

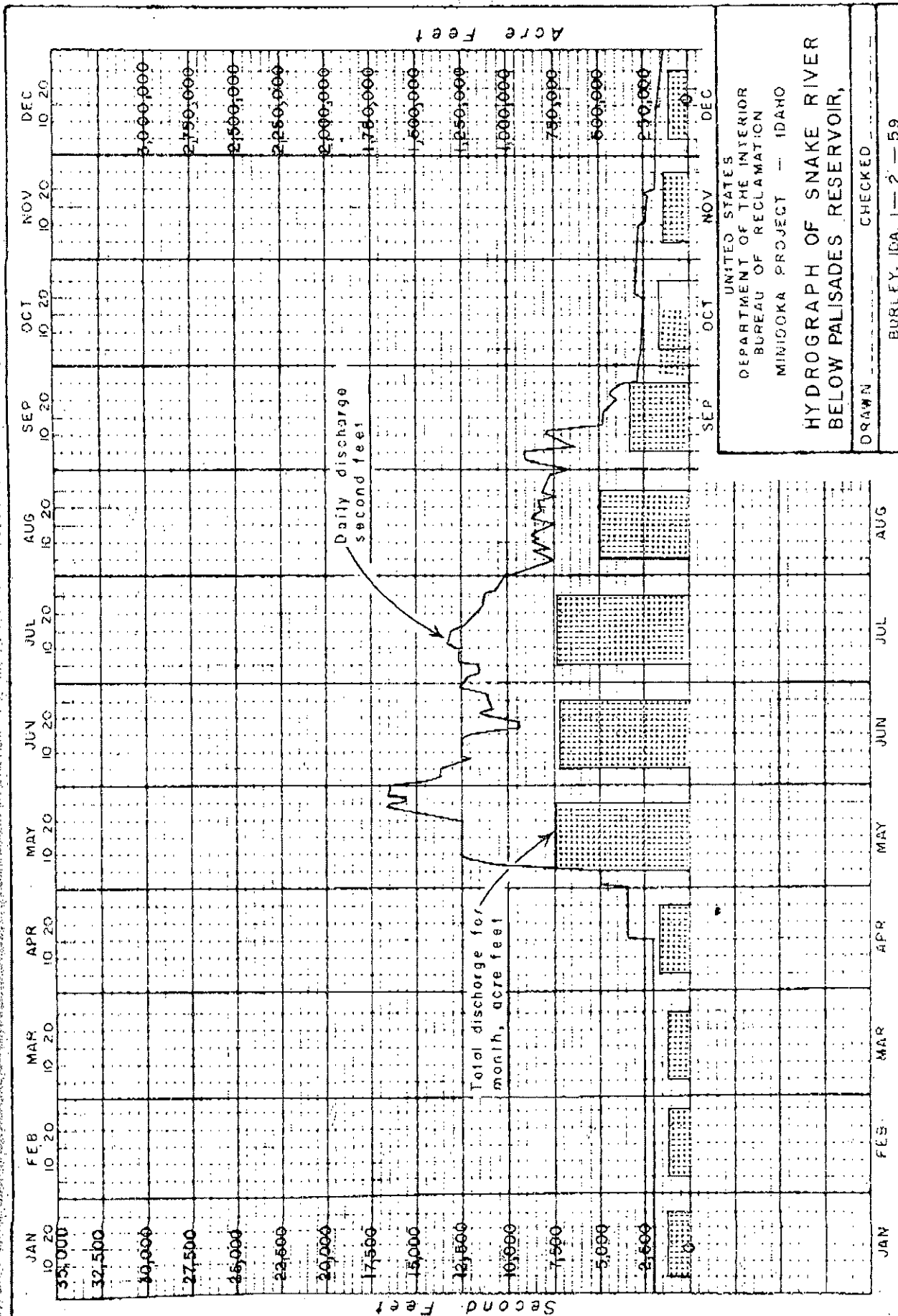
01-4054

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

1958
ANNUAL HISTORY
OF THE
MINIDOKA AREA PROJECTS

VOLUME 52

Burley, Idaho
Calendar Year 1958



Received Time-Mar. 18. - 9:34AM

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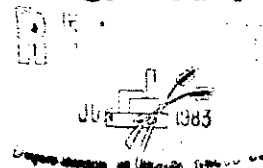
No. 8
Form No. 243
9/81

Palisades Powerplant
Natural Flows

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

CLAIM TO A WATER RIGHT

Claim No. **01-4054**



Under the provisions of Section 42-243, Idaho Code, any person using or claiming rights to the public waters of Idaho established by diversion and application to a beneficial use must file a claim with the Department of Water Resources on or before June 30, 1983. Exempted from this filing are single family domestic uses as defined in Section 42-230(d), Idaho Code. Also exempted are rights represented by a permit, license, decree, adjudicated right, or a previously filed claim.

The filing of this claim does not confirm the water right claimed but failure to file may result in forfeiture of a water right.

Notice is hereby given that The United States of America acting through the Regional Director,
~~Pacific Northwest Region, Bureau of Reclamation~~
Federal Building & U.S. Courthouse (Name of Claimant)
~~Box 043-550 West Fort Street, Boise, Idaho 83724~~ Telephone No. (208) 334-1908
(Mailing Address) (Zip Code)

claims a right to the diversion and beneficial use of the surface or ground water. The extent and nature of said claim is as follows:

(1) Date of priority: (When was the water first applied to a beneficial use) February 27, 1957

A claim is not acceptable on a ground water source with a priority later than March 25, 1963 or on a surface water source with a priority later than May 20, 1971. An exception is that a claim may be filed on single family domestic use from a ground water source.

