UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

North Side Pumping Field Division
Rupert, Idaho

July 5, 1956

IN REPLY REFER TO:

To: Regional Director, Boise, Idaho
Attention: 400

From: Construction Engineer, Rupert, Idaho

Subject: Supplemental Land Certification--North Side Pumping Division, Minidoka Project, Idaho

We are transmitting, under separate cover, marked maps showing location of lands for subject certification. The attached table shows the acreage breakdown by land class for the supplemental certification.

Please note that to bring the Project Lands Appendix dated June 1, 1952 up to date, the following changes should be made:

On line 7, page 1, the figure 69,500 should be changed to read 80, 750. On line 2, page 25, under the paragraph headed "The Selected Area" the figure 12,830 should be changed to read 13,650 and the word "net" should be deleted. On line 3 of the same paragraph the figure 52,510 should be changed to read 67,100 and on line 4 of the same paragraph the word "net" should be deleted.

By copy of this letter 3 copies of the attached table and 3 complete sets of the marked maps showing location of subject certification are being transmitted to the Assistant Commissioner and Chief Engineer, Attention: D-740.

C. L. Kime

Enclosure No.162224
(under separate cover)

Copy to: Assistant Commissioner and Chief Engineer, Denver, w/encls.
Project Superintendent, Burley, Idaho, w/table encl. only)

MINIDOKA PROJECT

NORTH SIDE PUMPING DIVISION

IDAHO

D E F I N I T E P L A N R E P O R T

SUPPLEMENT

TO

1952 PROJECT LAND APPENDIX

December 1954
Revised June 1956

7-1594
(AUG. 1954)
BUREAU OF RECLAMATION

LAND CLASSIFICATION--SUMMARY DATA

DATE

1. AREA

REGION

PROJECT [redacted]

DIVISION [redacted]

UNIT [redacted]

OTHER

2. BASE MAPS

AERIAL PHOTO	[X]	SCALE [redacted]
TOPOGRAPHIC	[X]	SCALE [redacted]
PLANE TABLE	[ ]	SCALE
OTHER	[ ]	SCALE

3. FIELD WORK

INIT. [redacted] COMP. [redacted] OTHER [redacted] APPENDIX REPORT [redacted]

4. ACREAGE CLASSIFIED

	TOTAL SURVEY	PROJECT OR UNIT		
		IRRIGATED	NONIRRIGATED	TOTAL
CLASS 1	[redacted]		[redacted]	[redacted]
CLASS 2	[redacted]		[redacted]	[redacted]
CLASS 3	[redacted]		[redacted]	[redacted]
CLASS 4	[redacted]		[redacted]	[redacted]
SUBTOTAL	[redacted]		[redacted]	[redacted] *
CLASS 5				
CLASS 6W				
CLASS 6	[redacted]		[redacted]	[redacted]
R.O.W.	[redacted]		[redacted]	[redacted]
TOTAL	[redacted]		[redacted]	[redacted]

* IRRIGABLE AREA. PRODUCTIVE AREA [redacted]

ACREAGE NOT CLASSIFIED [redacted]

5. NUMBER OF BORINGS AND PITS

	MINIMUM	AVERAGE	TOTAL
SHALLOW (5')	[redacted]	[redacted]	[redacted]
DEEP (OVER 10')			
OPEN PIT OR DEEP PROFILES			

6. SUPPLEMENTAL PROCEDURES

SALINITY	[X]	SODIUM	[X]
pH	[X]	GYPSUM	[ ]
LINE	[X]	LEACHING	[X]
MECH. ANAL.	[X]	ORG. MATTER	[ ]
H_2O CONDUCT.	[X]	FIELD CAPACITY	[X]
INFILTRATION	[X]	WILTING POINT	[X]
BULK DENSITY	[X]	H_2O STABILITY	[ ]
OTHER	[ ]		

7. SPECIFICATIONS AND INFORMATIVE APPRAISALS

TYPE OF SPECS.: GENERAL OR REGIONAL [ ] PHYSICAL [ ] PROJECT [X] OTHER [ ]

ESTIMATE OF PAY. CAPACITY OF IRRIGABLE LAND CLASSES: $ [redacted] $ $ $ $

TYPE OF APPRAISALS: LAND USE [X] PRODUCTIVITY [X] LAND DEVEL. [X] WATER REQUIR. [X]

LAND DRAINABILITY [X] OTHER [ ]

DESCRIPTION OF CLASS 4: [redacted]

DESCRIPTION OF CLASS 5: [redacted]

8. DETERMINATION OF IRRIGABLE AREA (STEPS COMPLETED)

WATER SUPPLY [X] DISTRIBUTION SYSTEM PLAN [X] DRAINAGE SYSTEM PLAN [X] PAYMENT CAPACITY [X]

FARM UNIT LAYOUT [X] REVIEW BY WATER USERS [ ] O.M.+ R [X]

9. USE OF LAND CLASSIFICATION

WATER REQUIREMENTS [X] DISTRIBUTION SYSTEM PLAN [X] DRAINAGE SYSTEM PLAN [X] IRRIGATION ASSESSMENTS [X]

LAND APPRAISAL [X] FARM UNIT DEVELOPMENT [X] LAND USE AND MANAGEMENT [X] IRRIGATION BENEFITS [X] OTHER [X]

10. PRIOR SURVEYS OR CLASSIFICATIONS

TYPE AND AGENCY	YEAR	SCALE	COVERAGE
[redacted]	[redacted]	[redacted]	[redacted]

11. REVIEWS AND COOPERATION

OFFICE OR AGENCY	DATE
[redacted]	[redacted]

12. DATE OF SECRETARIAL CERTIFICATION

Interior - Reclamation - Denver, Colo.

ACREAGE TABULATIONS
1952 and 1956 Land Classification Certifications
North Side Pumping Division--Minidoka Project

IRRIGABLE AREAS (Acres)

Land class	1952 Certification	1956 Certification	Total
1	36,160	1,164.2	37,324.2
2	25,130	3,465.5	28,595.5
3	8,210	6,620.3	14,830.3
Total	69,500	11,250.0	80,750.0

IRRIGABLE AREAS BY SUPPORTING REPORTS
(Acres)

Land class	1952 Project lands appendix		1954 Supplement
	1952 Certification	1956 Certification	1956 Certification
1	36,160	462.9	701.3
2	25,130	2,000.7	1,374.8
3	8,210	1,655.5	4,964.8
Total	69,500	4,209.1	7,040.9

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION
WILBUR A. DEXHEIMER, Commissioner

REGION 1
H. T. NELSON, Regional Director

M I N I D O K A P R O J E C T

N O R T H S I D E P U M P I N G D I V I S I O N

I D A H O

DEFINITE PLAN REPORT
SUPPLEMENT
TO
1952 PROJECT LANDS APPENDIX

Boise, Idaho
December 1954
Revised June 1956

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SUPPLEMENTAL PROJECT LANDS APPENDIX
NORTH SIDE PUMPING DIVISION
IDAHO

INTRODUCTION

As approved September 30, 1950, Public Law 864, 81st Congress, 2nd Session, authorized the irrigation of the land on the North Side Pumping Division of the Minidoka Project. In the initial development 69,500 irrigable acres were selected from an area of about 122,400 acres classified in detail. The irrigable area selected for development included 13,650 acres in Unit A to be served water by pumping from Snake River and 55,850 acres in Unit B to be served by pumping of ground water.

During the summer of 1954 an additional area of about 8,400 acres in the northeast part of the Division were classified in detail. This was done so that from the remaining more favorably located land withdrawn for reclamation, 8,150 additional acres of the best land authorized for development could be selected. This detailed land classification embraced an area in the shallower ground-water belt near Minidoka in which about 5,000 acres adjoining the area under development had already been classified but not included in the initial area of 69,500 acres selected for irrigation development (see General Map). Thus, in this area there is a total of about 13,500 acres from which the 8,150 irrigable acres can be selected to be served by pumping from wells designated as the Group 7 Wells. Tables 5A and 6A show the location and classification of the previously classified lands included in the area to be served by these wells. Up to 1954 this increases the area to be served from wells from 55,850 irrigable acres to 64,000.

This supplemental project lands appendix deals with the detailed classification of some 8,400 acres remaining unclassified when the Definite Plan Report of August 1952 was issued.

DIVISION LANDS CLASSIFIED IN 1954

Location and Extent

The 8,400 acres classified in detail during 1954 for inclusion in the North Side Pumping Division of the Minidoka Project were the last remaining Reclamation withdrawn lands to be classified for irrigation under the plans for development of that Division. These lands adjoin the northeastern edge of the area already classified as a more or less continuous narrow strip consisting of land on each side of the main line of the Union Pacific railroad for a distance of about 10 miles west from the vicinity of the Minidoka station.

Physical Land Features

These lands which lie just inside the northeastern edge of the Division are at elevations of from about 100 to 150 feet higher than at the southern edge because of the general rise northward of the loess-mantled lava plain. Topographically, there is a markedly discernable rise in elevation which coincides roughly with the northeastern exterior boundary of the area embracing the 69,500 acres initially certified for development.

This pronounced rise, together with a northward bench-like increase in elevation, has promoted development of a more clearly defined dendritic drainage pattern than to the south. Between the intermittent drainageways are for the most part broadly undulating and gently sloping land bodies generally well suited to irrigation development. The underlying basalt outcrops occasionally on the higher points of rolling land and along the outer edges of the flatter lands lying in the drainageways; but only in the extreme western part do these outcroppings give rise to any significantly continuous areas of scabland.

Northward from the sharp rise in elevation there is significantly higher lime accumulations in the subsoils and the substratum overlying the basalt bedrock than is common to most of the remainder of the Division. In this area the high permeability of the surface soil, together with the underlying crevviced basalt and well-developed dendritic drainage-pattern should prevent or alleviate any tendency to oversaturation which might arise from slow-up of the internal soil and underdrainage where lime cemented layers occur in the subsoil and substratum. In the vicinities of nearby Hazelton and Eden, land with similar topographic, soil and substratum characteristics are well drained and highly productive after more than 40 years under irrigation.

Soils

The soils, as elsewhere on the Division, have developed from airborne and windblown material deposited to variable depth over uneven basaltic lava of unknown thickness. Like those soils they have light colored, mellow, permeable, silty surface soils high in mineral nutrients but low in organic matter and nitrogen. Also similarly the subsoils have a high lime content but the compaction and cementation for the most part is more generally and highly developed and often extends well into the substratum.

According to the 1928 Soil Survey Report of the United States Department of Agriculture most of the soils in this part of the upland plain are members of the Minidoka series. As distinguished from the P rtneuf soils, which are the dominant soils elsewhere in the Division, the Minidoka soils are described as having much higher subsoil and substratum lime accumulation, that characteristically is in the form of

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Table 5--ACREAGE OF LAND CLASSES - SUPPLEMENTAL SURVEY 1954

NORTH SIDE PUMPING DIVISION
Minidoka Project, Idaho

Location			Arable					Non-Arable		
Sec.	Twp.	Rge.	1	2	3	5H	Total	4	6	Total
15	7	24	49.2	22.1	68.3		139.6	2.3	18.1	20.4
22	7	24	97.5	29.6	294.9		422.0	20.4	37.6	58.0
23	7	24	202.4	72.0	273.0		547.4	59.9	33.7	93.6
26	7	24	63.4	25.5	193.7		282.6	17.4	9.3	26.7
27	7	24	29.8	17.2	144.1		191.1	9.3	12.0	21.3
28	7	24	62.1	139.9	237.9		439.9	0.3	24.0	24.3
27	7	25	8.4	23.9	104.5		136.8	15.0	8.2	23.2
29	7	25	0.0	4.0	140.3		144.3	5.0	10.7	15.7
30	7	25	0.0	88.1	321.8		409.9	24.6	16.8	41.4
31	7	25	0.0	81.5	306.0		387.5	11.9	29.1	41.0
32	7	25	0.0	73.4	475.8		549.2	18.0	32.9	50.9
33	7	25	69.7	27.1	465.3		562.1	0.1	46.1	46.2
34	7	25	40.0	16.8	238.1		294.9	14.5	8.3	22.8
3	8	25	102.5	50.8	423.9		577.2	24.4	15.4	39.8
4	8	25	0.0	106.6	479.1		585.7	15.6	40.5	56.1
5	8	25	0.0	208.7	218.2		426.9	0.1	12.9	13.0
10	8	25	5.5	79.6	164.6		249.7	10.7	7.9	18.6
11	8	25	0.0	26.2	314.5		340.7	0.0	7.3	7.3
12	8	25	0.0	160.2	282.0		442.2	30.4	167.8	198.2
13	8	25	0.0	178.9	25.6		204.5	15.0	195.6	210.6
TOTALS			730.5	1432.1	5171.6		7334.2	294.9	734.2	1029.1

Table 5A--ACREAGE OF LAND CLASSES FROM INITIAL SURVEY

NORTH SIDE PUMPING DIVISION
Minidoka Project, Idaho

Location			Arable				Non-Arable		
Sec.	Twp.	Rge.	1	2	3	Total	4P	6	Total
33	7	24		50.7	243.7	294.4	0.7	45.8	46.5
35	7	24	4.5	63.1	227.5	295.1	9.5	7.7	17.2
6	8	25		88.2	38.0	126.2		12.0	12.0
15	8	25		32.3	64.2	96.5		6.7	6.7
7	8	25	30.7	52.8	259.3	342.8	16.5	8.7	25.2
Totals			35.2	287.1	832.7	1155.0	26.7	80.9	107.6

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1/ Arable less 4 percent for additional rights-of-way.

2/ Irrigable less 6 percent for farmsteads, farm roads, and farm ditches.

Table 6A--LAND CLASSIFICATION SUMMARY OF LANDS FROM INITIAL SURVEY

NORTH SIDE PUMPING DIVISION
Minidoka Project, Idaho

Land Class	Arable Land Acres	Irrigable Land 1/ Acres	Productive Land 2/ Acres
Class 1	35.2	33.9	31.8
Class 2	287.1	275.7	259.2
Class 3	832.7	799.5	751.6
Totals	1,155.0	1,109.1	1,042.6

1/ Arable Land less 4 percent for additional rights-of-way.

2/ Irrigable Land less 6 percent for farmsteads, farm roads, and farm ditches.

