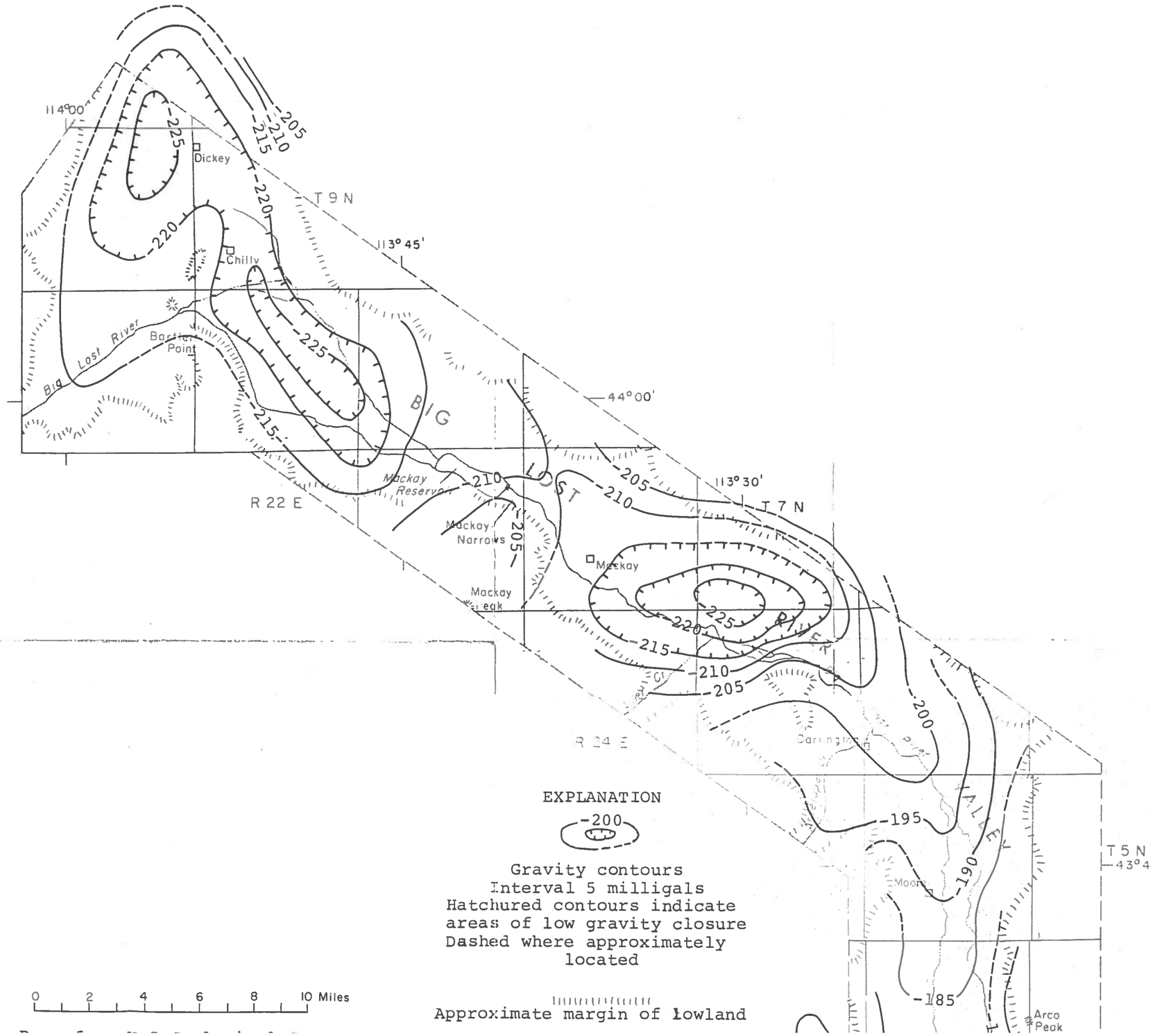
F-11

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH THE STATE
OF IDAHO DEPARTMENT OF RECLAMATION



GEOLOGICAL SURVEY

about 22 miles

To Challis about 21 miles

EXPLANATION

2 — Subbasin used for hydrologic computations

1200 — Gaging station and number

Miscellaneous stream-measuring site

1215 — Discontinued gaging station or measuring site and number

Drainage basin boundary
Dotted where approximately located

Approximate margin of lowland

Quality of water data-c

40 — Snow cours

38 — U.S.Weather Bureau

46 — Precipitation stor

37 — Miscellaneous snow mea
Numbers refer to sta
in figures 6, 7,

R. 22 E.

T. 11 N.

44°15'

R. 20 E.

T 9 N.