(2) Describe the source of water: (Name of stream, lake, spring, etc., or ground water)

Snake River tributary to Columbia River

(3) Describe the purpose for which the water has been used and the time during the year when you have used the right claimed:

Quantity	(cfs, af)	Use	(Domestic, Irrigation, Stock, Etc.)	(Both dates inclusive)	
				(Mo., Day)	(Mo., Day)
Quantity <u>9,000 ft³/s</u>		Use <u>power generation</u>		Period of Use From <u>Jan 1</u>	To <u>Dec 31</u>
Quantity _____		Use _____		Period of Use From _____	To _____
Quantity _____		Use _____		Period of Use From _____	To _____
Quantity _____		Use _____		Period of Use From _____	To _____
Quantity _____		Use _____		Period of Use From _____	To _____

(4) 9,000 ft³/s TOTAL QUANTITY USED. @Reservoir elevation 5583.35 ft. (head 206.48')

(5) A) Point of diversion: (Location of point where water is diverted from its source)

NW 1/4 NE 1/4, Sec. 17 Twp. 1-S Rge. 45-E B.M., County of Bonneville

Additional points of diversion: _____

B) Describe means of diversion of water: (Pump and pipeline, well, diversion dam, reservoir, length of ditch and field, etc.). Give sizes and capacities: be as specific as possible. Describe any changes in the system and give the date of the change. (see attached)

(6) A) Describe location of use by listing number of irrigated acres within each 40-acre tract in appropriate box. If use is not for irrigation, place an "X" in appropriate box to show location.

T	R	SEC.	NE1/4				NW1/4				SW1/4				SE1/4				TOTAL
			NE1/4	NW1/4	SW1/4	SE1/4	NE1/4	NW1/4	SW1/4	SE1/4	NE1/4	NW1/4	SW1/4	SE1/4	NE1/4	NW1/4	SW1/4	SE1/4	
1-S	45-E	17		X															

No. of acres _____

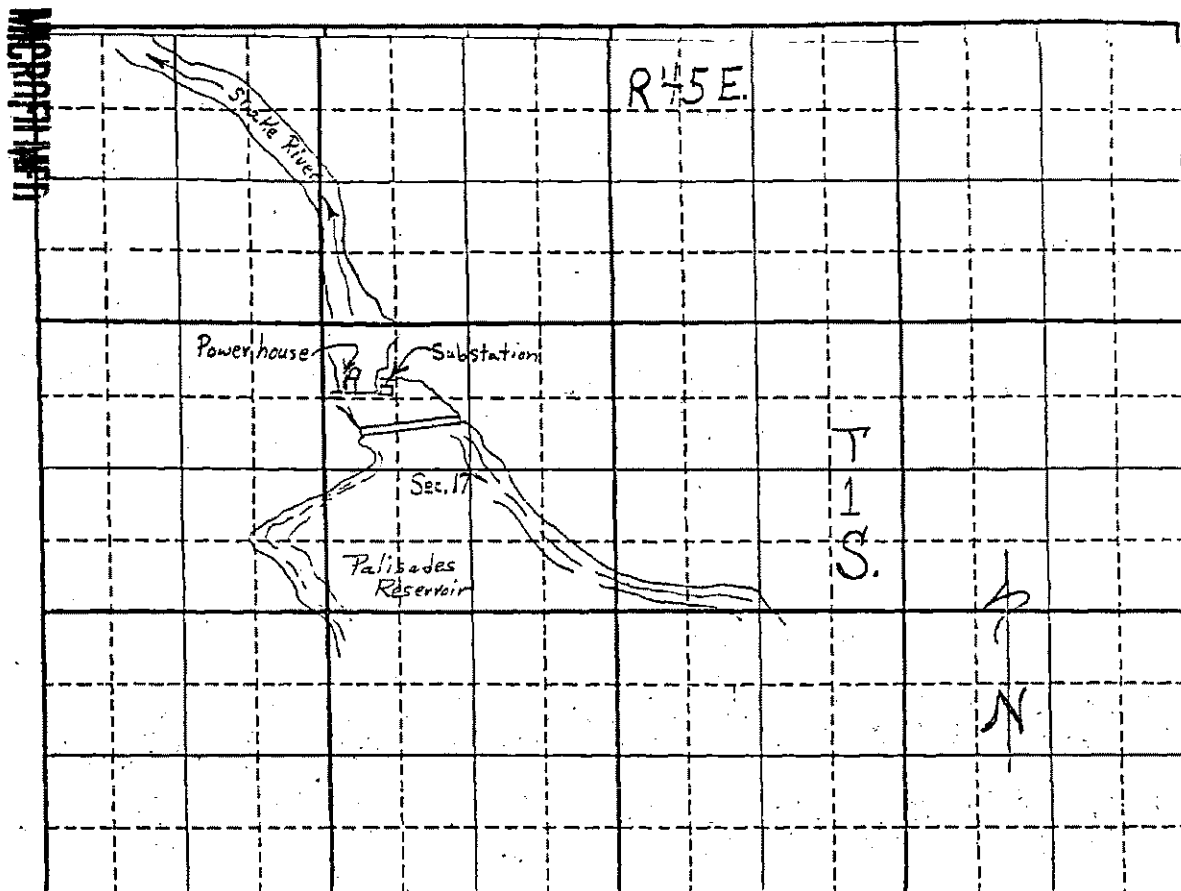
B) If water is used for other than irrigation, fully describe that use, being as specific as possible: The power product is distributed by the Bonneville Power Administration. It serves large irrigation pumping power requirements on and near the Minidoka Project in Southern Idaho. The plant is connected with the Pacific Northwest Power Pool.