Irrigability Classification and Development of the Group 7 Wells Area

The lands classified as irrigable in this supplemental survey and the previously classified lands included in the 8,150 irrigable acres of this group, like those elsewhere in Unit B, will obtain irrigation water by pumping from wells. Likewise, as determined by location, elevation and capacities of the individual wells, the potentially irrigable lands will be laid out into farm units of acceptable size (see memorandum - table 8.)

The irrigable area map of the supplemental survey of 1954, following page 14, shows the arable lands and the tentative exterior boundary of the irrigable lands upon completion of the survey and in table 6, the arable, irrigable, and productive acreages are shown. Table 5-A gives the location and land class breakdown of the lands previously classified, and in table 6-A, the arable, irrigable, and productive acreages of that area are shown. The irrigable acreages will be subject to some minor changes upon the completion of the farm unit layout.

7-1594
(AUG. 1954)
BUREAU OF RECLAMATION

Table 7

LAND CLASSIFICATION--SUMMARY DATA

DATE 11/29/54

1. AREA

REGION 1

PROJECT Minidoka Project, Idaho

DIVISION [illegible] Pumping Division

UNIT Group 7 Gooding Area

OTHER

2. BASE MAPS

AERIAL PHOTO	X	SCALE 1:4800
TOPOGRAPHIC		SCALE 1:4800
PLANE TABLE		SCALE
OTHER		SCALE

3. FIELD WORK

INIT. 1947 & 1954 COMP. 7/1/54 OTHER 8/1/54 APPENDIX REPORT 11/29/54

4. ACREAGE CLASSIFIED

	TOTAL SURVEY	PROJECT OR UNIT		
		IRRIGATED	NONIRRIGATED	TOTAL
CLASS 1	765.7		735.8	735.8
CLASS 2	1,[illegible]72.8		1,050.3	1,050.3
CLASS 3	6,[illegible]08.3		5,[illegible]58.3	5,[illegible]58.3
CLASS 4	321.6		321.6	—
SUBTOTAL	8,[illegible]30.8		8,[illegible]72.6	8,130.8 *
CLASS 5				
CLASS 6W				
CLASS 6	825.1		825.1	825.1
R.O.W.	334.8		332.0	332.8
TOTAL	10,[illegible]90.7		9,[illegible]29.7	9,[illegible]88.3

* IRRIGABLE AREA. PRODUCTIVE AREA 7,[illegible]88.3

ACREAGE NOT CLASSIFIED

5. NUMBER OF BORINGS AND PITS

	MINIMUM	AVERAGE	TOTAL
SHALLOW (5')	25 per section	30 per section	340
DEEP (OVER 10')			5
OPEN PIT OR DEEP PROFILES			5

6. SUPPLEMENTAL PROCEDURES

SALINITY	X	SODIUM	X
pH	X	GYPSUM	
LINE	X	LEACHING	X
MECH. ANAL.	X	ORG. MATTER	
H_2O CONDUCT.	X	FIELD CAPACITY	X
INFILTRATION	X	WILTING POINT	X
BULK DENSITY	X	H_2O STABILITY	
OTHER			

7. SPECIFICATIONS AND INFORMATIVE APPRAISALS

TYPE OF SPECS.: GENERAL OR REGIONAL PHYSICAL averages PROJECT X OTHER

ESTIMATE OF PAY. CAPACITY OF IRRIGABLE LAND CLASSES: $ 32.50 $ $ $

TYPE OF APPRAISALS: LAND USE X PRODUCTIVITY X LAND DEVEL. X WATER REQUIR. X

LAND DRAINABILITY X OTHER

DESCRIPTION OF CLASS 4: Not irrigable under project plans (see specifications)

DESCRIPTION OF CLASS 5: None

8. DETERMINATION OF IRRIGABLE AREA (STEPS COMPLETED)

WATER SUPPLY X DISTRIBUTION SYSTEM PLAN X DRAINAGE SYSTEM PLAN X PAYMENT CAPACITY X

FARM UNIT LAYOUT X REVIEW BY WATER USERS O.M.+ R X

9. USE OF LAND CLASSIFICATION

WATER REQUIREMENTS X DISTRIBUTION SYSTEM PLAN X DRAINAGE SYSTEM PLAN X IRRIGATION ASSESSMENTS X

LAND APPRAISAL X FARM UNIT DEVELOPMENT X LAND USE AND MANAGEMENT X IRRIGATION BENEFITS X OTHER X

10. PRIOR SURVEYS OR CLASSIFICATIONS

TYPE AND AGENCY	YEAR	SCALE	COVERAGE
U.S.B.A. Soil Survey	1923	1"=1 mi.	complete

11. REVIEWS AND COOPERATION

OFFICE OR AGENCY	DATE
Ida. Department Ag. and Idaho Farms U.S.B.A. - S.C.S.	1947-48 5/29/50 and 6/30/54 Continuing

12. DATE OF SECRETARIAL CERTIFICATION

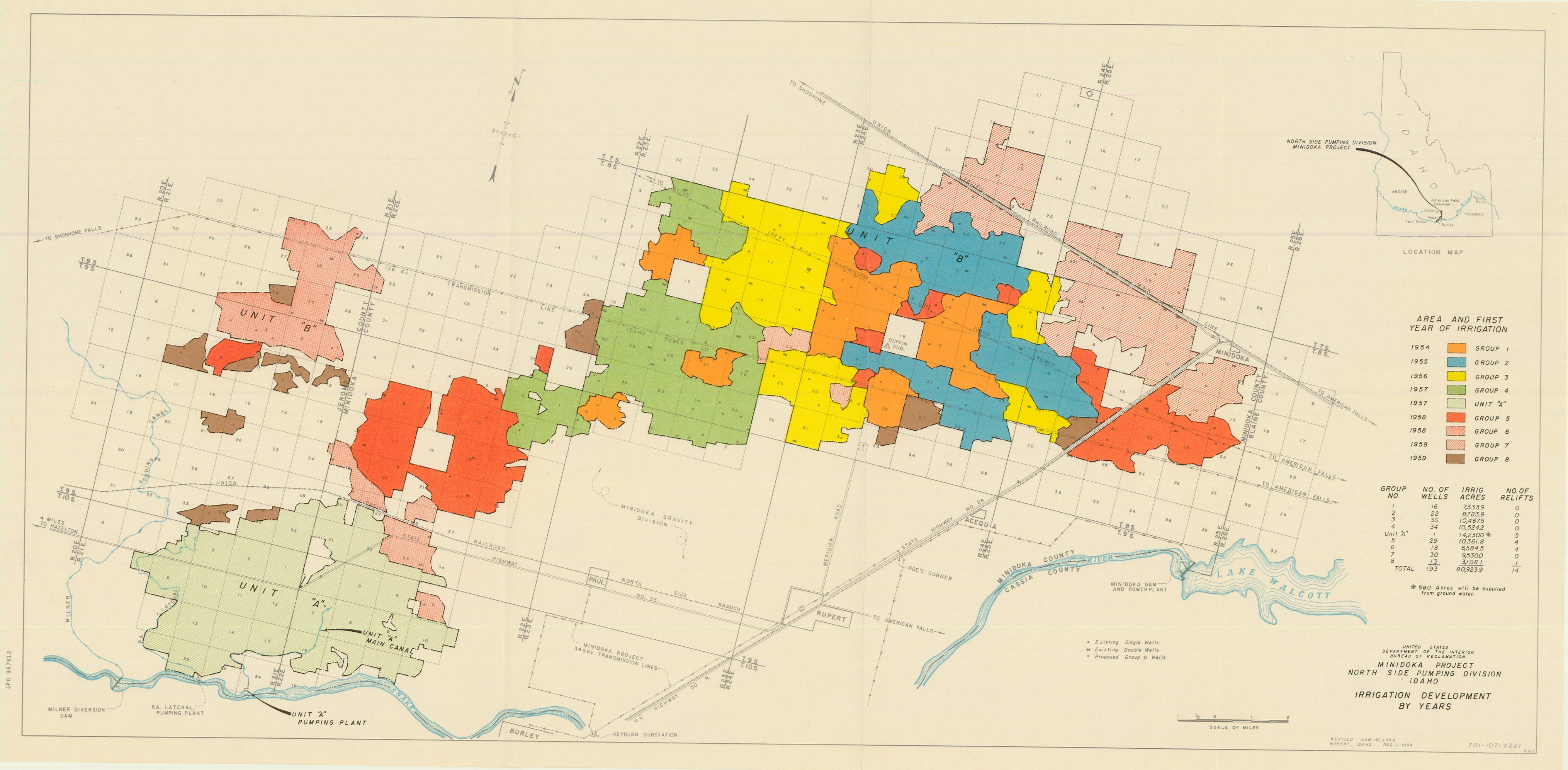
Interior - Reclamation - Denver, Colo.

APPENDED MATERIAL

This part of the Supplement to the Project Lands Appendix of 1952 deals with that portion of the North Side Pumping Division of the Minidoka Project designated as the area to be served by the Group 8 wells. This area is outlined on the map entitled Irrigation Development by Years, and on the land classification maps that follow.

The Group 8 Wells area consists of 3,100 irrigable acres, which, when added to the 69,500 irrigable acres initially certified in 1952, and the 8,150 acres covered for certification in the 1954 Supplement, raises the total acreage of the division proposed for development to 80,750 irrigable acres.

The derivation of the 3,100 irrigable acres for development in the area to be served by the Group 8 Wells is shown on the Land Classification Summary Data Sheet. The soils, land conditions and classification of these lands are described in the original 1952 Project Lands Appendix.


NORTH SIDE PUMPING DIVISION
MINIDOKA PROJECT
IDAHO
BOISE
American Falls Reservoir
Idaho Falls
Snake
Grooding
Rupert
Pocatello
Twin Falls
Burley
LOCATION MAP
AREA AND FIRST YEAR OF IRRIGATION
1954 GROUP 1
1955 GROUP 2
1956 GROUP 3
1957 GROUP 4
1957 UNIT "A"
1958 GROUP 5
1958 GROUP 6
1958 GROUP 7
1959 GROUP 8
GROUP NO. | NO. OF WELLS | IRRIG ACRES | NO. OF RELIFTS
1 | 16 | 7,333.9 | 0
2 | 22 | 8,783.9 | 0
3 | 30 | 10,467.5 | 0
4 | 34 | 10,524.2 | 0
Unit "A" | 1 | 14,230.0 * | 5
5 | 29 | 10,361.8 | 4
6 | 18 | 6,584.5 | 4
7 | 30 | 9,530.0 | 0
8 | 13 | 3,108.1 | 1
TOTAL | 193 | 80,923.9 | 14
* 580 Acres will be supplied from ground water.
UNIT "A"
UNIT "B"
UNIT "A" MAIN CANAL
UNIT "A" PUMPING PLANT
P.A. LATERAL PUMPING PLANT
MILNER DIVERSION DAM
MINIDOKA GRAVITY DIVISION
MINIDOKA PROJECT 34.5 Kv. TRANSMISSION LINES
HEYBURN SUBSTATION
RUPERT
PAUL
BURLEY
ACEQUIA
ROE'S CORNER
MINIDOKA DAM AND POWERPLANT
LAKE WALCOTT
MINIDOKA COUNTY
CASSIA COUNTY
JEROME COUNTY
MINIDOKA COUNTY
BLAINE COUNTY
IDAHO POWER CO.
DUFFIN SUB
138 Kv. TRANSMISSION LINE
NORTH SIDE BRANCH NO. 25
STATE HIGHWAY NO. 24
U.S. HIGHWAY 30 N
RAILROAD
MERIDIAN ROAD
GOODING CANAL
MILNER
SNAKE
TO SHOSHONE
TO SHOSHONE FALLS
TO HAZELTON
TO AMERICAN FALLS
4 MILES
* Existing Single Wells
= Existing Double Wells
◦ Proposed Group 8 Wells
SCALE OF MILES
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION
MINIDOKA PROJECT
NORTH SIDE PUMPING DIVISION
IDAHO
IRRIGATION DEVELOPMENT BY YEARS
REVISED JAN. 10, 1956
RUPERT, IDAHO DEC. 1, 1954
701-107-4221
RHP
GPO 987912

MINIDOKA PROJECT

NORTH SIDE PUMPING DIVISION

IDAHO

D E F I N I T E P L A N R E P O R T

SUPPLEMENT

TO

1952 PROJECT LANDS APPENDIX

December 1954
Revised June 1956

7-1594
(AUG. 1954)
BUREAU OF RECLAMATION

LAND CLASSIFICATION--SUMMARY DATA

DATE

1. AREA

REGION

PROJECT Minidoka Project, Idaho

DIVISION North Side Pumping Division

UNIT Group 7 and 8 Wells Areas

OTHER

2. BASE MAPS

AERIAL PHOTO	X	SCALE 1:4800
TOPOGRAPHIC	X	SCALE 1:4800
PLANE TABLE		SCALE
OTHER		SCALE

3. FIELD WORK
INIT. 1947 & 1954 COMP. 7/1/54 OTHER 8/1/54 APPENDIX REPORT 1952 & 1/15/54

4. ACREAGE CLASSIFIED

	TOTAL SURVEY	PROJECT OR UNIT IRRIGATED	PROJECT OR UNIT NONIRRIGATED	PROJECT OR UNIT TOTAL
CLASS 1	1,212.7		1,164.2	1,164.2
CLASS 2	3,610.2		3,465.5	3,465.5
CLASS 3	6,895.3		6,620.3	6,620.3
CLASS 4	362.6		362.6	--
SUBTOTAL	12,080.8		11,612.6	11,250.0 *
CLASS 5				
CLASS 6W				
CLASS 6	1,290.1		1,290.1	1,290.1
R.O.W.	510.0		481.0	450.0
TOTAL	13,880.9		13,383.7	12,990.1

* IRRIGABLE AREA. PRODUCTIVE AREA 10,575
ACREAGE NOT CLASSIFIED --

5. NUMBER OF BORINGS AND PITS

	MINIMUM	AVERAGE	TOTAL
SHALLOW (5')	16 per Sec.	22 per Sec.	460
DEEP (OVER 10')			9
OPEN PIT OR DEEP PROFILES			9

6. SUPPLEMENTAL PROCEDURES

SALINITY	X	SODIUM	X
pH	X	GYPSUM	
LIME	X	LEACHING	X
MECH. ANAL.	X	ORG. MATTER	
H_2O CONDUCT.	X	FIELD CAPACITY	X
INFILTRATION	X	WILTING POINT	X
BULK DENSITY	X	H_2O STABILITY	
OTHER			