R. 24 E.

R. 26 E.

44°

114°

114°15'

113°30'

R 18 E

T. 7 N.

43°

113°15'

THOUSAND SPRINGS VALLEY

Thousands Springs Ck

Sage Ck

Anderson Spr

Chilly Buttes

Jerry Peak

Chilly Narrows

Bartlett Point

Leatherman Peak

LOST RIVER RANGE

Lower Cedar Ck

Cedar Ck

Twin Bridges Ck

Lost R

Howell Ranch

Rock Ck

Burton School

Gilmore Ck

Boone Ck

Big Lost River

North Fork Big Lost River

Ryan Peak

BOULDER MOUNTAINS

East Fork Big Lost River

Fall Cr

Wild Horse Cr

Kane

Romey Cr

HOWELL CAN

Bellas Canyon

Standhope Peak

Broad Canyon

COPPER BASIN

Hyndman Peak

PIONEER MOUNTAINS

Cabin Cr

Trail Cr

Alder Cr

Willow Cr

Mackay Reservoir

Mackay

Honson Ditch

Leslie

TABLE M

Darlington

Darlington Sinks

Big Lost River

Big Blaine Canal

Ramshorn Canyon

Moore Canal heading

Suveria Road Crossing

Moore

Moore Canal

Antelope Cr

Cherry Cr

Grouse Cr

Arco Peak

Sunset Peak

Elbow Canyon

Jepson Canyon

Spring Cr

Boyles Cr

CUSTER CO

BUTTE CO

MOUNTAINS

To Galena about 13 miles

To Sun Valley about 9 miles

To Hailey about 20 miles

To H
about 1

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GEOLOGICAL SURVEY

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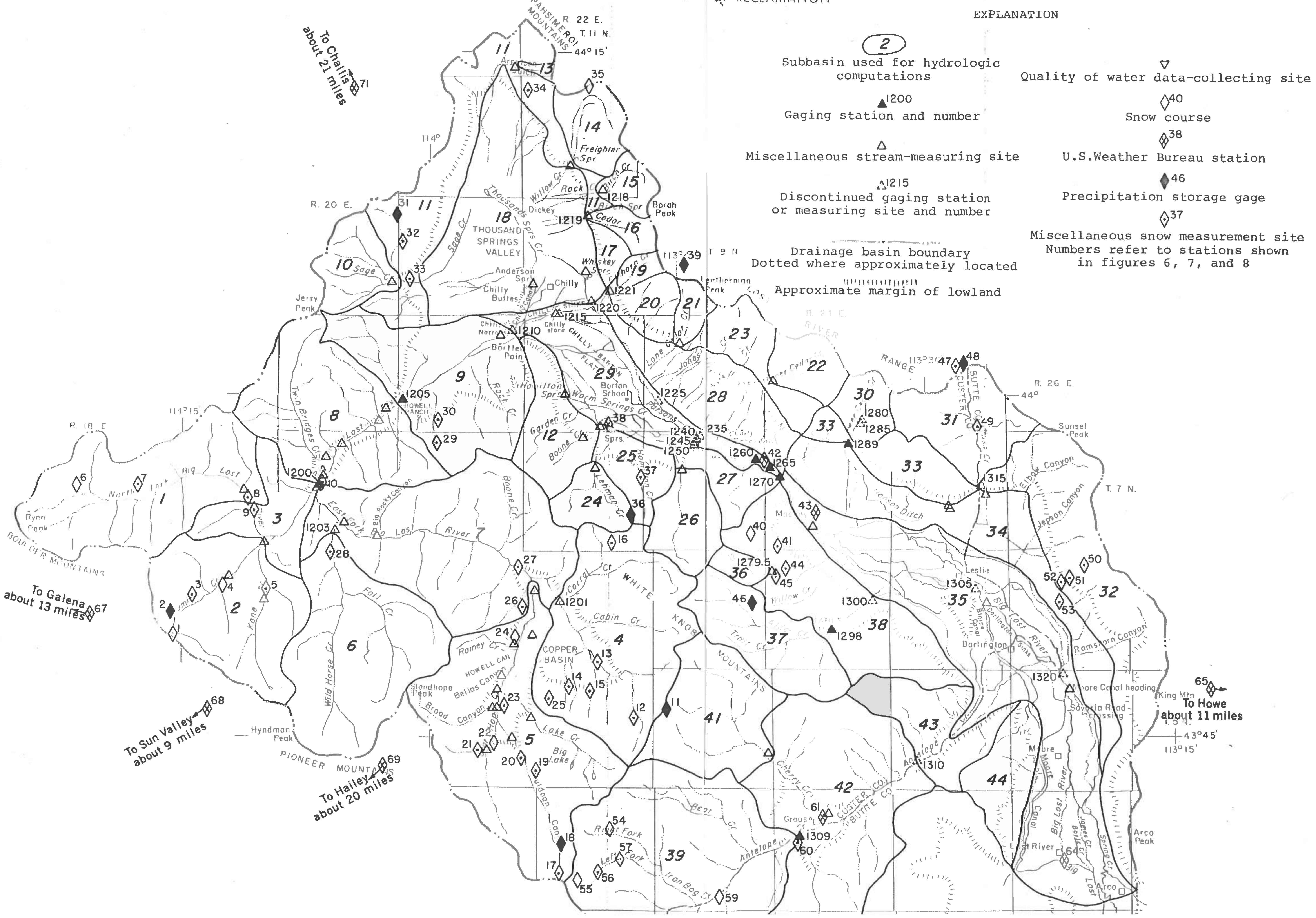
EXPLANATION
2
Subbasin used for hydrologic computations
1200
Gaging station and number
Miscellaneous stream-measuring site
1215
Discontinued gaging station or measuring site and number
Drainage basin boundary
Dotted where approximately located
Approximate margin of lowland
Quality of water data-collecting site
40
Snow course
38
U.S.Weather Bureau station
46
Precipitation storage gage
37