NOTE: Include here the type and number of stock watered: _____

(7) If you are claiming water as a member of an organization, list name of organization: United States of America

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- (8) Remarks This claim is for use of natural flows of the Snake River for power generation at Palisades Hydro-power Plant.



Scale: 4 inches equal 1 mile.

Map should show the location of the point of diversion and the place of use of the water by 40-acre subdivisions, section, township and range of the public land survey system.

State of Idaho

County of Ada

Be it known that the undersigned, being duly sworn, deposes and says that he, she, they subscribed the foregoing claim to a water right, together with all attached information, and that the matters and facts therein are true to the best of the affiant's knowledge.

Sworn to before me this 29th day of June, 1983.

John W. Keys, Jr.
Acting Regional Director (Claimant)

B. Shama
Notary Public
Residing at Boise

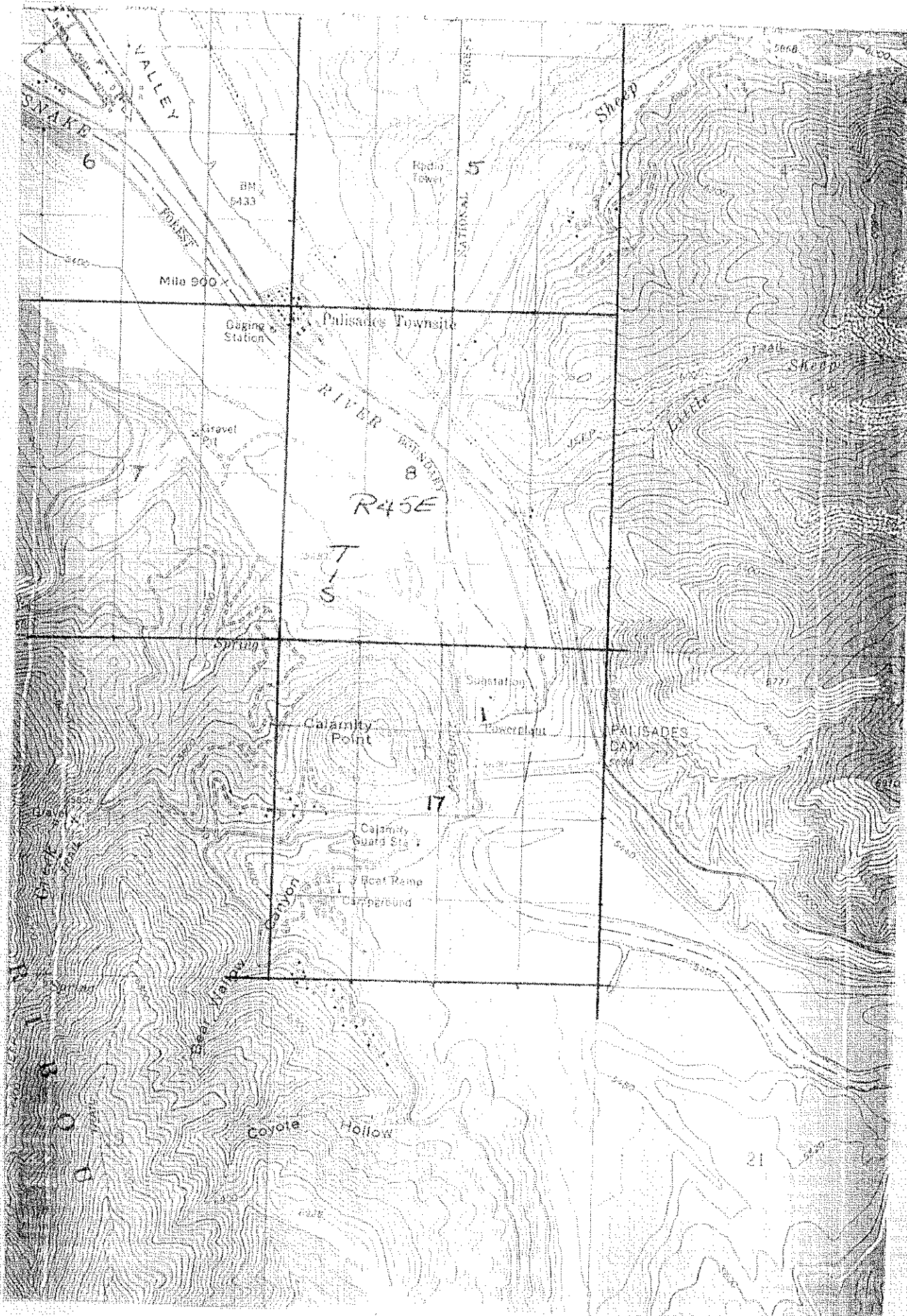
My commission expires 1-1-84

FOR DEPARTMENT USE ONLY

Received by <u>SRB</u>	Date <u>6/29/83</u>	Exception filed by:	Forwarded to	Date
Prelim. check by <u>Kew</u>	Date <u>10-25-83</u>		claimant by:	
\$30.00 fee received by <u>PA</u>	Date <u>6-29-83 # 90027</u>			
Published in <u>Post Register</u>				
Dates <u>3/15 - 3/22/84</u>				

5. (B) The powerplant location is at the downstream toe of the left abutment of Palisades Dam. Generation is by means of four Francis-type turbines with a total of 158,000 horsepower at effective head of 190 feet and total plant discharge of approximately 8,560 ft³/s. Power is distributed by means of power substation located near center of the toe of Palisades Dam.