7. SPECIFICATIONS AND INFORMATIVE APPRAISALS

TYPE OF SPECS.: GENERAL OR REGIONAL [ ] PHYSICAL [ ] PROJECT [X] OTHER [ ]

ESTIMATE OF PAY. CAPACITY OF IRRIGABLE LAND CLASSES: $ average 12.38 $ $ $

TYPE OF APPRAISALS: LAND USE [X] PRODUCTIVITY [X] LAND DEVEL. [X] WATER REQUIR. [X]
LAND DRAINABILITY [X] OTHER [ ]

DESCRIPTION OF CLASS 4: 4P not irrigable under project plans (see specifications).
DESCRIPTION OF CLASS 5: None

8. DETERMINATION OF IRRIGABLE AREA (STEPS COMPLETED)

WATER SUPPLY [X] DISTRIBUTION SYSTEM PLAN [X] DRAINAGE SYSTEM PLAN [X] PAYMENT CAPACITY [X]
FARM UNIT LAYOUT [X] REVIEW BY WATER USERS [ ] O.M.+R [X]

9. USE OF LAND CLASSIFICATION

WATER REQUIREMENTS [X] DISTRIBUTION SYSTEM PLAN [X] DRAINAGE SYSTEM PLAN [X] IRRIGATION ASSESSMENTS [X]
LAND APPRAISAL [X] FARM UNIT DEVELOPMENT [X] LAND USE AND MANAGEMENT [X] IRRIGATION BENEFITS [X] OTHER [X]

10. PRIOR SURVEYS OR CLASSIFICATIONS

TYPE AND AGENCY	YEAR	SCALE	COVERAGE
U.S.D.A. Soil Survey	1923	1"=1 mi	complete

11. REVIEWS AND COOPERATION

OFFICE OR AGENCY	DATE
Ida. Expt. Station and Extension Service	1947-48 4/10/50 & 4/30/54 continuing
U.S.D.A. - F.H.A.	

12. DATE OF SECRETARIAL CERTIFICATION

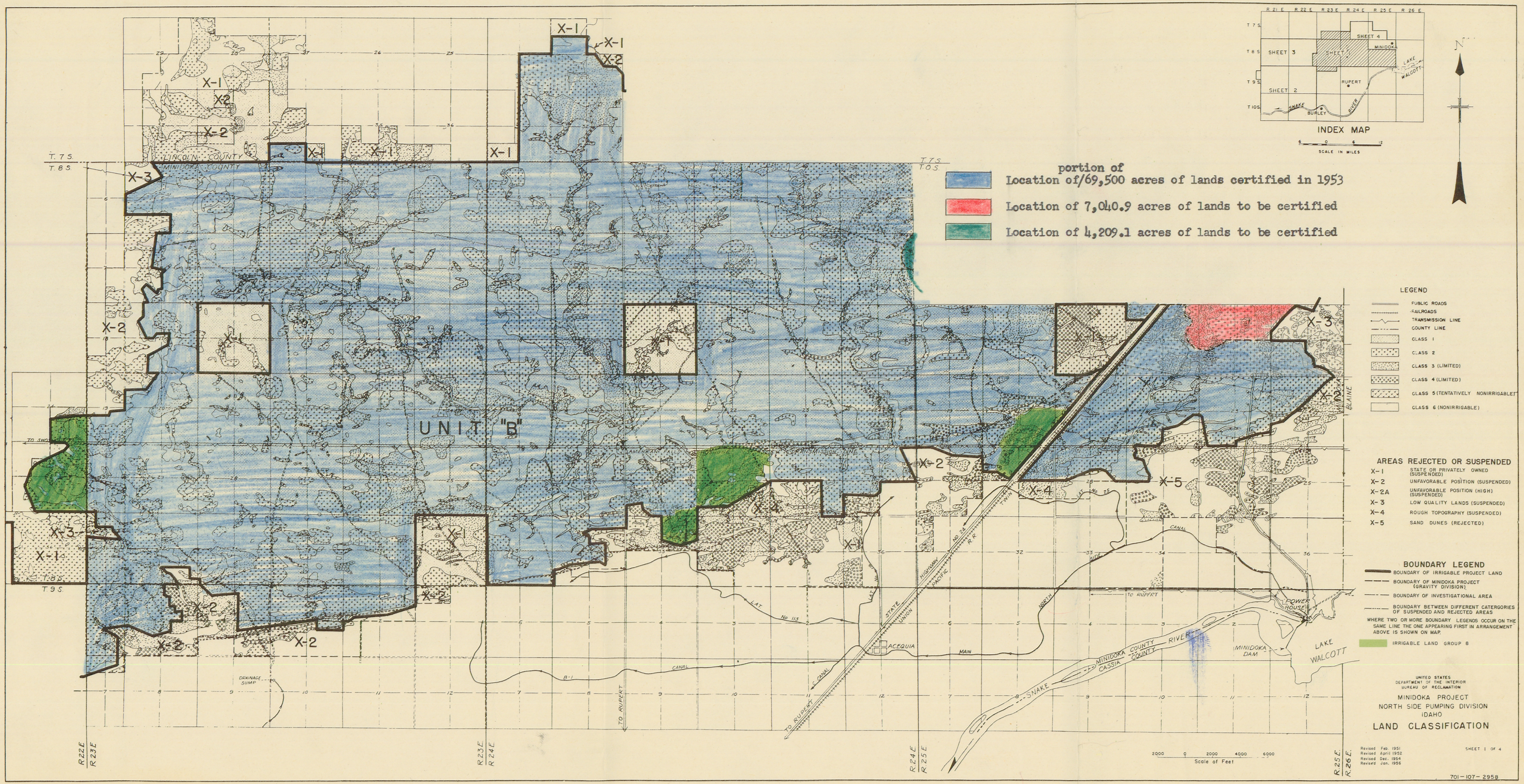
ACREAGE TABULATIONS
1952 and 1956 Land Classification Certifications
North Side Pumping Division--Minidoka Project

IRRIGABLE AREAS (Acres)

Land class	1952 Certification	1956 Certification	Total
1	36,160	1,164.2	37,324.2
2	25,130	3,465.5	28,595.5
3	8,210	6,620.3	14,830.3
Total	69,500	11,250.0	80,750.0

IRRIGABLE AREAS BY SUPPORTING REPORTS
(Acres)

Land class	1952 Project Lands Appendix		1954 Supplement
	1952 Certification	1956 Certification	1956 Certification
1	36,160	462.9	701.3
2	25,130	2,090.7	1,374.8
3	8,210	1,655.5	4,[illegible]64.8
Total	69,500	4,209.1	7,040.9



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

MINIDOKA PROJECT
NORTH SIDE PUMPING DIVISION
IDAHO
LAND CLASSIFICATION

Revised Feb. 1951
Revised April 1952
Revised Dec. 1954
Revised Jan. 1956

SHEET 1 OF 4

701-107-2958

GPO 981912

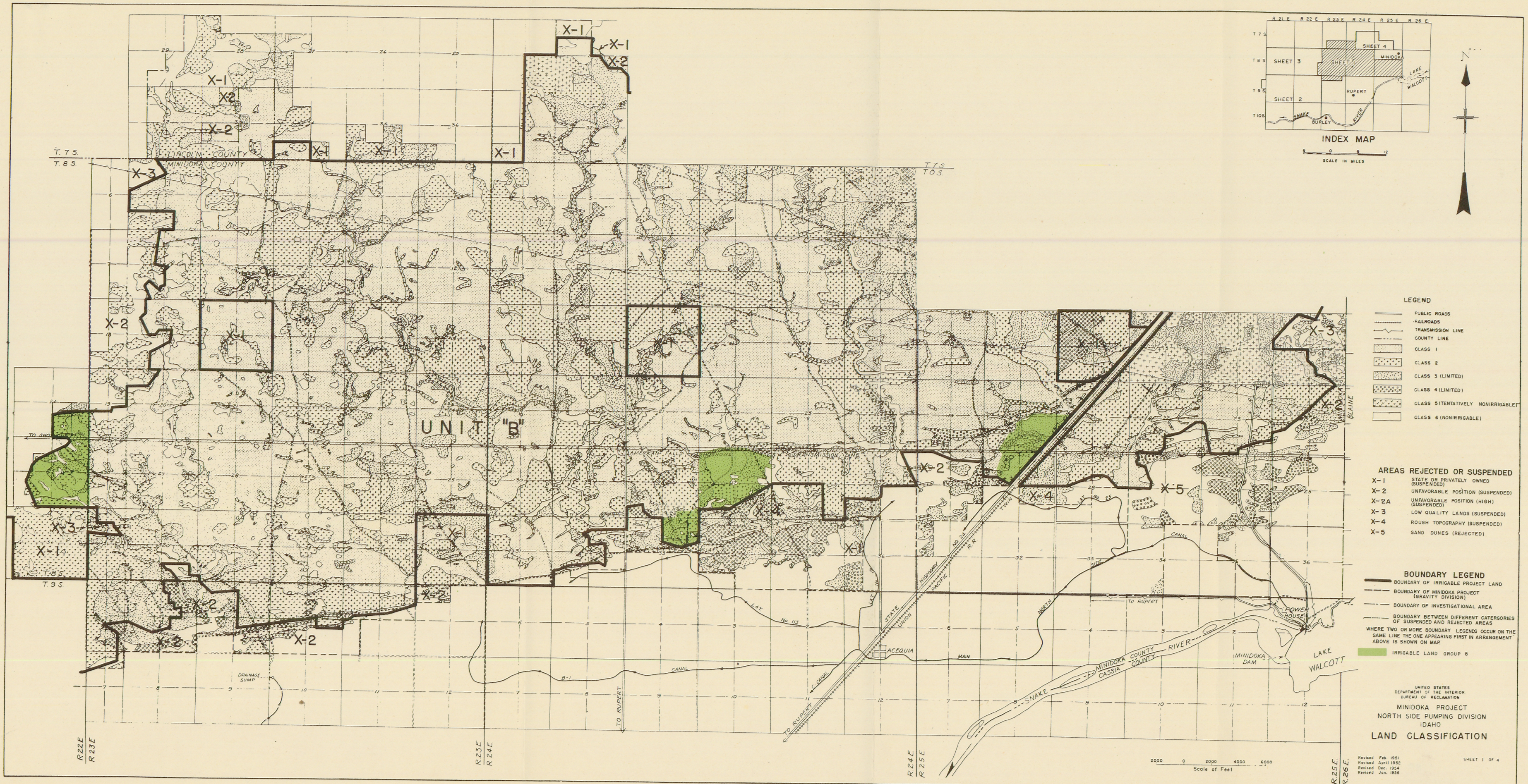
	Arable	1952 Classification Appendix Irrigable Certified 1953	1952 Classification Appendix Irrigable Certified 1956	1954 Land Classification Supplement Irrigable Certified 1956	Total Irrigable Certified 1/
Unit A					
Class 1	10,375	9,960			9,960
Class 2	3,150	3,030			3,030
Class 3	690	660			660
Sub-Total	14,215	13,650			13,650
Unit B					
Class 1	28,650	26,200	600.8	701.3	27,502.1
Class 2	26,475	22,100	1,940.5	1,374.8	25,415.3
Class 3	14,775	7,550	1,667.8	4,964.8	14,182.6
Sub-Total	69,900	55,850	4,209.1	7,040.9	67,100
TOTALS	84,115	69,500	4,209.1	7,040.9	80,750

1/ Arable less 4% for additional right-of-way

1959

Unit A
Class 1
Class 2
Class 3

7/10/56



LEGEND

- PUBLIC ROADS
- RAILROADS
- TRANSMISSION LINE
- COUNTY LINE
- CLASS 1
- CLASS 2
- CLASS 3 (LIMITED)
- CLASS 4 (LIMITED)
- CLASS 5 (TENTATIVELY NONIRRIGABLE)
- CLASS 6 (NONIRRIGABLE)

AREAS REJECTED OR SUSPENDED

X-1	STATE OR PRIVATELY OWNED (SUSPENDED)
X-2	UNFAVORABLE POSITION (SUSPENDED)
X-2A	UNFAVORABLE POSITION (HIGH) (SUSPENDED)
X-3	LOW QUALITY LANDS (SUSPENDED)
X-4	ROUGH TOPOGRAPHY (SUSPENDED)
X-5	SAND DUNES (REJECTED)

BOUNDARY LEGEND

- BOUNDARY OF IRRIGABLE PROJECT LAND
- BOUNDARY OF MINIDOKA PROJECT (GRAVITY DIVISION)
- BOUNDARY OF INVESTIGATIONAL AREA
- BOUNDARY BETWEEN DIFFERENT CATERGORIES OF SUSPENDED AND REJECTED AREAS

WHERE TWO OR MORE BOUNDARY LEGENDS OCCUR ON THE SAME LINE THE ONE APPEARING FIRST IN ARRANGEMENT ABOVE IS SHOWN ON MAP.

