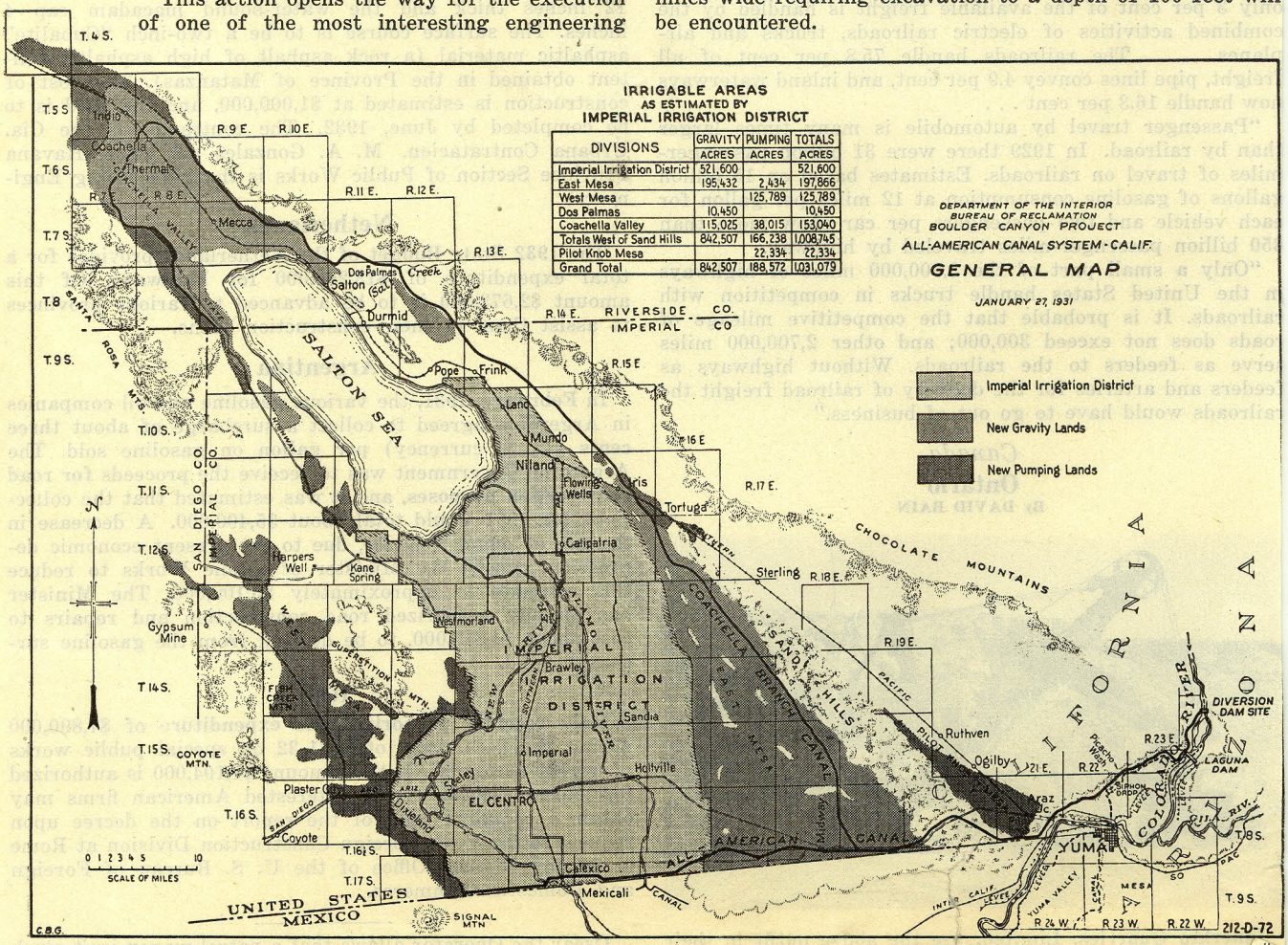
This action opens the way for the execution of one of the most interesting engineering projects that the Government has ever undertaken. When Hoover Dam is completed and is storing the flood waters of the Colorado River Basin, water will be released as desired and will come down the river until arriving at a point 15 miles above Yuma. There a long, low weir dam costing $2,700,000 and resting only on the sands of the river bottom will divert the water into a canal which will be 134 feet wide on the bottom, 22 feet deep, and 200 feet wide at the water line. This canal will carry as much water as does the Potomac at Washington and twice as much as does the great Rio Grande in its average flow. In it will flow what is thought to be the strongest current of any artificial waterway in the world.

As an irrigation proposition muddy waters that leave their silt on the land constitute a difficult problem. Hoover Reservoir will have taken much of the silt out of Colorado River waters, but a series of six basins costing $3,300,000 will be built into the All-American canal headworks. The water entering the canal will be run through these basins and all which passes on will be skimmed from the top as the sediment settles. Then as these basins fill up they will be eliminated from the chain one at a time and sluiced out, the silt running back into the river.

When the 200-foot-wide canal, carrying 15,000 second-feet of water, arrives at a point 3 miles north of Yuma 2,000 second-feet will be diverted, given a drop, made to yield its contribution of electric power, then carried to and syphoned under the Colorado River, and returned to the Arizona side where it will furnish abundant water for the Yuma project.

Six miles further along the big canal will reach Pilot Knob. Here it will yield up 3,000 second-feet more of its water which will drop 50 feet, generate more electricity, and return to the river.

A canal carrying 10,000 second-feet will proceed toward Imperial Valley where a range of shifting sand dunes 10 miles wide requiring excavation to a depth of 100 feet will be encountered.



DIVISIONS	GRAVITY ACRES	PUMPING ACRES	TOTALS ACRES
Imperial Irrigation District	521,600		521,600
East Mesa	195,432	2,434	197,866
West Mesa		125,789	125,789
Dos Palmas	10,450		10,450
Coachella Valley	115,025	38,015	153,040
Totals West of Sand Hills	842,507	166,238	1,008,745
Pilot Knob Mesa		22,334	22,334
Grand Total	842,507	188,572	1,031,079