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Palisades Project

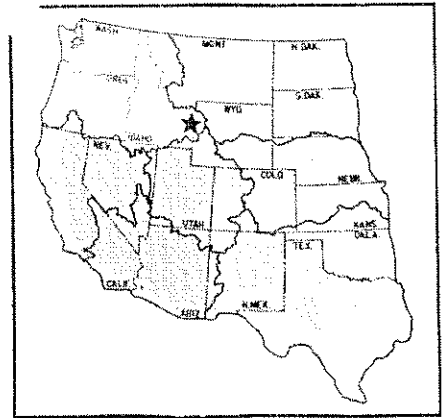
Idaho: Bonneville County
Wyoming: Lincoln County

Pacific Northwest Region
Bureau of Reclamation

The Palisades Project is a multiple-purpose development involving irrigation, power, flood control, recreation, and fish and wildlife conservation. Palisades Dam is on the South Fork of the Snake River at Calamity Point in eastern Idaho about 11 miles west of the Idaho-Wyoming boundary. The project provides a supplemental water supply to about 670,000 acres of irrigated land in the Minidoka and Michaud Flats Projects. The 118,750-kilowatt hydroelectric powerplant furnishes energy needed in the upper valley to serve irrigation pumping units, municipalities, rural cooperatives, and other power users. The principal features of the project are Palisades Dam, Reservoir, and Powerplant.

PLAN

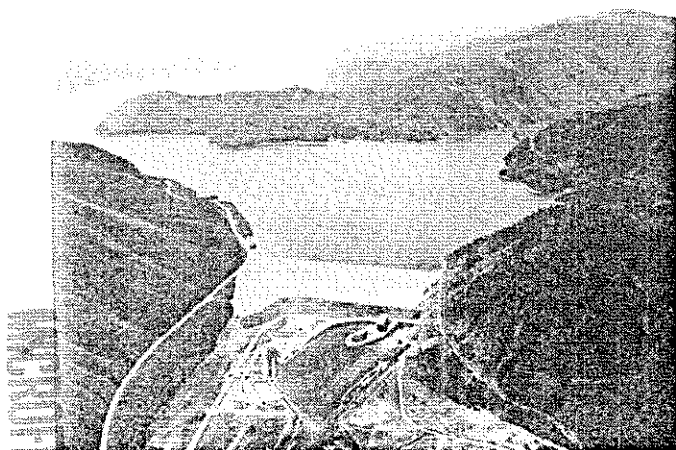
The project, in addition to providing needed holdover storage, helps control floods, develops a substantial block of power, and permits the annual storage of about 135,000 acre-feet of water saved by shutting off canals in the upper valley during the winter. This water is stored to the credit of and delivered to the water users who make the savings possible.



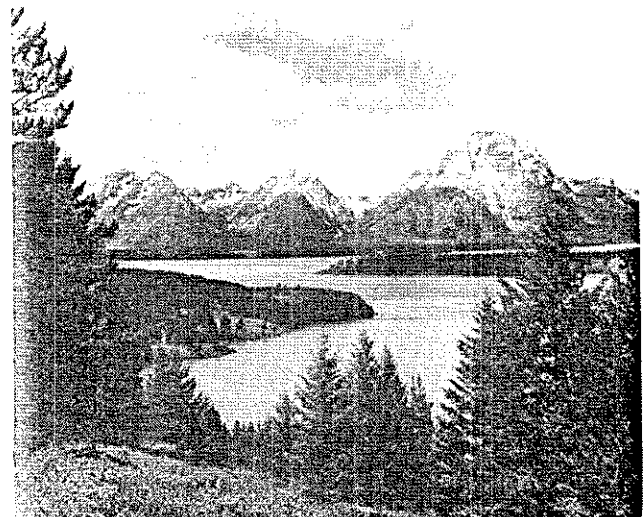
Releases from Palisades Reservoir are diverted and carried to the land by previously constructed facilities.