IRRIGABLE LAND GROUP 8

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

MINIDOKA PROJECT
NORTH SIDE PUMPING DIVISION
IDAHO

LAND CLASSIFICATION

Revised Feb. 1951
Revised April 1952
Revised Dec. 1954
Revised Jan. 1956

SHEET 1 OF 4

701-107-2958

GPO 987912

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION
WILBUR A. DEXHEIMER, Commissioner

REGION 1
H. T. NELSON, Regional Director

M I N I D O K A P R O J E C T

N O R T H S I D E P U M P I N G D I V I S I O N

I D A H O

DEFINITE PLAN REPORT
SUPPLEMENT
TO
1952 PROJECT LANDS APPENDIX

Boise, Idaho
December 1954
Revised June 1956

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R

MINIDOKA PROJECT

NORTH SIDE PUMPING DIVISION

IDAHO

D E F I N I T E P L A N R E P O R T

SUPPLEMENT
TO

PROJECT LANDS APPENDIX ~~(1952)~~

December 1954

Revised June 1956

7-1594
(AUG. 1954)
BUREAU OF RECLAMATION

LAND CLASSIFICATION--SUMMARY DATA

DATE

1. AREA

REGION 1

PROJECT

DIVISION

UNIT

OTHER

2. BASE MAPS

AERIAL PHOTO	X	SCALE 1: 4800
TOPOGRAPHIC	X	SCALE 1: 4800
PLANE TABLE		SCALE
OTHER		SCALE

3. FIELD WORK

INIT. COMP. OTHER APPENDIX REPORT

4. ACREAGE CLASSIFIED

	TOTAL SURVEY	PROJECT OR UNIT		
		IRRIGATED	NONIRRIGATED	TOTAL
CLASS 1	1212.7		1164.2	1164.2
CLASS 2	3615.2		3465.5	3465.5
CLASS 3	6845.3		6620.3	6620.3
CLASS 4	362.6		362.6	—
SUBTOTAL	12080.8		11,612.6	11,250.0*
CLASS 5				
CLASS 6W				
CLASS 6	1290.1		1290.1	1290.1
R.O.W.	[illegible]		+50.0	+50.0
TOTAL	13380.9		13362.7	12990.1

* IRRIGABLE AREA. PRODUCTIVE AREA

ACREAGE NOT CLASSIFIED

5. NUMBER OF BORINGS AND PITS

	MINIMUM	AVERAGE	TOTAL
SHALLOW (5')	[illegible]	22 per [illegible]	+60
DEEP (OVER 10')			
OPEN PIT OR DEEP PROFILES			4

6. SUPPLEMENTAL PROCEDURES

SALINITY	X	SODIUM	X
pH	X	GYPSUM	
LINE	X	LEACHING	X
MECH. ANAL.	X	ORG. MATTER	
H_2O CONDUCT.	X	FIELD CAPACITY	X
INFILTRATION	X	WILTING POINT	X
BULK DENSITY	X	H_2O STABILITY	
OTHER			

7. SPECIFICATIONS AND INFORMATIVE APPRAISALS

TYPE OF SPECS.: GENERAL OR REGIONAL PHYSICAL PROJECT X OTHER

ESTIMATE OF PAY. CAPACITY OF IRRIGABLE LAND CLASSES: $12.35 $ $ $

TYPE OF APPRAISALS: LAND USE X PRODUCTIVITY X LAND DEVEL. X WATER REQUIR. X

LAND DRAINABILITY X OTHER

DESCRIPTION OF CLASS 4: 4P not [illegible] and proj. plans (see [illegible])

DESCRIPTION OF CLASS 5: None

8. DETERMINATION OF IRRIGABLE AREA (STEPS COMPLETED)

WATER SUPPLY X DISTRIBUTION SYSTEM PLAN X DRAINAGE SYSTEM PLAN X PAYMENT CAPACITY X

FARM UNIT LAYOUT X REVIEW BY WATER USERS O.M.+ R X

9. USE OF LAND CLASSIFICATION

WATER REQUIREMENTS X DISTRIBUTION SYSTEM PLAN X DRAINAGE SYSTEM PLAN X IRRIGATION ASSESSMENTS X

LAND APPRAISAL X FARM UNIT DEVELOPMENT X LAND USE AND MANAGEMENT X IRRIGATION BENEFITS X OTHER X

10. PRIOR SURVEYS OR CLASSIFICATIONS

TYPE AND AGENCY	YEAR	SCALE	COVERAGE
U.S.D.I. Bur. [illegible]	1[illegible]2	1"=1 mi.	[illegible]

11. REVIEWS AND COOPERATION

OFFICE OR AGENCY	DATE
[illegible]	[illegible]

12. DATE OF SECRETARIAL CERTIFICATION

Interior - Reclamation - Denver, Colo.

ACREAGE TABULATIONS
1952 and 1956 Land Classification Certifications
North Side Pumping Division--Minidoka Project

IRRIGABLE AREAS (Acres)

Land class	1952 Certification	1956 Certification	Total
1	36,160	~~735.2~~ 711642	36,895.2
2	25,130	~~1,650.5~~ 1346.5	26,780.5
3	8,210	~~5,764.3~~ 5620.3	13,974.3
Total	69,500	~~8,150.0~~ 7250.0	~~77,650~~

IRRIGABLE AREAS BY SUPPORTING REPORTS
(Acres)

	1952 Project lands appendix		1954 Supplement
Land class	1952 Certification	1956 Certification	1956 Certification
1	36,160	~~33.9~~	701.3
2	25,130	~~275.7~~	1,374.8
3	8,210	~~799.5~~	4,964.8
Total	69,500	~~1,109.1~~	7,040.9

UNITED STATES DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, Secretary

BUREAU OF RECLAMATION
WILBUR A. DEXHEIMER, Commissioner

REGION 1
H. T. NELSON, Regional Director

M I N I D O K A P R O J E C T

N O R T H S I D E P U M P I N G D I V I S I O N

I D A H O

DEFINITE PLAN REPORT
SUPPLEMENT
TO
1952 PROJECT LANDS APPENDIX ([redacted])

Boise, Idaho
December 1954
Revised June 1956

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General Land Classification Map of Area Classified in 1954 11

Map Showing Irrigable Area 14

Sample Sheets of Topography used in Field Mapping 14

Sample Sheets of Detailed Land Classification 14

[illegible]
(Supplemental Item)

Land Classification Field Sheets -- 1" = 400'

Topographic Maps -- 1" = 400'

Aerial Photographs -- 1" = 400'

Laboratory Report - Analysis of Four Deep Soil Profile Samples From the Manitoba Project, North Side Surveys Division.

(On file at Dryden Office)

R 23 E
R 24 E
R 25 E
R 26 E
T 6 S
T 7 S
T 8 S
T 9 S
T 10 S
KIMAMA
MINIDOKA
UNIT B
UNIT B
ACEQUIA
MINIDOKA DAM
PAUL
RUPERT
UNIT A
BURLEY
Snake River

EXPLANATION

Boundary of Division Irrigable Lands

Land Classified Previous to 1954, but Withheld from Initial Development

Land Classified in 1954

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

MINIDOKA PROJECT
NORTH SIDE PUMPING DIVISION
IDAHO

GENERAL MAP

RUPERT, IDAHO DEC. 1, 1954 701-107-4216

SUPPLEMENTAL PROJECT LANDS APPENDIX
NORTH SIDE PUMPING DIVISION
IDAHO

INTRODUCTION

As approved September 30, 1950, Public Law 864, 81st Congress, 2nd Session, authorized the irrigation of the land on the North Side Pumping Division of the Minidoka Project. In the initial development 69,500 irrigable acres were selected from an area of about 122,400 acres classified in detail. The irrigable area selected for development included 13,650 acres in Unit A to be served water by pumping from Snake River and 55,850 acres in Unit B to be served by pumping of ground water.

During the summer of 1954 an additional area of about 8,400 acres in the northeast part of the Division were classified in detail. This was done so that from the remaining more favorably located land withdrawn for reclamation, 8,150 additional acres of the best land authorized for development could be selected. This detailed land classification embraced an area in the shallower ground-water belt near Minidoka in which about 5,000 acres adjoining the area under development had already been classified but not included in the initial area of 69,500 acres selected for irrigation development (see General Map). Thus, in this area there is a total of about 13,500 acres from which the 8,150 irrigable acres can be selected to be served by pumping from wells designated as the Group 7 Wells. Tables 5A and 6A show the location and classification of the previously classified lands included in the area to be served by these wells. Up to 1954 this increases the area to be served from wells from 55,850 irrigable acres to 64,000.

This supplemental project lands appendix deals with the detailed classification of some 8,400 acres remaining unclassified when the Definite Plan Report of August 1952 was issued.

DIVISION LANDS CLASSIFIED IN 1954

Location and Extent

The 8,400 acres classified in detail during 1954 for inclusion in the North Side Pumping Division of the Minidoka Project were the last remaining Reclamation withdrawn lands to be classified for irrigation under the plans for development of that Division. These lands adjoin the northeastern edge of the area already classified as a more or less continuous narrow strip consisting of land on each side of the main line of the Union Pacific railroad for a distance of about 10 miles west from the vicinity of the Minidoka station.

SUPPLEMENTAL PROJECT LANDS APPENDIX
NORTH SIDE PUMPING DIVISION
IDAHO

INTRODUCTION

As approved September 30, 1950, Public Law 864, 81st Congress, 2nd Session, authorized the irrigation of ~~[illegible] acres~~ land on the North Side Pumping Division of the Minidoka Project. In the initial development 69,500 irrigable acres were selected from an area of about 122,400 acres classified in detail. The irrigable area selected for development included 13,650 acres in Unit A to be served water by pumping from Snake River and 55,850 acres in Unit B to be served by pumping of ground water.

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DIVISION LANDS CLASSIFIED IN 1954

Location and Extent

The 8,400 acres classified in detail during 1954 for inclusion in the North Side Pumping Division of the Minidoka Project were the last remaining Reclamation withdrawn lands to be classified for irrigation under the plans for development of that Division. These lands adjoin the northeastern edge of the area already classified as a more or less continuous narrow strip consisting of land on each side of the main line of the Union Pacific railroad for a distance of about 10 miles west from the vicinity of the Minidoka station.

Physical Land Features

These lands which lie just inside the northeastern edge of the Division are at elevations of from about 100 to 150 feet higher than at the southern edge because of the general rise northward of the loess-mantled lava plain. Topographically, there is a markedly discernable rise in elevation which coincides roughly with the northeastern exterior boundary of the area embracing the 69,500 acres initially certified for development.

This pronounced rise, together with a northward bench-like increase in elevation, has promoted development of a more clearly defined dendritic drainage pattern than to the south. Between the intermittent drainageways are for the most part broadly undulating and gently sloping land bodies generally well suited to irrigation development. The underlying basalt outcrops occasionally on the higher points of rolling land and along the outer edges of the flatter lands lying in the drainageways; but only in the extreme western part do these outcroppings give rise to any significantly continuous areas of scabland.

Northward from the sharp rise in elevation there is significantly higher lime accumulations in the subsoils and the substratum overlying the basalt bedrock than is common to most of the remainder of the Division. In this area the high permeability of the surface soil, together with the underlying creviced basalt and well-developed dendritic drainage-pattern should prevent or alleviate any tendency to oversaturation which might arise from slow-up of the internal soil and underdrainage where lime cemented layers occur in the subsoil and substratum. In the vicinities of nearby Hazelton and Eden, land with similar topographic, soil and substratum characteristics are well drained and highly productive after more than 40 years under irrigation.

Soils

The soils, as elsewhere on the Division, have developed from airborne and windblown material deposited to variable depth over uneven basaltic lava of unknown thickness. Like those soils they have light colored, mellow, permeable, silty surface soils high in mineral nutrients but low in organic matter and nitrogen. Also similarly the subsoils have a high lime content but the compaction and cementation for the most part is more generally and highly developed and often extends well into the substratum.

According to the 1926 Soil Survey Report of the United States Department of Agriculture most of the soils in this part of the upland plain are members of the Minidoka series. As distinguished from the Portneuf soils, which are the dominant soils elsewhere in the Division, the Minidoka soils are described as having much higher subsoil and substratum lime accumulation, that characteristically is in the form of

Physical Land Features

These lands which lie just inside the northeastern edge of the division are at elevations of from about 100 to 150 feet higher than at the southern edge because of the general rise northward of the loess-mantled lava plain. Topographically, there is a markedly discernable rise in elevation which coincides roughly with the northeastern exterior boundary of the area originally, the 62,500 acres [illegible] initially certified for development.

This pronounced rise, together with a relatively small increase in elevation, has promoted development of a more clearly defined dendritic drainage pattern than to the south. Gently undulating drainageways are for the most part broadly undulating and nearly sloping land bodies generally well suited to irrigation cover crops. The underlying basalt outcrops occasionally on the higher points of rolling land and also the eastern edge of the flatter lands lying in the drainageways; but only in the extreme western part do these outcroppings give rise to any significantly continuous areas of occurrence.

Northward from the sharp rise in elevation there is significantly higher lime accumulations in the subsoil and substratum overlying the basalt bedrock than is common to most of the remainder of the division. In this area the high permeability of the surface soil, together with the underlying cemented basalt and well-developed dendritic drainage-pattern should prevent or alleviate any tendency to oversaturation which might arise from plow-up of the internal soil and underdrainage where lime cemented layers occur in the subsoil and substratum. In the vicinities of nearby Paxton and Sun, land with similar topographic, soil and substratum characteristics are well drained and highly productive after more than 15 years under irrigation.

Soils

The soils, as elsewhere on the division, have developed from airborne and windblown material deposited to variable depth over uneven basaltic lava of unknown thickness. Like those soils they have light colored, mellow, permeable, silty surface soils high in mineral nutrients but low in organic matter and nitrogen. Also similarly the subsoils have a high lime content but the compaction and cementation for the most part is more generally and highly developed and often extends well into the substratum.

According to the 1926 soil survey report of the United States Department of Agriculture most of the soils in the upland plain are members of the Hindoka series. The Hindoka, dished from the Portneuf soils, which are the dominant soils elsewhere in the division, the Hindoka soils are characterized having much higher subsoil and substratum lime accumulation, that characteristic being in the form of

fractured but firmly cemented lime layers or plate-like sheets. There may be two or three of such layers separated by comparatively loose material. Below these layers the soil material is often compact and slightly cemented but soft as compared with the layers immediately above. The Portneuf soils they describe as deep loessial soils in which a very compact layer of subsoil lime concentration occurs, ranging from a few inches to one foot in thickness. However, here most of these rather inextensive Portneuf soils are the shallow phase in which basalt bedrock capped by a lime cemented layer is encountered within a depth of 3 feet. Other inextensive soils are the deep loessial stream modified so-called Onyx soils occurring along the ephemeral stream channels as elongated, narrow, flat areas.

As elsewhere on the Division, soils here vary considerably from place to place. Thus, in subsoil characteristics this range of variability is important in evaluating their economic value under irrigation, and as formerly in the detailed land classification soil groups were identified to distinguish these subsoil and substratum characteristics. However, in this more limited area only six (10, 30, 40, 50, 60, and 70) of the former eight soil groups were encountered and of these only four covered any significant acreage. These are groups 10, 30, 40, and 60 which, as formerly in the original survey, have in general the following described characteristics but with specific significant differences as noted.