Miscellaneous snow measurement site
Numbers refer to stations shown in figures 6, 7, and 8
70
To May about 22 miles
To Challis about 21 miles
71
To Galena about 13 miles
67
To Sun Valley about 9 miles
68
To Hailey about 20 miles
69
To Howe about 11 miles
65
PAHSIMEROI MOUNTAINS
R. 22 E.
T. 11 N.
44° 15'
R. 20 E.
R. 18 E.
114°
114°15'
113°39
T. 9 N
R. 26 E.
44°
T. 7 N.
43°45'
113°15'
THOUSAND SPRINGS VALLEY
Thousand Sprs Cr
Sage Cr
Willow Cr
Rock Cr
Freighter Spr
Birch Cr
Birch Spr
Cedar
Borah Peak
Dickey
Whiskey Spr
Anderson Spr
Chilly
Chilly Buttes
Chilly store
Chilly Narrows
Bortler Point
CHILLY BARTON FLAT
Jerry Peak
Leatherman Peak
Lost River
RANGE
Lone Cedar Cr
Jones
Hamilton Sprs
Warm Springs Cr
Barton School
Parsons
Garden Cr
Boone Cr
Sprs.
Lehman Cr
Howell Ranch
Twin Bridges Cr
North Fork Big Lost River
East Fork Big Lost River
Big Rocky Canyon
Ryan Peak
BOULDER MOUNTAINS
Kane
Fall Cr
Wild Horse Cr
Hyndman Peak
PIONEER MOUNTAINS
Corral Cr
WHITE KNOB MOUNTAINS
Cabin Cr
COPPER BASIN
Ramey Cr
HOWELL CAN
Bellas Canyon
Standhope Peak
Broad Canyon
Lake Cr
Big Lake
Muldoon Can
Right Fork
Left Fork
Iron Bog Cr
Bear Cr
Antelope
Cherry Cr
Grouse Cr
CUSTER CO
BUTTE CO
Willow Cr
Trail Cr
Alder Cr
Jepson Ditch
Mackay
CUSTER CO
BUTTE CO
Sunset Peak
Elbow Canyon
Jepson Canyon
Leslie
Blaine Canal
Darlington Canal
Darlington
Sinks
Big Lost River
Ramshorn Canyon
Moore Canal heading
Savoria Road crossing
King Mtn
Moore
Moore Canal
Lost River
James Cr
Boyle Cr
Spring Cr
Arco Peak
Arco
1200
1203
1205
1210
1215
1218
1219
1220
1221
1225
1235
1240
1245
1250
1260
1265
1270
1279.5
1280
1285
1289
1298
1300
1305
1309
1310
1315
1320
1201