Palisades Dam and Powerplant

Located on the Snake River about 55 miles southeast of Idaho Falls, Idaho, Palisades Dam is a large zoned earthfill structure 270 feet high, has a crest length of 2,100 feet, and contains 13,571,000 cubic yards of material. At the time of construction, this was the largest volume of material placed in a dam by the Bureau of Reclamation. The spillway is a 28-foot-diameter tunnel through the left abutment, with a capacity of 48,500 cubic feet per second. The outlet works and power inlet structures are controlled by a fixed-wheel gate at the entrances of the inclined shafts leading to 26-foot-diameter tunnels. The outlet tunnel conveys the water to the steel manifold transition section, where it is released to the stilling basin by regulating gates. At the lower end of the power tunnel, the water may be released to the stilling basin or to four penstocks and conveyed to the turbines for power generation. The capacity of the outlet works is

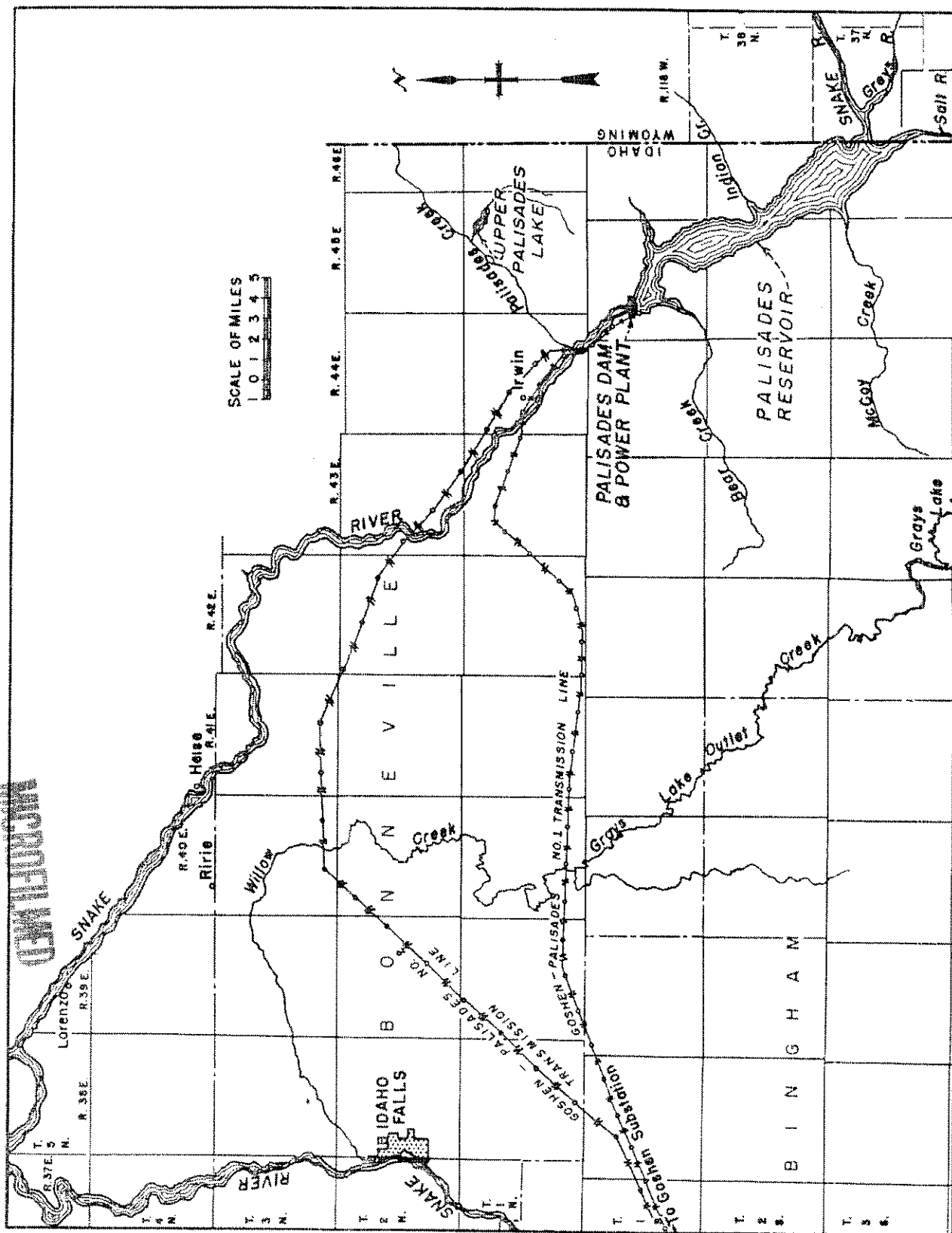


Palisades Dam and Reservoir



Jackson Lake, Wyoming

Palisades Project



Palisades Project

33,000 cubic feet per second. The dam creates a reservoir of 1,401,000 acre-feet capacity.

The powerplant is on the downstream toe of the dam on the west side of the river and has a total capacity of 118,750 kilowatts.

DEVELOPMENT

Investigations

Following the drought period of the early 1930's, a need was recognized for additional storage for lands already under irrigation in the Minidoka Project and in private developments, and investigations of various reservoir sites were made upstream from American Falls Dam. The Palisades site was selected for the construction of the dam and reservoir to provide holdover storage to supplement the water supply for existing irrigated lands, to develop a limited acreage of new lands, to provide flood control, and to generate electrical power. Intensive investigations at the location as now developed were started by the Bureau of Reclamation in 1934.

In February 1978, a study was completed that could add 90,000 kilowatts of power. Present penstock capacity could be tapped and two generating units of 45,000 kilowatts each added, accommodated by an extension to the existing powerhouse. Further studies are underway that would tap the present outlet works with power facilities to add another 135,000 kilowatts. This would require a new powerplant building and probably downstream reregulating facilities.