Soils with no Root Restrictions in the Profile

Group 10.—Permeable soils which have limy nodular subsoils, and basalt bedrock at a depth of at least 54 inches but no restrictions to root growth within this minimum depth.

In this area the limiting depth is not necessarily to the basalt bedrock as deep borings indicate that the extensively developed lime hardpan layers may also underlie this group of soils before the basalt is encountered. This important deep permeable soil which occupies about one-fifth of the area classified has the following profile characteristics.

The surface soil of mellow silt loam ranges from 8 to 20 inches in depth but averages about 16 inches and is usually noncalcareous. Below this is a highly calcareous subsoil about two feet thick. A loose floury silt loam or very fine sandy loam commonly lies under the highly calcareous zone ranging downward to variable depths below five feet. Varying degrees of compaction may occur throughout the profile, which may range from slight compaction to mild cementation. The zone of lime accumulation is nodular in places and in some cases more or less platy. Locally this lime zone may restrict downward root development but such layers usually soften and become penetrable when wet.

The mellow, friable silt loam upper horizon and the very fine sandy loam deeper zones are very permeable to water and even the higher lime developments do not significantly retard percolating waters.

Soils with Root Restrictions in the Profile

The remainder of the soils have restricting limy layers or zones which vary from those with considerable compaction to those definitely indurated. The surface soils are very similar to those of the former soils, but in the subsoils and substrata such concentrated lime developments may more or less restrict roots. However, it appears that with the exception of the deeper and more highly cemented layers, roots have a tendency to work down through the fractures to a considerable extent. These layers soften under irrigation and are quite permeable.

Group 30.--Soils of this group have very compacted or weakly cemented nodular or platy subsoils which restrict root growth somewhat but the understrata is penetrable.

About one-fifth of the area classified in this survey belong to this group of soils. However, only in a very small area are these soils similar to those previously mapped, most of them belonging to a new subgroup described as follows:

Subgroup 330 - Soils of this subgroup have subsoils with a series of compacted limy layers with a very thin cappings of shell-like indurations. These cappings are fractured and though downward root development is restricted, roots penetrate the fractures somewhat. At deeper depths the roots are likely to be stopped by a more strongly developed capping. Where the cappings can be reached by subsoiling the soil can be improved for root penetration. The fractured nature of the cemented cappings of lime layers permits downward water movement and as observed on other projects these soften under irrigation.

Group 40 - Soils of this group have subsoils with a thin lime cemented caliche-like layer within a depth of 36 inches. This layer restricts root development but with subsoiling significant improvement would result as the soil above and below this layer is penetrable.

This soil which occupies nearly one-fourth of the area classified is very similar to those occurring in the original area surveyed.

Group 60 - In the area covered in the previous survey these soils have a lime cemented indurated (caliche) subsoil development which is definitely impenetrable to roots. For the most part in the present survey, the lime hardpan is fractured and is delineated as the following subgroups.

R 23E R 24E R 25E R 26E

T 6 S

T 7 S

T 8 S

T 9 S

T 10 S

N

KIMAMA

MINIDOKA

ACEQUIA

MINIDOKA DAM

PAUL

RUPERT

BURLEY

UNIT B

UNIT B

UNIT A

Snake River

EXPLANATION

- Deep Borings
- Infiltration Studies
- Boundary of Division Irrigable Lands
- Land Classified Previous to 1954 but Withheld from Initial Development
- Land Classified in 1954

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

MINIDOKA PROJECT
NORTH SIDE PUMPING DIVISION
IDAHO

DEEP BORINGS

RUPERT, IDAHO DEC. 1, 1954 701-107-4215

Subgroup 620.--The soils of this subgroup have a fractured indurated caliche hardpan which is permeable to water and the roots penetrate downward through the fractures. This soil does not lend itself to subsoiling very well but with fractures for water and root penetration the caliche development is not as limiting as an impenetrable hardpan.

About one-fifth of the soils of the present survey belong to this subgroup.

The remainder of the soils which belong to Groups 50 and 70 are very inextensive and unimportant in this latter survey. These two groups of soils have the same characteristics as in the original survey.

Physical and Chemical Properties of Representative Soil Profiles

Soil samples for laboratory analyses were collected from four deep borings made in four widely separated representative locations as shown on map following page 7. These soils are described below, and in tables 1 and 2, these analyses are shown. The chart following page 10 shows the moisture tension curve for one of these profiles. 7

The mechanical analyses of these deep profiles, as shown in table 1, indicate the silty character of the soils and substratum, which is indicative of their loessial origin. However, in profiles 1 and 2 from the west portion of the area the clay content is much higher in the lower part as compared with the top part, whereas, in profiles 3 and 4 the clay content is considerably lower in the lower layers. The textural differences in these soils, however, apparently are not as significant as the soil structure and lime accumulation indicated in the soil descriptions which are factors that more directly affect plant growth in relation to fertility, root penetration, and permeability to water.

High lime in the subsoil and substratum is indicated by the field profile description and the laboratory analyses with the most notable increase (table 2) generally in the lower subsoil and upper substratum. These zones of high lime concentrations whether cemented or not have the highest pH values in the profile. These pH values, common to high lime concentrations in this general region, increase on dilution but with leaching are shown to decrease for the most part with the leaching out of the salt which also appears to be satisfactorily accomplished. Exchangeable sodium which is only seriously concentrated in the lower parts of the substrata of 3 and 4 show a marked reduction and reach a satisfactory level in all samples except those from the lower substrata of profile 3. With prolonged leaching, such as would occur with

PROFILE DESCRIPTIONS OF DEEP BORINGS

Hole No. 1 - Class 1; Soil Group 10; Subgroup 12b

Sec. 28, T. 7 S., R. 24 E. At 16/14 Cor.

0" - 32" - Silt loam
32" - 55" - Nodular compacted very fine sandy loam
55" - 84" - Compact very fine sandy loam
84" -100" - Loam to light clay loam, with dark nodules
100" -120" - Loam
120" -140" - Loam (moist)
140" -165" - Light clay loam to clay loam
165" -216" - Loam
18' -24'6" - Loam - lime capping at 24'6"
24'6"-25'6" - Loam to light clay loam. Broken basalt at 25'6".

Hole No. 2 - Class 1; Soil Group 10; Subgroup 12b

Sec. 23, T. 7S., R. 24 E. At S-1/4 Cor.

0"- 12" - Silt loam
12" - 40" - Nodular silt loam
40" - 60" - Floury silt loam
60" - 108" - Silt loam
108" - 126" - Blocky heavy silt loam
126" - 168" - Loam
168" - 216" - Nodular highly compacted silt loam to light clay loam
18' - 27' - Light clay loam to clay loam (Small pea size basalt chunks last three feet)

Hole No. 3 - Class 3; Soil Group 10; Subgroup 12b

660'S. of N-1/4 Cor., Sec. 4, T. 8 S., R. 25 E.
0" - 12" - Silt loam
12" - 36" - Nodular silt loam
36" - 60" - Very fine sandy loam
5' - 8' - Light clay loam
8' - 10-1/2' - Loam - compacted zone with caps. Basalt rock at 10.5' . Some lime coating on basalt crevices.

TABLE 2

MECHANICAL ANALYSES OF SOIL SEPARATES

PERCENT OF EACH PARTICLE SIZE

...e Side Pumping Division — November 1934

...pth ...ches	Clay	Silt	V.F.S.	F.S.	M.S.	C.S.	F.G.	Texture
...32	12.0	69.5	14.5	3.0	0.5	0.5	0.0	Silt loam
...22	10.5	58.5	30.0	1.0	0.0	0.0	0.0	Silt loam
...84	12.5	51.0	22.5	8.0	4.0	2.0	0.0	Silt loam
-100	12.0	53.5	26.0	7.0	1.5	0.0	0.0	Silt loam
-120	11.0	58.5	25.5	4.0	1.0	0.0	0.0	Silt loam
-140	22.5	52.0	21.5	2.0	0.0	0.0	0.0	Heavy silt loam
-168	27.0	51.0	21.0	0.5	0.5	0.0	0.0	Silt loam
-210	18.5	58.5	19.0	3.0	1.0	0.0	0.0	Silt loam
24-...'	24.0	51.0	17.0	7.0	1.0	0.0	0.0	Silt loam
-25 ...'	21.0	52.0	20.0	5.0	1.0	1.0	0.0	
-12	17.0	58.5	24.0	3.5	0.0	0.0	0.0	Silt loam
-30	19.5	54.5	25.0	0.5	0.5	0.0	0.0	Silt loam
-50	13.5	57.5	29.0	3.5	0.5	0.0	0.0	Silt loam
-100	11.0	56.5	28.5	5.5	0.5	0.0	0.0	Silt loam
-120	24.0	58.0	16.5	1.0	0.5	0.0	0.0	Heavy silt loam
-168	27.0	55.0	16.5	0.5	1.0	0.0	0.0	Silt loam
-216	24.5	58.0	17.5	2.0	1.0	0.0	0.0	Silt loam
-27'	24.0	51.0	20.0	3.0	1.0	0.0	0.0	
-12	17.5	47.0	25.5	8.5	1.5	0.0	0.0	Loam
-30	11.5	50.5	27.0	21.0	3.5	0.5	0.5	Loam
-60	9.5	47.0	31.5	9.5	2.5	0.0	0.0	Loam
-8'	7.0	55.5	29.5	6.0	0.0	0.0	0.0	Silt loam
-10-1/2'	15.0	44.0	33.0	1.5	3.5	1.0	0.0	Loam
-12	18.5	48.5	29.0	3.0	1.0	0.0	0.0	Loam
-30	15.0	51.5	22.5	4.0	1.5	0.5	0.0	Silt loam
-1/2'	7.0	58.0	26.0	7.0	1.0	1.0	0.0	Silt loam
/2-8'	8.0	60.5	23.5	6.0	0.0	0.0	0.0	Silt loam
17.8'	7.0	62.0	30.5	0.5	0.0	0.0	0.0	Silt loam

Hole No. 4 - Class 2s Soil; Subgroup 3$3^4$

Sec. 14, T. 8 S., R. 25 W. At 16/11 Cor.

0" - 12" - Silt loam
12" - 36" - Silt loam - nodular compaction
36" - 66" - Series of thin caliche layers in loose floury silt loam.
5'6" - 11' - Nodular compacted loam. White mottling throughout this zone.
11' - 17'8" - Loam. Some nodules and compaction.

Water Holding Capacities of Typical Soils

The moisture tension curve and accompanying data (following page 7) like those in the original Land Appendix of 1952 show that the soils in the supplemental area have similar high moisture holding capacities. This is in excess of 2 inches available water per foot of soil.

Along with the leaching experiment on a simulated disturbed profile core (Hole 3 table 2) moisture retention and available moisture were also determined with results as shown below.

Horizon Inches	Disturbed Core - Field Capacity In./Ft.	15 Atmosphere Moisture Retention In./Ft.	Available Moisture In./Ft.	Available Moisture In./ Horizon
0-12	3.42	1.20	2.22	2.22
12-36	4.12	1.21	2.91	5.82
36-60	4.15	1.08	3.07	6.14
60-96	4.63	1.50	3.13	9.39
96-126	4.75	1.22	3.53	8.82

Topography

The topography in this part of the Division is generally well suited to irrigation farming. However, in being more completely traversed by drainageways than the area to the south at the lower elevations there is a general absence of large, smooth, gently sloping or gently undulating areas that characterize that area. Instead the land in general is more strongly undulating with occasional higher rising rolling areas between drainageways. The smoother more gently sloping areas occupy the wider

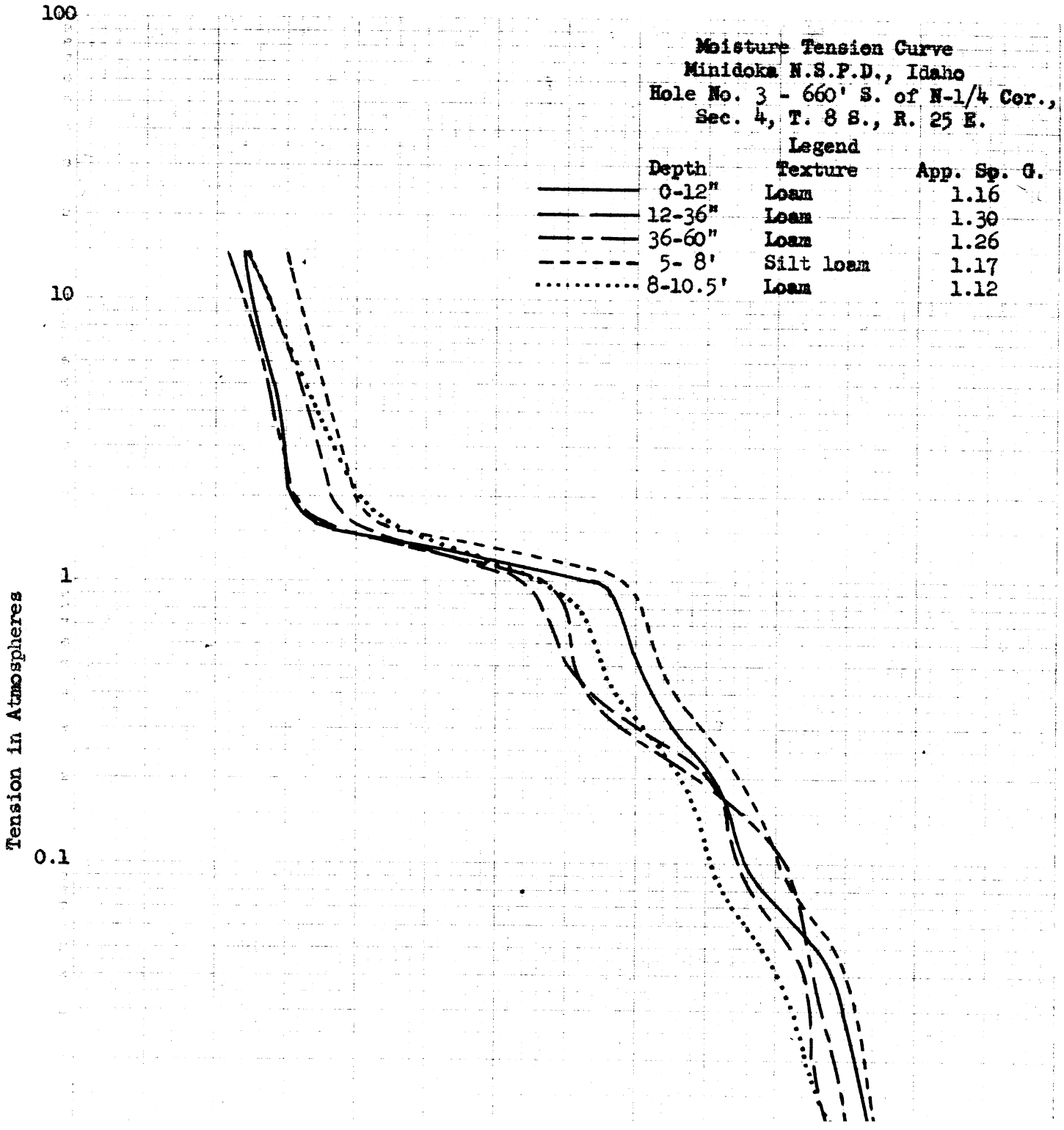

Moisture Tension Curve
Minidoka N.S.P.D., Idaho
Hole No. 3 - 660' S. of N-1/4 Cor.,
Sec. 4, T. 8 S., R. 25 E.
Legend
Depth
Texture
App. Sp. G.
0-12"
Loam
1.16
12-36"
Loam
1.30
36-60"
Loam
1.26
5- 8'
Silt loam
1.17
8-10.5'
Loam
1.12
100
10
1
0.1
Tension in Atmospheres