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GEOLOGICAL SURVEY

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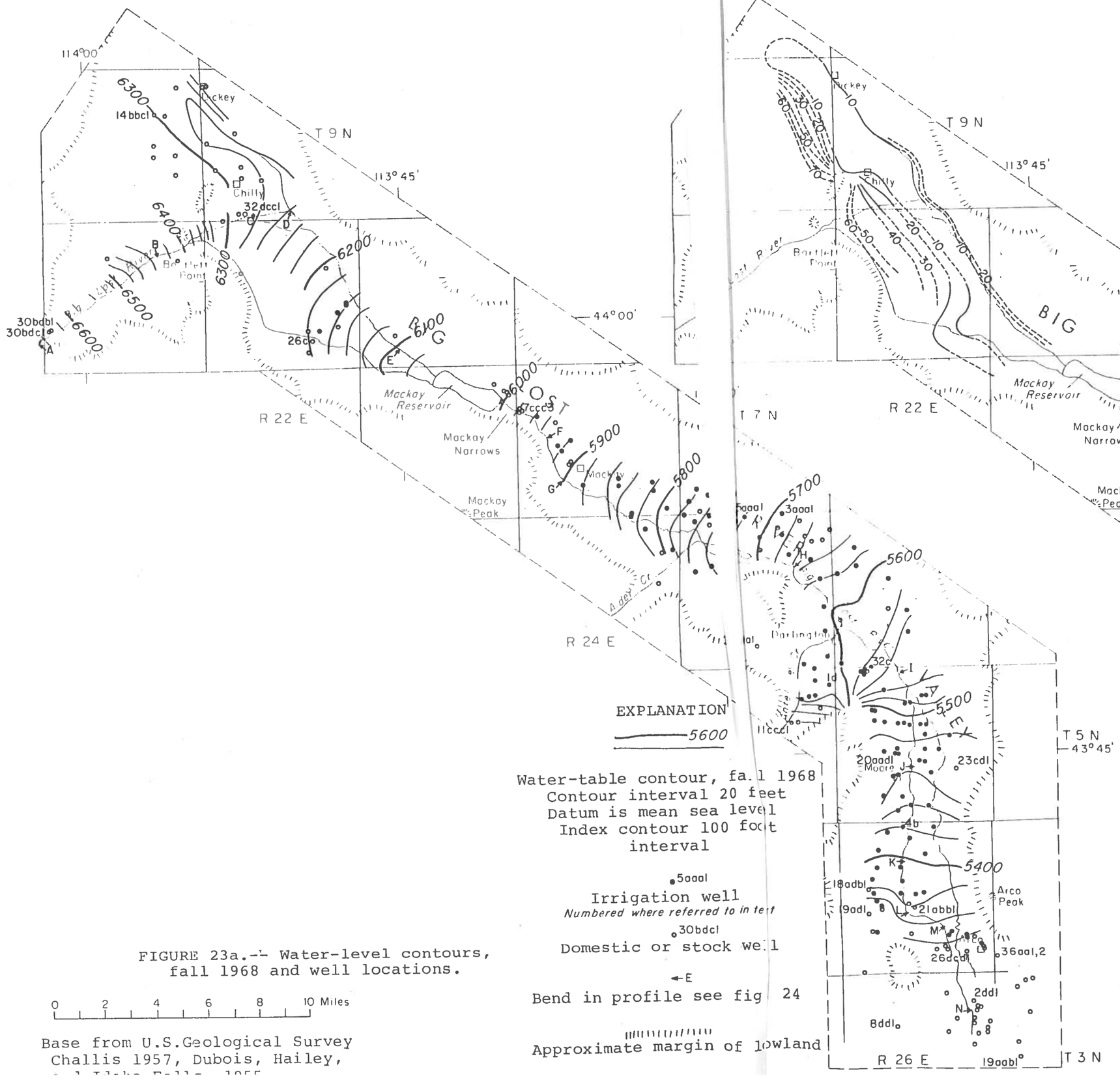
OF IDAHO DEPARTMENT OF RECL



EXPLANATION

5600

Water-table contour, fall 1968
Contour interval 20 feet
Datum is mean sea level
Index contour 100 foot interval