Authorization

The project was initially authorized by the Secretary of the Interior on December 9, 1941, under the provisions of section 9 of the Reclamation Project Act of 1939 (53 Stat. 1187). Reauthorization of the project by the Congress was granted on September 30, 1950 (Public Law 864, 81st Cong.), substantially in accordance with a supplemental report approved by the Secretary of the Interior in 1949.

Construction

The preconstruction phase of the project was started early in 1945. Construction was delayed until the close of World War II and until local interests gave satisfactory assurance to the Bureau of Reclamation that they would eliminate the wasteful use of water in the area to be served by the project. Actual construction of the project was initiated in 1951 and completed in 1957. All generating units of the powerplant were in operation by May 1958.

Operating Agency

The Bureau of Reclamation operates and maintains the project.

BENEFITS

Irrigation

Palisades Dam provides holdover storage during years of average or above average precipitation for release in ensuing dry years to lands of the Upper Snake River Valley, the area served by diversions from the river above Milner Dam. This holdover storage assures an adequate supply of supplemental water for over 670,000 acres of irrigated lands in the valley. Principal crops are grain, alfalfa, pasture, dry beans, potatoes, sugar beets, other vegetables, and seeds.

Hydroelectric Power

The Palisades Powerplant has four generators, two rated at 30,875 kilowatts each and two rated at 28,500 kilowatts each, making the total capacity of the powerplant 118,750 kilowatts. It serves large irrigation pumping power requirements on and near the Minidoka Project in southern Idaho. The plant is connected with the Pacific Northwest Power Pool.

Flood Control

The project also provides substantial flood control benefits. A flood control operating plan has been established with the Corps of Engineers and several local interests. The plan provides for the joint use of storage capacity during flood seasons for irrigation and flood control on the basis of periodic runoff forecasts. Flood control space is held in Jackson Lake and Palisades Reservoir on a forecast basis to control the Snake River near Heise to no more than 20,000 cubic feet per second.

Recreation

Palisades Reservoir is in a scenic river valley with forested hillsides rising from the water to the towering snowcapped mountains which form the background. Since the reservoir is paralleled by U.S. Highway 26, much of the recreational use is by tourists. The reservoir has about 70 miles of shoreline and six access roads have been built. Recreation at Palisades Reservoir is administered by the Targhee National Forest headquartered in St. Anthony, Idaho. Public use facilities include six campgrounds, five picnic areas, and six boat ramps. Two boat clubs have facilities on the reservoir and 74 private cabins have been constructed under lease from the Forest Service. The Bureau of Reclamation has developed a day-use area and campground below the dam to provide fishing and boat launching on the Snake River.

UNRECORDED

Palisades Project

PROJECT DATA

Land Areas (1981)

Irrigable area:
Supplemental irrigation service¹ 670,000 acres

Land areas are under the Minidoka and Michaud Flats Projects.

Facilities in Operation

Storage dams 1
Powerplants 1
Transmission lines 0.44 mi
Substations 1

Power Generation

Fiscal year	Palisades Powerplant (kWh)	Fiscal year	Palisades Powerplant (kWh)
1968	633,702,000	1975	773,119,000
1969	611,407,000	1976	2,081,240,000
1970	563,954,000	1977	585,141,000
1971	651,019,000	1978	546,569,000
1972	754,984,000	1979	766,548,000
1973	731,438,000	1980	570,068,000
1974	645,435,000	1981	552,147,000

¹15-month period. Transitional quarter July-September 1976 included.
²Fiscal year changed from July-June to October-September.

ENGINEERING DATA

Water Supply

SOUTH FORK, SNAKE RIVER

Drainage area above Palisades Dam 5,208 mi²
Annual discharge at Heise, Idaho:
Maximum (1971) 7,456,000 acre-ft
Minimum (1977) 2,549,000 acre-ft
Average¹ 5,317,000 acre-ft

Runoff at Heise is 9.12 percent higher than at Palisades Dam.

Storage Facilities

PALISADES DAM

Type: Zoned earthfill
Location: On the South Fork of Snake River
7.5 mi southeast of Irwin, Idaho.
Construction period: 1951-57
Date of closure (first storage): November 1956
Reservoir, Palisades:
Average annual inflow, 1967-81 4,945,000 acre-ft
Total capacity to El. 5620 1,401,000 acre-ft
Active capacity 1,200,000 acre-ft
Surface area 16,150 acres

Dimensions:

Structural height 270 ft
Hydraulic height 248 ft
Top width 40 ft
Maximum base width 2,100 ft
Crest length 2,100 ft
Crest elevation 5630.0 ft
Total volume 13,571,000 yd³

Spillway: Concrete crest and concrete-lined
tunnel through left abutment controlled by
two 20- by 50-ft radial gates.

Elevation, top of gates 5620.0 ft
Crest elevation 5570.0 ft
Capacity at El. 5621 48,500 ft³/s

Outlet works:

River: Concrete-lined tunnel through left
abutment controlled by four 7.5- by 9-ft
slide gates and two 96-in hollow-jet valves.

Capacity at El. 5621 33,000 ft³/s

Power: Concrete-lined tunnel through left
abutment terminating in four penstock
branches to powerhouse. Two penstock
bypass branches to outlet works control
house are each controlled by a 7.5- by 9-ft
slide gate.

Capacity at El. 5621 (bypass) 14,500 ft³/s

Foundation: Highly compacted, generally
impermeable alternating layers of clayey
silt, sandstone, clayey sand and gravel, and
conglomerate in the riverbed and right
abutment; left abutment is a hard, ex-
ceedingly sound andesite intrusion.