Table 2 - Summary of Laboratory Data on Four Deep Soil Profile Samples

Minidoka North Side Pumping Division, Idaho

November 1954

RO-51
PP 10-52

Hole and Depth	Texture	Ft. of Water Transmitted	Lime	pH				Salt		Hydraulic Conductivity		Saturation Extract									Base Exchange in m.e./100 gms.							B.E. Na Percent	
				Initial		Leached		Initial %	Leached %	Initial In./Hr.	Leached In./Hr.	Sp.C. x 10^3 mhos	m.e./100 gms.								Initial						Leached		
				Sat.	1-5	Sat.	1-5						CO_3	HCO_3	Cl	SO_4	Ca	Mg	Na	K	Ca	Mg	Na	K	H	Cap	Na	Initial	Leached
16/14 Cor., Sec. 27, T. 7 S., R. 24 E.																													
1 0- 32"	Si. L.	4.45	1	7.68	8.70	7.82	8.78	0.06	0.03	0.161	0.185	0.95							0.19										
32- 55"	Si. L.	4.55	3	8.18	9.00	8.26	9.00	0.06	0.03	0.130	0.206	1.42							0.35		0.51				17.45	0.08	2.92	0.46
55- 84"	Si. L.	5.39	3	8.26	8.70	8.66	9.10	0.26	0.03	0.251	0.364	7.29							1.67		1.25				17.12	0.03	7.30	0.18
84-100"	Si. L.	5.71	3	8.10	8.66	8.40	9.32	0.32	0.04	0.247	0.214	7.29							1.36		2.51				17.17	0.18	14.62	1.05
100-120"	Si. L.	5.55	2	7.54	8.30	8.34	9.08	0.28	0.04	0.193	0.358	7.22							1.16		2.37				23.90	0.38	9.92	1.59
120-140"	Si. L.	4.19	1	7.60	8.38	8.36	9.04	0.25	0.04	0.114	0.161	5.94							1.11		1.62				22.92	0.20	7.07	0.87
140-165"	H. Si. L.	2.34	1	7.62	8.32	8.12	9.40	0.38	0.06	0.047	0.031	5.87							1.12		1.37				24.15	0.37	5.67	1.53
165-216"	Si. L.	5.18	1	7.58	8.24	8.08	8.94	0.33	0.05	0.069	0.166	5.37							0.74		1.38				30.57	1.09	4.51	3.57
18-24.6'	Si. L.	3.45	1	7.42	8.12	7.92	8.88	0.30	0.06	0.096	0.122	5.58							0.44		1.46				30.42	0.24	4.80	0.79
24.6-25.6'	Si. L.	5.59	0	7.52	8.24	7.96	8.68	0.23	0.05	0.091	0.149	4.91							0.33		1.14				30.67	0.31	3.72	1.01
Profile										0.100	0.125										0.72				24.80	0.20	2.90	0.81
2 S¼ Cor., Sec. 23, T. 7 S., R. 24 E.																													
0- 12"	Si. L.	5.11	0	7.12	7.70	7.12	8.00	0.03	0.03	0.453	0.616	0.29							0.02										
12- 40"	Si. L.	5.12	3	8.20	8.70	8.12	8.42	0.03	0.03	0.117	0.080	0.33							0.03		0.03				21.62	0.13	0.14	0.60
40- 60"	Si. L.	4.73	3	7.88	8.70	8.18	8.30	0.04	0.04	0.179	0.206	0.45							0.03		0.09				16.42	0.12	0.55	0.73
60-108"	Si. L.	5.18	2	7.72	8.72	8.04	8.22	0.05	0.04	0.096	0.071	0.30							0.03		0.14				19.97	0.14	0.70	0.70
108-126"	Si. L.	4.20	0	7.60	8.68	7.72	8.00	0.07	0.06	0.040	0.055	0.29							0.04		0.31				25.55	0.19	1.21	0.74
126-168"	H. Si. L.	3.47	0	7.72	8.80	7.80	8.46	0.07	0.07	0.056	0.071	0.34							0.07		0.58				29.92	0.24	1.94	0.80
168-218"	Si. L.	3.98	1	7.64	8.80	7.92	8.92	0.10	0.07	0.066	0.071	0.71							0.09		0.83				28.92	0.21	2.87	0.73
18- 27'	Si. L.	4.25	1	7.72	8.78	8.06	8.92	0.08	0.04	0.067	0.135	0.81							0.19		1.26				32.92	0.34	3.83	1.03
Profile										0.073	0.091								0.20		1.27				24.82	0.25	5.12	1.01
3 300' S., N¼ Cor., Sec. 4, T. 8 S., R. 25 E.																													
0- 12"	L.		2	7.58	8.00			0.04		0.407		0.43	0.00	0.16	0.01	0.01	0.12	0.07	0.02	0.01	15.14	2.63	0.03	0.61	0.09	18.50			
12- 36"	L.		3	8.58	9.30			0.03		0.074		0.47	0.00	0.12	0.02	0.02	0.04	0.06	0.09	tr.	6.48	4.86	0.51	0.15	0.00	12.00		0.16	
36- 60"	L.		3	8.62	9.30			0.26		0.077		4.87	0.00	0.05	0.58	0.39	0.09	0.22	1.37	tr.	2.27	7.18	4.40	0.37	0.00	14.22		4.25	
5- 8'	Si. L.		3	8.20	8.80			0.48		0.075		12.13	0.00	0.04	1.45	2.05	0.40	1.34	1.62	0.01	2.57	10.64	7.90	0.69	0.00	21.80		30.94	
8-10.5'	L.		3	7.84	8.72			0.60		0.076		14.02	0.00	0.03	1.81	1.85	0.50	1.50	1.72	0.01	4.48	6.40	6.45	0.49	0.00	17.82		36.24	
Profile										0.082																		36.19	
4 16/11 Cor., Sec. 14, T. 8 S., R. 25 E.																													
0- 12"	L.	4.42	1	7.32	8.08	7.70	8.30	0.05	0.04	0.140	0.082	0.52							0.02										
12- 36"	Si. L.	4.08	3	8.12	8.88	8.52	9.16	0.06	0.03	0.071	0.129	1.33							0.22		0.05				16.92	0.10	0.29	0.59
3-5.5'	Si. L.	5.12	3	7.94	8.90	8.68	9.38	0.33	0.03	0.298	0.404	7.20							2.59		0.75				11.20	0.04	6.70	0.36
5.5-11'	Si. L.	4.50	3	8.12	9.22	8.94	9.38	0.22	0.03	0.151	0.144	3.82							1.48		5.31				21.17	0.74	25.08	3.50
11-17.8'	Si. L.	5.18	1	7.82	9.08	8.38	9.14	0.16	0.04	0.258	0.351	3.82							1.17		5.04				20.60	1.26	24.47	6.12
Profile										0.167	0.179										3.33				20.60	0.71	16.16	3.45
3 Leached, disturbed core																													
0- 12"		6.3				7.68	8.38		0.06		0.341								0.05										
12- 36"		6.3				8.10	9.02		0.02		0.062								0.02						18.50	0.12		0.65
36- 49½"		6.3				8.40	9.12		0.03		0.065								0.05						12.00	0.10		0.83
49½-60"		6.3				9.00	9.99		0.04		0.111								0.18						14.22	0.32		2.25
5- 8'		6.3				8.70	9.88		0.08		0.068								0.23						14.22	2.72		19.13
8-10.5'		6.3				8.88	9.90		0.06		0.094								0.29						21.80	5.52		25.32
Profile											0.080														17.82	4.86		27.27

Drainage

Most of the lands in this latter survey have favorable topography for surface drainage and adequate drainage outlets for runoff are provided by the dendritic drainage system. There are few if any extensive flat areas or closed basins, but locally where there are flat wide areas along drainageways of low gradient, the channels may have to be deepened to provide adequate capacity for free flow where water might accumulate.

With these favorable topographic conditions and the necessity for rigid economy in use of water, it does not appear likely that the soils will become oversaturated even though in probably half of the area the downward movement of water may not be as free as elsewhere because of lime cemented layers in the subsoil and substratum. Near Eden and Hagelton there are extensive areas with similar topography and soils with similar subsoils and substrata where irrigation has been practiced for over 40 years without any evidence of waterlogging or salt accumulation except perhaps very locally in drainageways.

The reason that internal downward movement of water is not seriously restricted is probably largely due to the fractured nature of the very compact or cemented plates, layers and zones usually lying over or bedded with thick layers of loose floury silt and very fine sand. Even where these cemented layers directly overlie the basalt bedrock, the extremely fractured creviced nature of the lava flows with large pressure cracks and cooling joints should preclude the development of a perched water table.

Permeability Tests

As formerly, during the progress of the field operations infiltration rates and the permeabilities on representative soils were determined in a number of locations (see map following page 7) by the use of cylinders. These were placed on the soil in pairs, and after applying water, recordings were made periodically to determine the rate of infiltration into the soil. The infiltration rate was determined on the dry soil for about 6 hours and then for about 6 hours after the soil had become wet. After 48 hours holes were excavated to trace the extent of the wetted pattern. The 12 charts following page 12 show the wetted pattern as well as the rate of water movement into both the dry and the wet soil. The accumulated amount applied to the soil in the dry and the wet condition is also shown.

The cylinders in Sections 15, 22, and 27 of Township 7 South Range 24 East were on soils of the [illegible]

EXPLANATION

Area in Which Land was Classified in 1954

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

MINIDOKA PROJECT
NORTH SIDE PUMPING DIVISION
IDAHO

TOPOGRAPHY

NORTHEAST PART OF
NORTH SIDE PUMPING DIVISION

1000 0 1000 2000 3000
SCALE OF FEET

RUPERT, IDAHO DEC 1, 1954

701- 107- 4217

limy subsoil water appears to penetrate downward without being appreciably retarded. This is apparently due to the fragmentary and fractured character of these subsoil and substrata developments. However, there are some variations indicated in the extent to which the water penetrated the cemented layer during the 6-hour period. This is due to the considerable difference in development of the lime zone from place to place. With prolonged application the penetration no doubt would have continued as the laboratory data on the deep profiles indicates that though water movement is slowed down in the lower subsoils and deeper substrata, percolation is adequate for internal drainage if no obstructing layer or solid basalt bedrock is encountered. Since indications are that the basalt is creviced in this area, problems probably will not arise from this cause. Nevertheless, with this as a possibility locally, overirrigation or the continuous running of water in farm ditches should be guarded against even though for the most part the topography is favorable for satisfactory runoff of excess water in areas where high lime developments occur.

Saline and Alkali Soils

Except for occasional "slick spots" which are fewer than in much of the area to the south of this recently classified 8,400 acres, there is no surface evidence of saline of alkali soils. However, during the progress of field classification, salt and reaction were determined on all soils sampled. This sampling which was to a depth of about 5 feet revealed that though salt concentrations are extremely variable and not generally common to continuous areas in somewhat over half the samples salt occurred in slight to moderate concentration in the subsoil. This salt occurred largely in the soils with lime cemented layers, plates, or zones in the subsoils and substrata. This concentration of salt in lime cemented layers is not uncommon and can be expected where such developments occur.

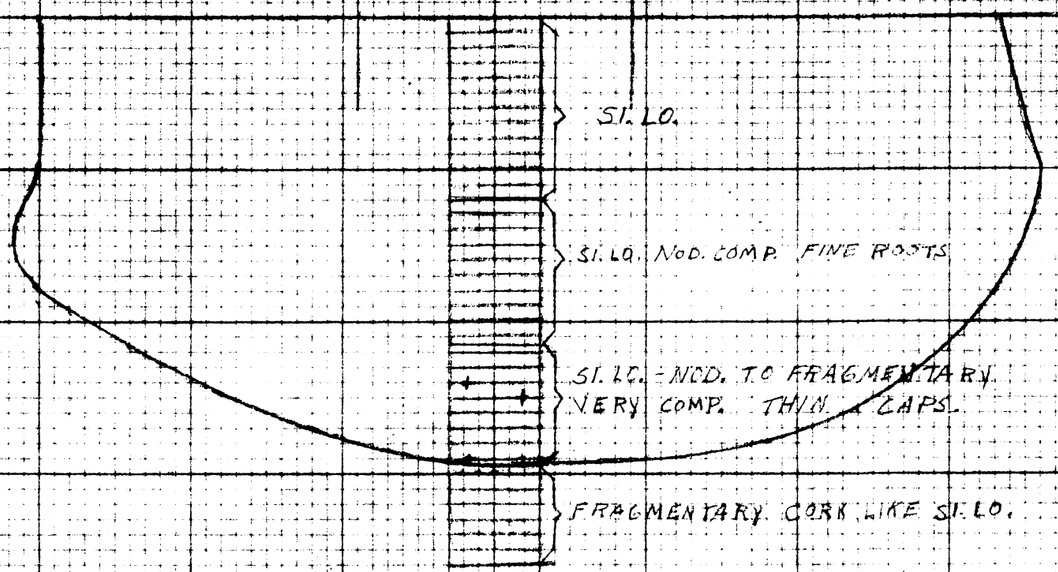
For the most part no combination of salinity and high pH appeared to be naturally occurring but on most samples the pH increased on dilution, which is characteristic of high lime subsoil developments and not necessarily significant in crop production except where the alkalinity persists or rises in the profile when the land is irrigated. In only a very few cases, however, was the increase greater than can be expected in this general area of high lime subsoils and substrata.