5aaal

Irrigation well
Numbered where referred to in text

30bdcl

Domestic or stock well

E

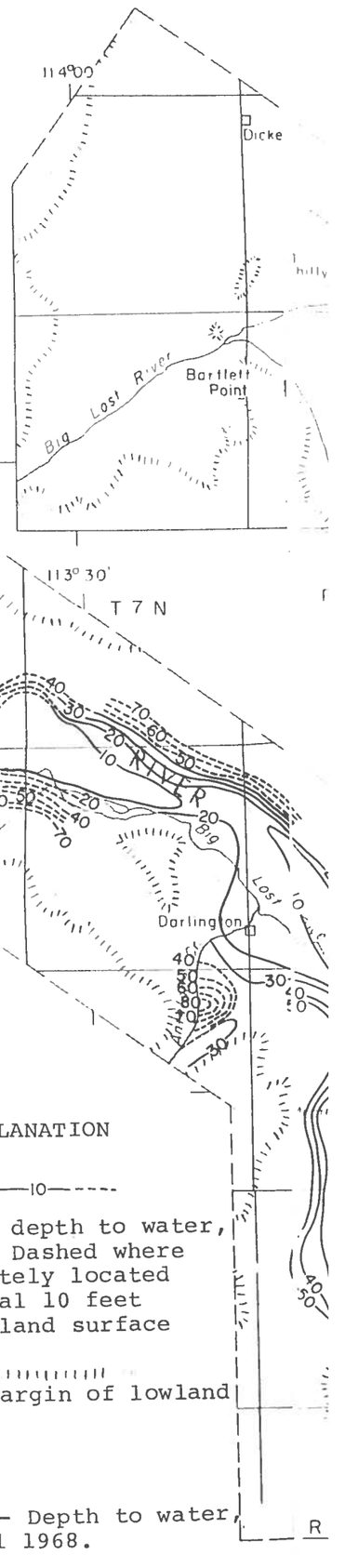
Bend in profile see fig 24

Approximate margin of lowland

FIGURE 23a.-- Water-level contours, fall 1968 and well locations.

0 2 4 6 8 10 Miles

Base from U.S.Geological Survey
Challis 1957, Dubois, Hailey,



EXPLANATION

10

Line of equal depth to water, fall 1968. Dashed where approximately located
Interval 10 feet
Datum is land surface

Approximate margin of lowland

FIGURE 23b.-- Depth to water, fall 1968.