Power Facilities

PALISADES POWERPLANT

Location: Palisades Dam
Year of initial operation: 1957
Year last unit placed in operation: 1958
Nameplate capacity 118,750 kW
Number and capacity of generators (2) 28,500 kW
..... (2) 30,875 kW
Maximum head 244 ft

SUBSTATIONS

Number in operation 1
Capacity of transformers 152,500 kVA

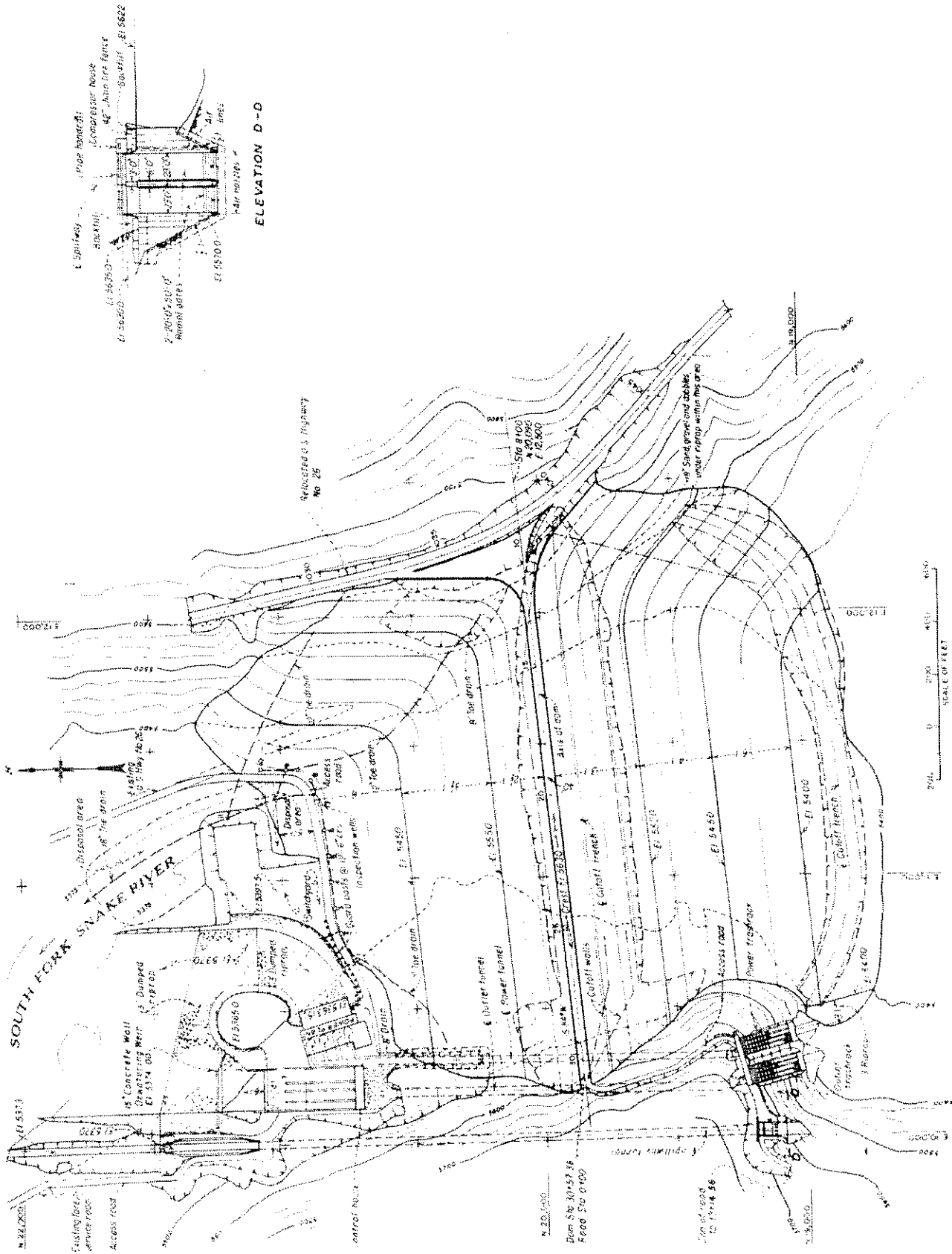
TRANSMISSION LINES

Total number of lines 4
Total circuit miles 0.44

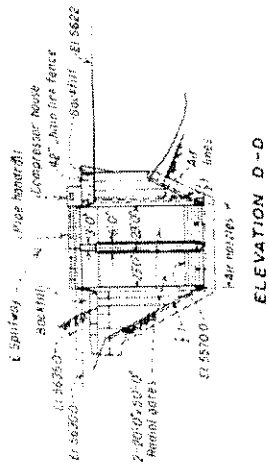
Designation	Capacity		Circuit miles	Year placed in service
	kV	kW		
Palisades Powerplant—				
Switchyard (Y1)	115	35,000	0.11	1957
Switchyard (Y2)	115	35,000	.11	1957
Switchyard (Y3)	115	35,000	.11	1957
Switchyard (Y4)	115	35,000	.11	1958