Here, as elsewhere on the Division, the deeper substratum even where not cemented may be slightly to moderately saline and contain variable amounts of exchangeable sodium. Because of the creviced and fractured [illegible] of the underlying basalt, however, it is expected that both salt

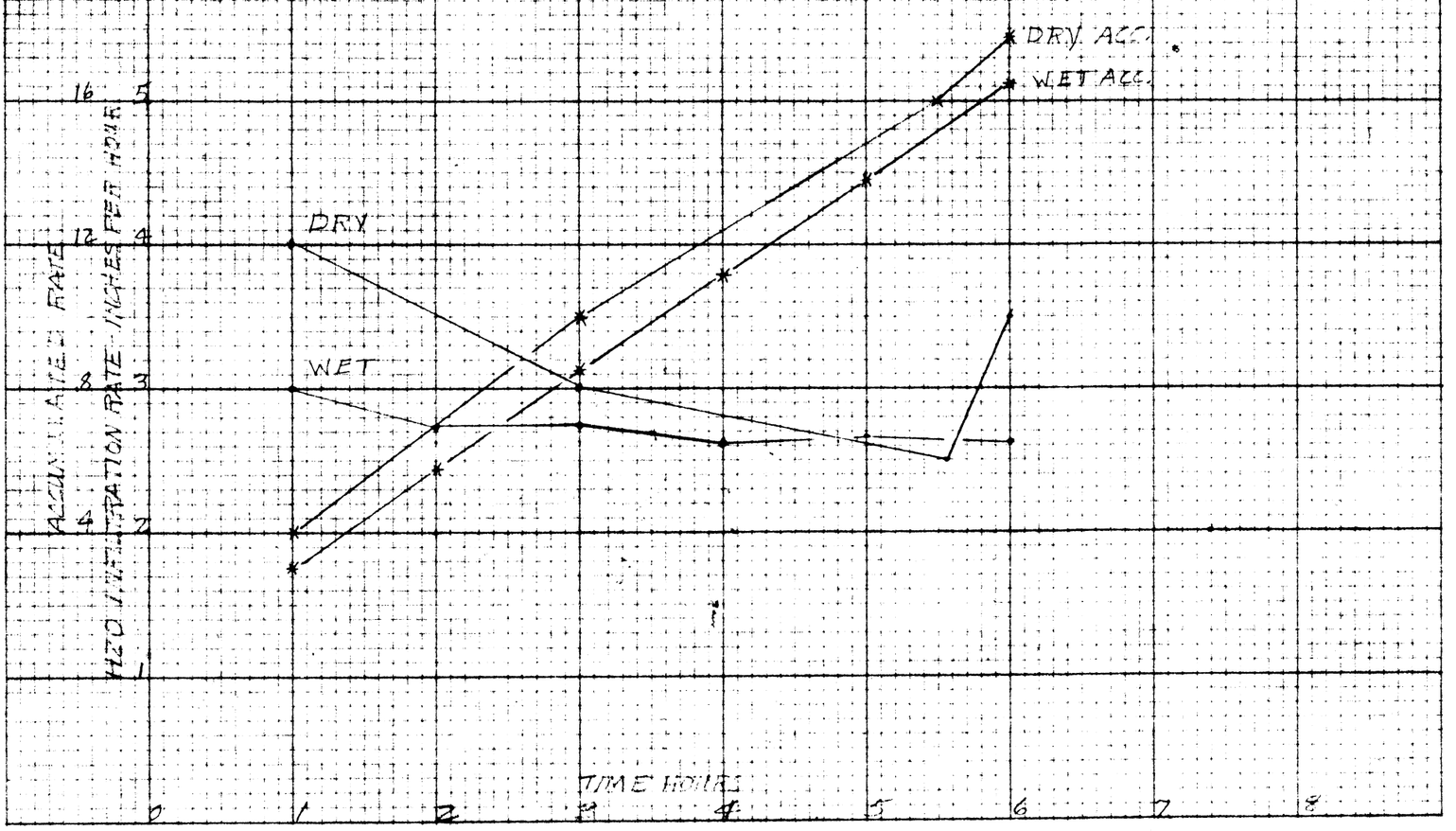
PATTERN OF INFILTRATION

Loc. 1 Cyl. 1

200' S.W. of E ¼ Cor. SEC. 15 T 7S R 24 E



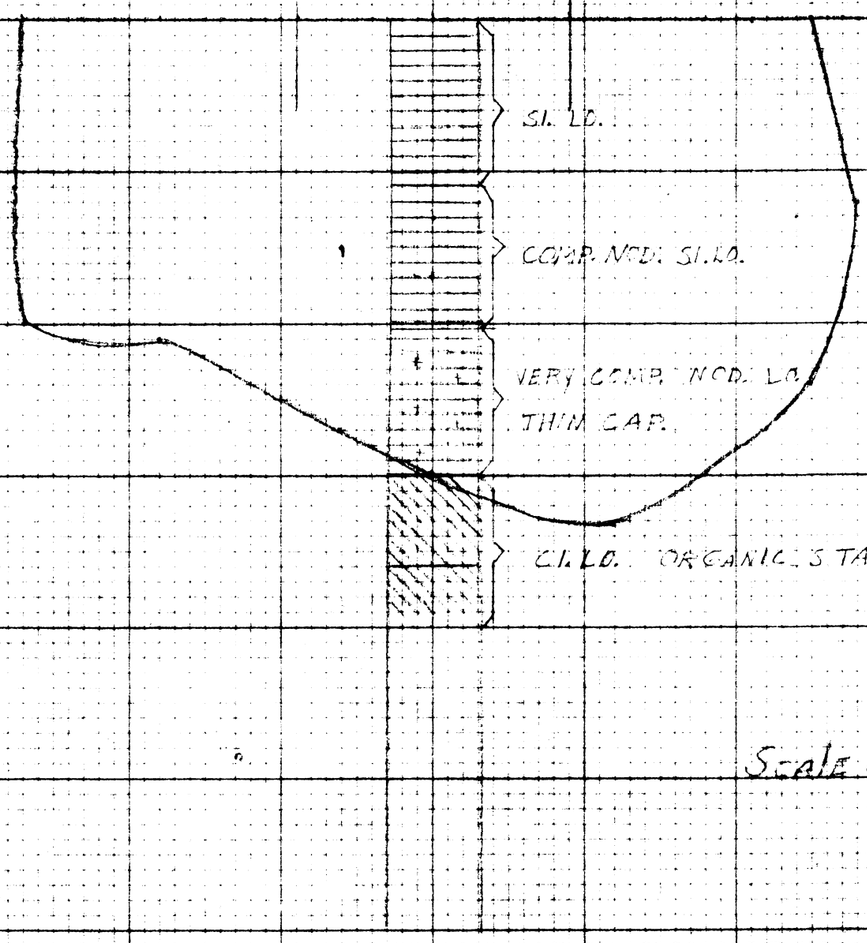
Scale 1" = 10"



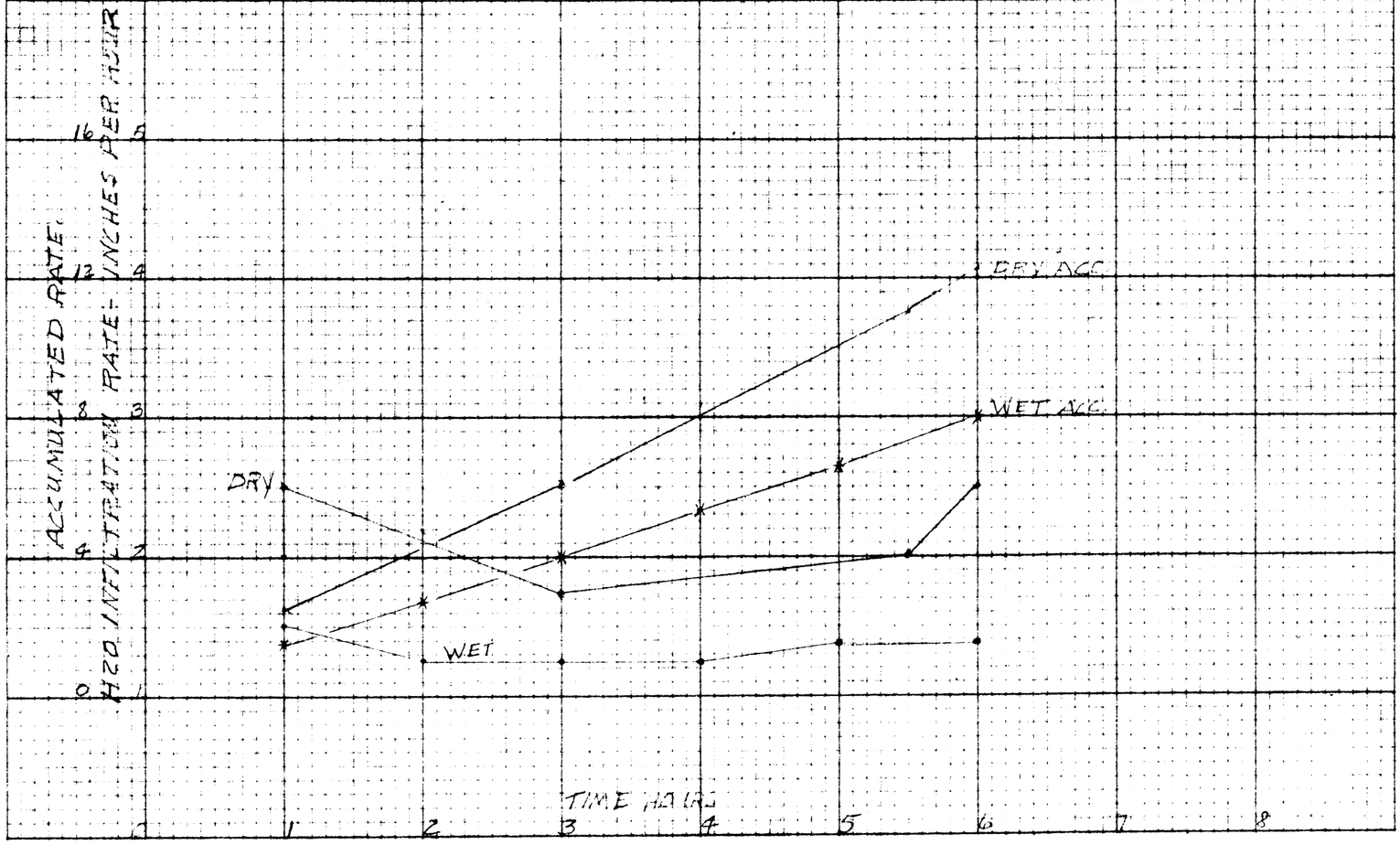
PATTERN OF INFILTRATION

LOC. 1 CYL. 2

200' S.W. OF E. 1/4 COR. SEC. 15 T7S. R24E.



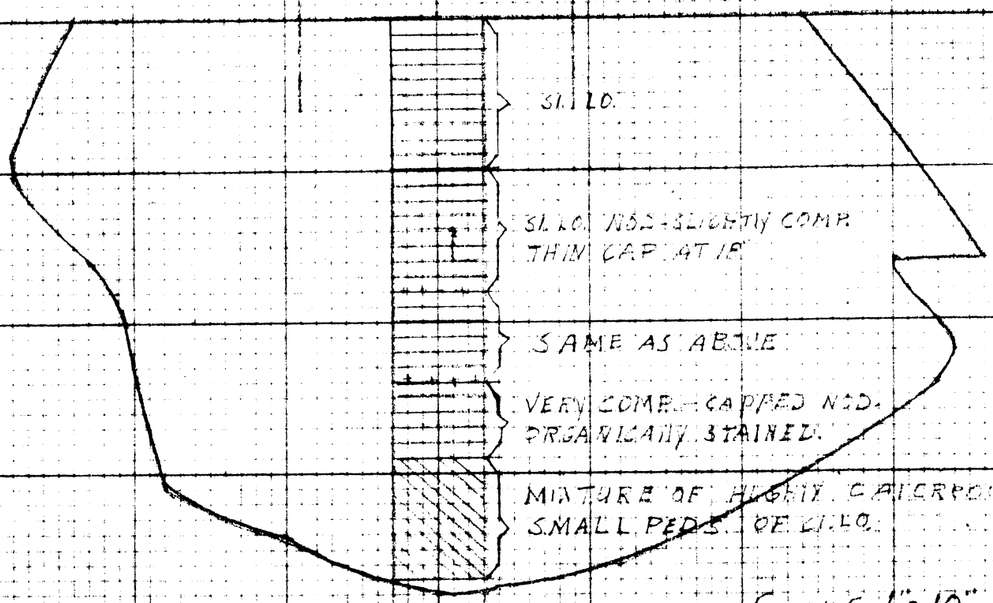
Scale 1"=10"