ERATION WITH THE STATE
'MENT OF RECLAMATION

Fig 23

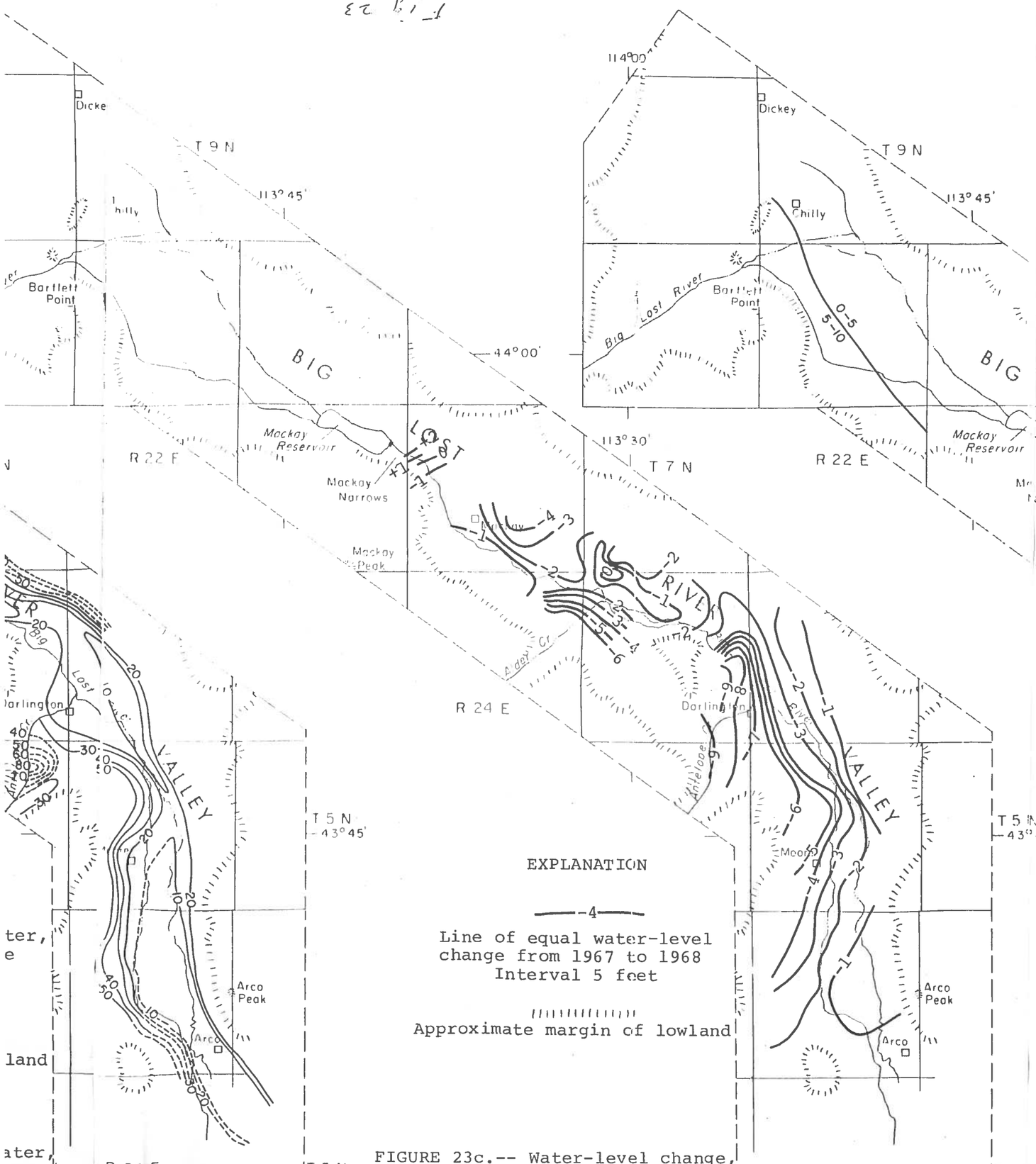


FIGURE 23c.-- Water-level change,

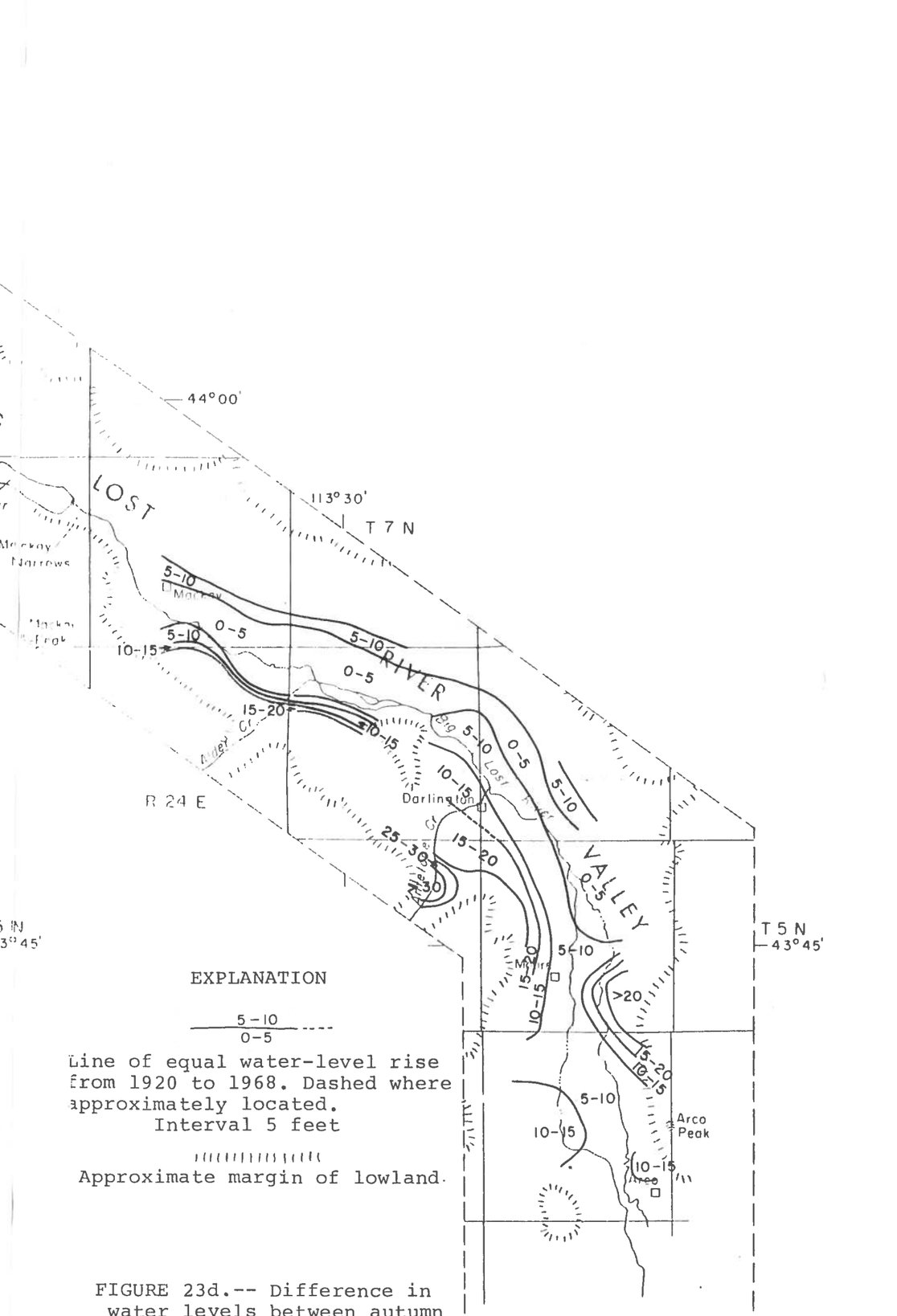


FIGURE 23d.-- Difference in water levels between autumn

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GEOLOGICAL SURVEY

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1:250,000

EXPLANATION

—10— Line of equal mean annual water yield, 1944-68
Contour interval 0.9, 1.5, 2.5,5, and 10 inches