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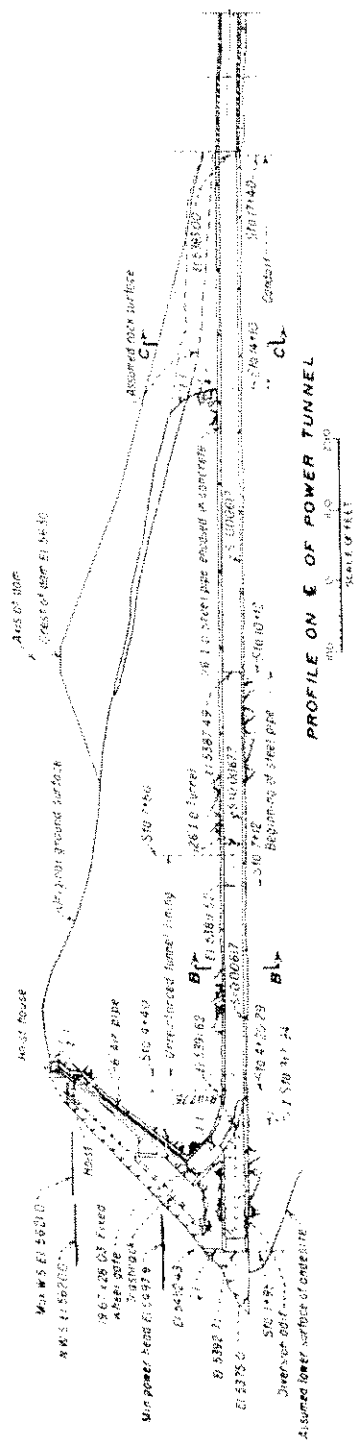
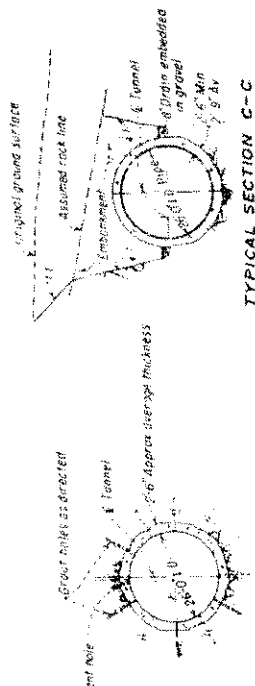
COPY



Palisades Dam, Plan



ELEVATION D-D



Palisades Dam, Sullivan

EXCEPTION TO CLAIM WATER RIGHT

4/18/77

AFFIDAVIT

U.S. DEPT. OF AGRICULTURE
Department of Water Resources
Eastern District Office

STATE OF IDAHO)
) ss.
County of Jefferson)

Jack Billings being first duly sworn, deposes and states:

1. I am the Chairman of the Directors of the Protective Union.
2. The Protective Union is an organization representing approximately fifty (50) canal companies in the Upper Snake River Valley, located generally from Blackfoot to Rexburg.
3. The Protective Union in behalf of itself and it's member canal companies, takes exemption to the Notice of Claims to Water Rights filed by the Bureau of Reclamation, which notice was published March 15 and March 22, 1984, in the Idaho Falls Post Register, a copy of which published notice is attached hereto, marked Exhibit "A" and by this reference made a part hereof.
4. Representatives of the Bureau have informed representatives of the Protective Union that the claimed water rights are already in existence and allocated, and the claim does not purport to establish or create any new or additional water rights. It would require considerable investigation and research to either dispute or corroborate that claim. Therefore, in the absence of knowledge to the contrary, that representation is at this time taken as accurate.
5. With the explanation in Paragraph 4 herein, exception is nevertheless raised to the 92,000 acre feet of bank storage for the following reasons:
 - (A) There is no legal right to claim bank storage water.
 - (B) The bank storage is unavailable unless the reservoir is drawn down. The amount of draw-down will proportionately affect the amount of actual bank storage.
 - (C) There are no rules or guidelines for use of the bank storage water.

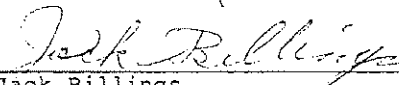
(D) There is insufficient evidence to establish that there is, in fact, 92,000 acre feet of bank storage that will come out of the banks when the reservoir is lowered. Even if that amount of water seeps into the bank, it is believed the majority of it will not come back into the reservoir as it is lowered.

(E) If bank storage is offset against transmission losses of allocated rights, that can have a detrimental effect on natural flow rights.

(F) All of the design capacity for Palisade storage water has been allocated and if there is in fact extra water, it may be subject to additional claims and/or allocations. If those are made and agreements subsequently entered, if that water does not exist, it will create an intolerable situation among holders of Palisade water because there would not be enough water to fill the contractual allotments.

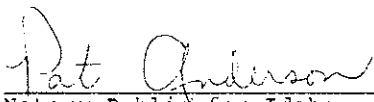
6. This exception is not intended to suggest that if there is in fact storage water, it should not be prorated among existing spaceholders, but is to raise the problems described herein.

7. To the extent the claim alleges a right to more than 1.2 million acre feet for irrigation, through recharge and/or through refilling of the reservoir after it has once been filled each season, exception to such a right of refilling or recharge is made for the reason that such refilling or recharge interferes with flood water rights now diverted and applied to beneficial use by many water users.



Jack Billings

Subscribed and sworn to before me this 27th day of May, 1984.



Notary Public for Idaho
Residing at Rigby, Idaho
Lifetime Commission

(Seal)

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