Drainage basin boundary
Dotted where approximately located

Approximate margin of lowland

R. 22 E.
T. 11 N.
44°15'
114°
R. 20 E.
113°45'
T. 9 N.
R. 24 E.
R. 26 E.
114°15'
T. 7 N.
T. 5 N.
43°45'
113°15'
Sunset Peak
King Mtn.
Arco Peak
Leatherman Peak
Jerry Peak
Hyndman Peak
PIONEER MOUNTAINS
Big Lost River
Darlington
Leslie
Ramshorn Canyon
Moore

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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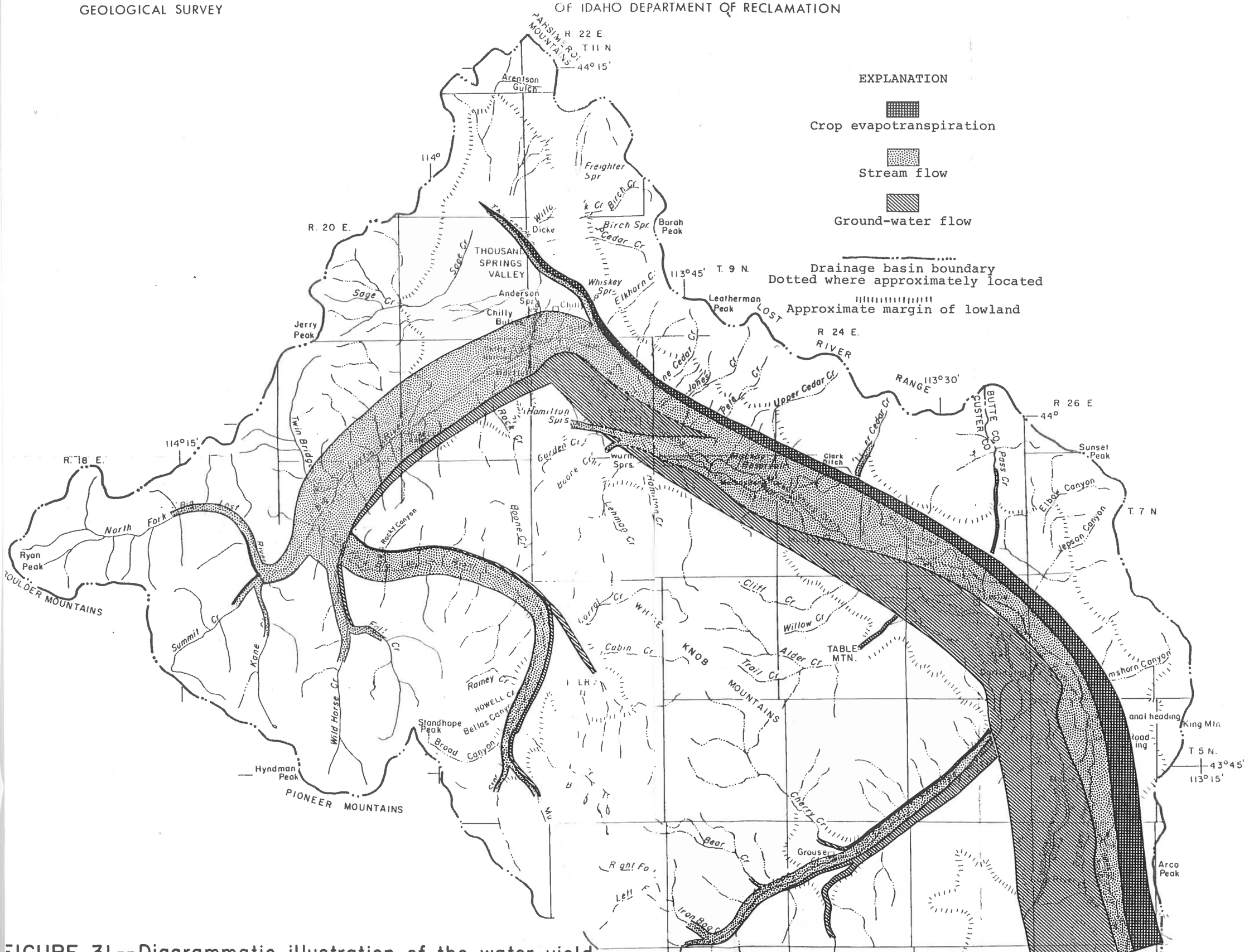

FIGURE 31.--Diagrammatic illustration of the water yield

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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Fig 1


114°
T. 11 N.
T. 9 N.
T. 7 N.
R. 20 E.
R. 18 E.
R. 26 E.
44°
Dickey Pk
10
9
8
7
6
5
4
Willow
Borah Peak
Dickey
(6845)
Thousand Springs
Chilly
Sage
Herd Lake
Leatherman Peak
LOST
BIG
RIVER
BIG LOST RIVER
7500
Mackay Reservoir
Invisible Mtn
Sunset Pk
Porphyry Peak
North Fork
West
Ryan Pk
East Fork
Mackay
(5900)
Rothas
Mackay Peak
Houston
Leslie
Alder Cr.
VALLEY
Darlington
CHALLIS NATIONAL FOREST
Big Black Dome
Copper Basin
Corral Cr.
Shelly Mtn
Hope Cr.
Lake Cr.
Copper Basin Knob
Sheep Mtn
Stanhope Pk
Hyndman Peak
PARALLEL NORTH
Smiley Mtn
Canyon
CUSTER CO.
BUTTE CO.
Antelope
Lost River
(Grouse P.O.)
Creek
EAST
Appendicitis Hill
Moore
RIVER
King Mtn
Arco Peak
7515
Arco
93
ALT
BIG LOST RIVER
Area of this report
INDEX MAP OF IDAHO
0 10 50 100 Miles
Coeur d'Alene
Moscow
Lewiston
Salmon River
Salmon
Boise River
BOISE
Idaho Falls
SNAKE RIVER PLAIN
SNAKE
RIVER
Pocatello
Twin Falls
117°
116°
115°
114°
113°
112°
111°
49°
48°
47°
46°
45°
43°
42°

EXPLANATION
Geology

QUATERNARY

Qal

Alluvial deposits

Includes alluvium deposited by Big Lost River and its tributaries, alluvial fans, glacial deposits, and terrace deposits. Consists of clay, silt, sand, and gravel. Sand and gravel yields large amounts of water to wells; the most important water-bearing group of rocks in the basin.

Qoal

Older cemented alluvial deposits

Consists of gravel, sand, silt, and clay cemented with calcium carbonate. Yields small supplies of water to wells.

Qsr

Basalt of the Snake River Group

Fractured and jointed flows of gray olivine basalt. Contains some ground water and yields moderate supplies to a few irrigation wells. Exploration for ground water has been very limited.

PRE-QUATERNARY

Pls

Carbonate rocks

Rock formations which are predominately limestone of Paleozoic age but includes some conglomerate, sandstone, and chert. Includes Saturday Mountain Formation, Laketown Dolomite, Jefferson Formation, Grand View Dolomite, Three Forks Limestone, White Knob Limestone, Middle Canyon Formation, and undifferentiated limestones of Carboniferous age. The carbonate rocks are associated with the large springs in the basin and they also accept considerable quantities of recharge in some parts of the basin.

PT

Noncarbonate rocks

Rock formations which are predominately quartzite, sandstone, argillite, siltstone, granite and volcanics of Pre-Cambrian to Tertiary age. Includes undifferentiated quartzite and slate, Kinnikinic Quartzite, Milligen Formation, Wood River Formation, and Copper Basin Formation of Paleozoic age, and granitic intrusive rocks and Challis volcanics of Tertiary age. Small seeps and springs discharge from the rocks.

EXPLANATION
Symbols

A——A'
Geologic section
See figures 12-16

Contact
Approximately located

Fault
Dashed where approximately located
dotted where concealed

Drainage basin boundary
Dotted where approximately located

Approximate margin of lowland