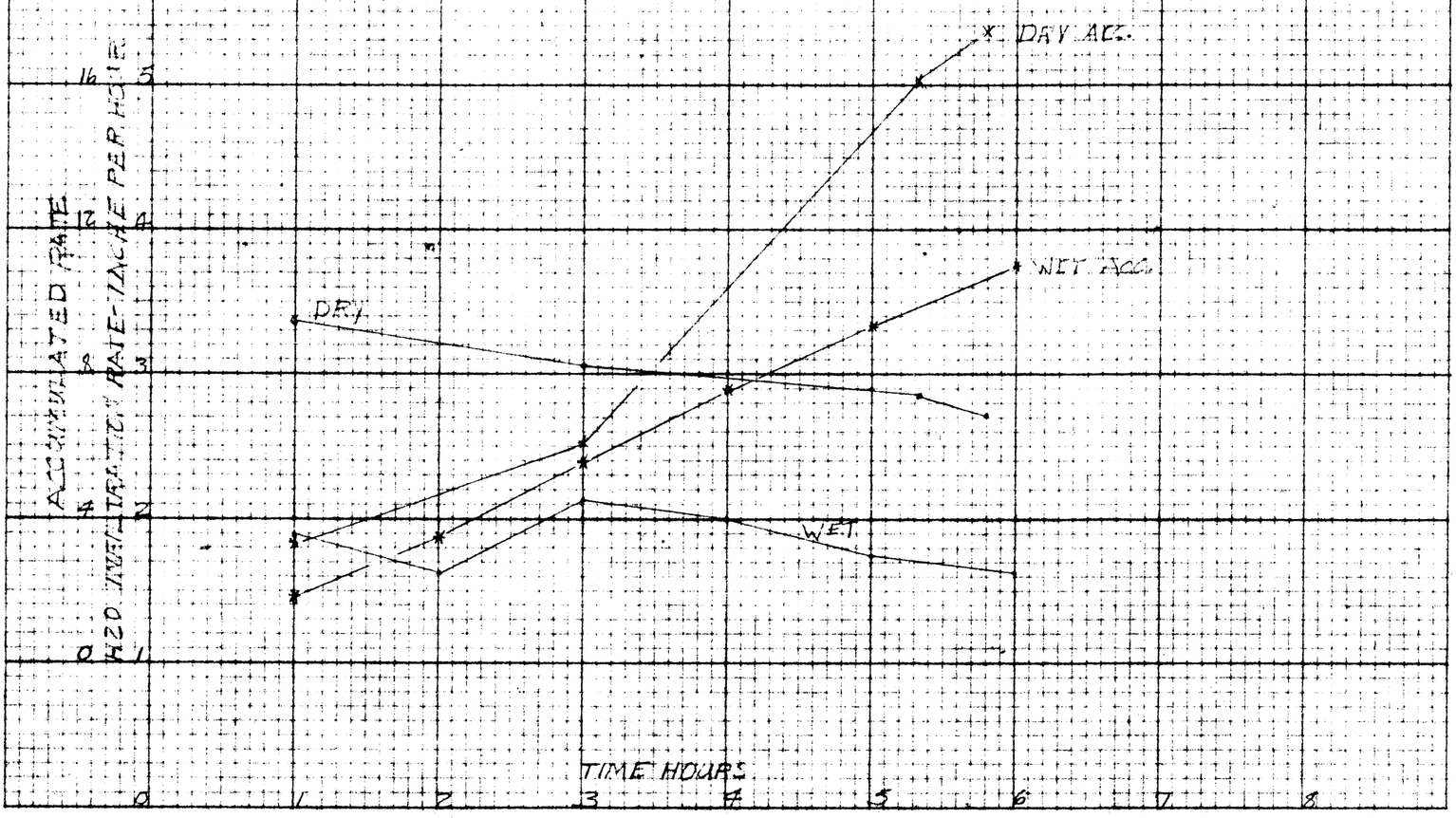
Pattern of Infiltration

Loc. 2 Cyl. 1

At 16/15 Cor. Sec. 22 T7S R24E.



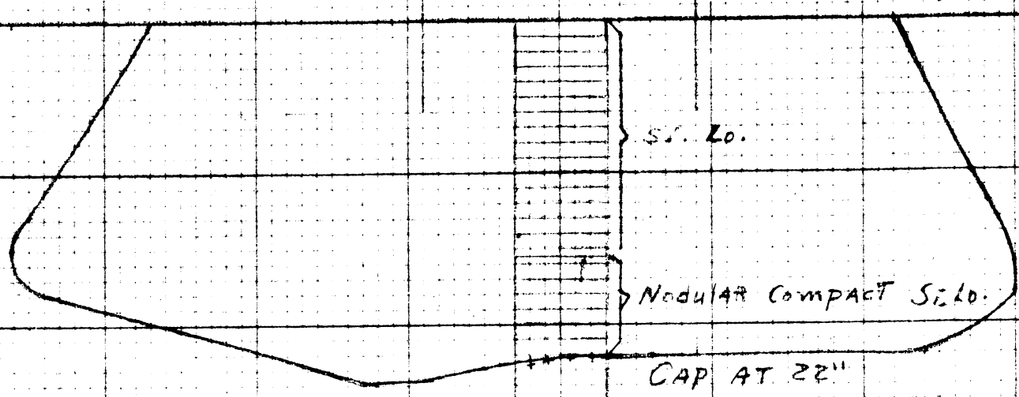
Scale 1" = 10"



Pattern of Infiltration

Loc. 3 Cyl. 1.

16/1 Cor Sec 27 T 7S R 24E



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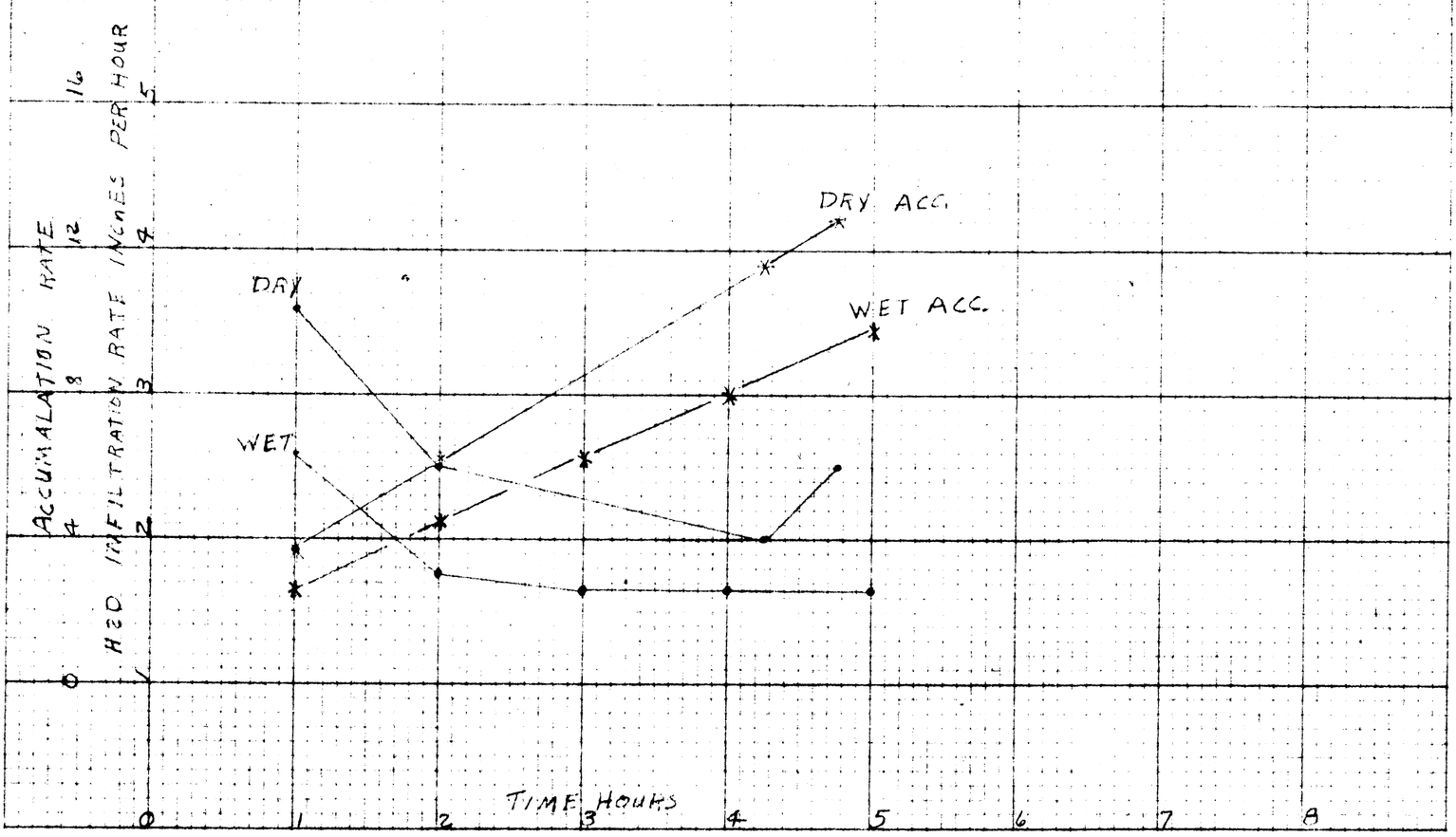
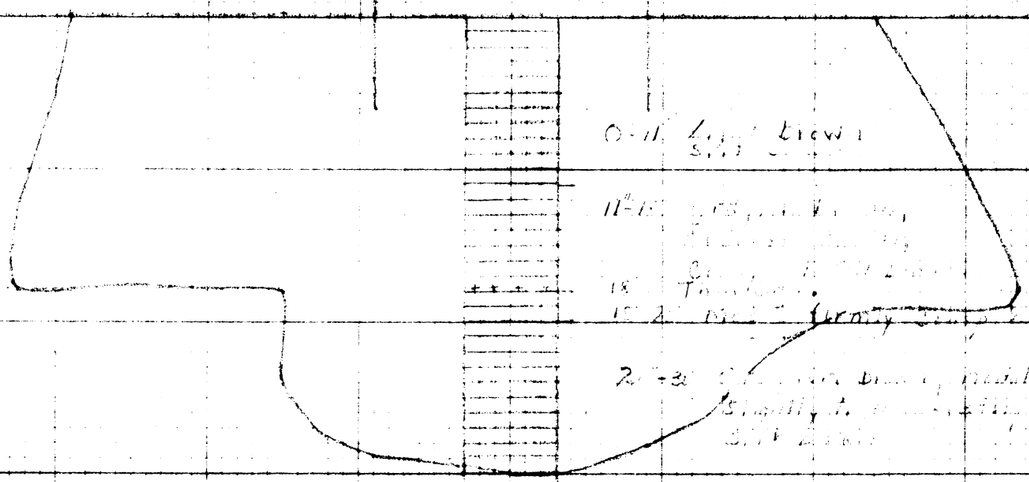


PATTERN OF INFILTRATION

Loc. 3 Cyl. 2

16/1 Cor. Sec 27 T. 7S R 24E



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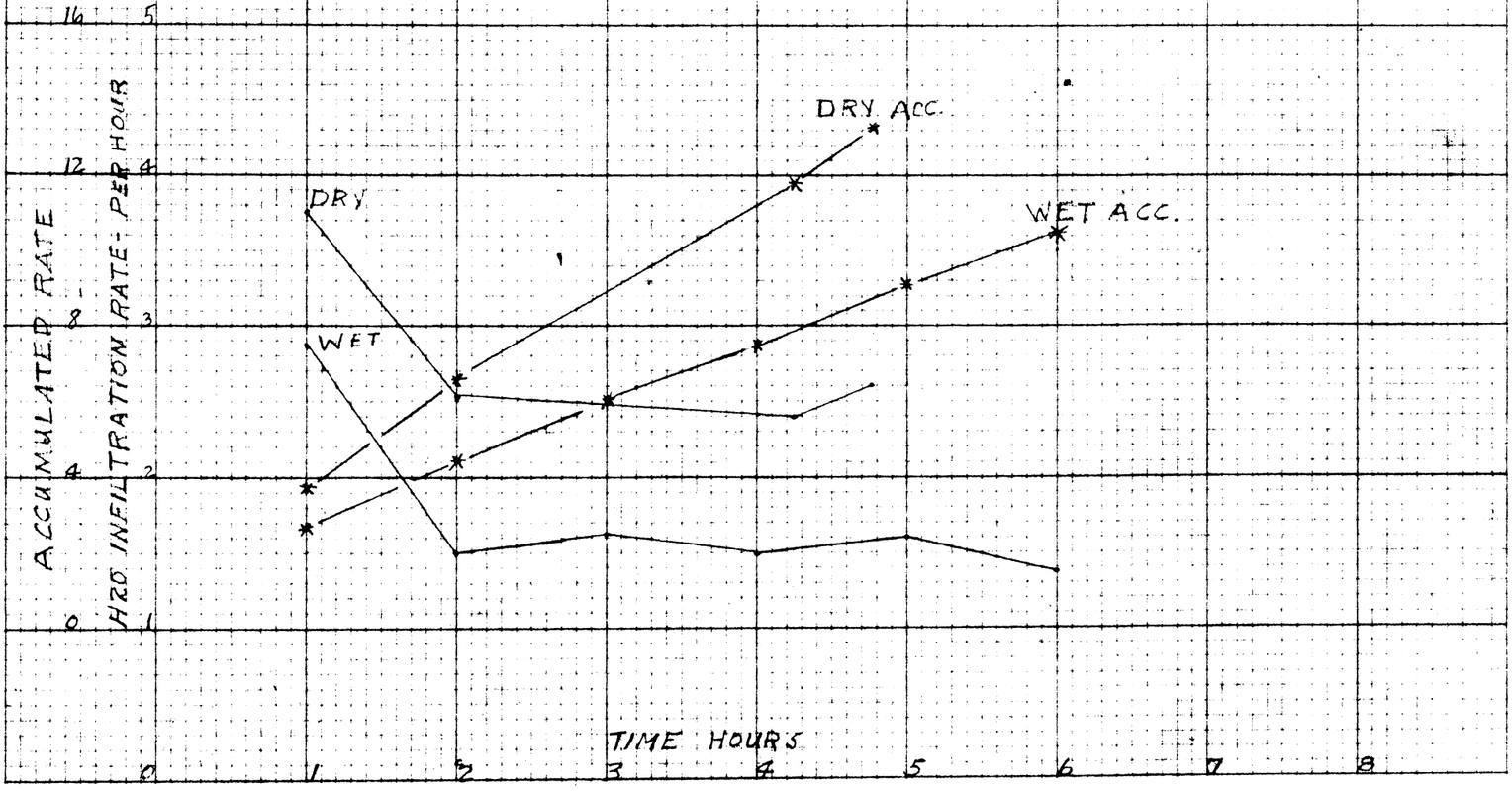
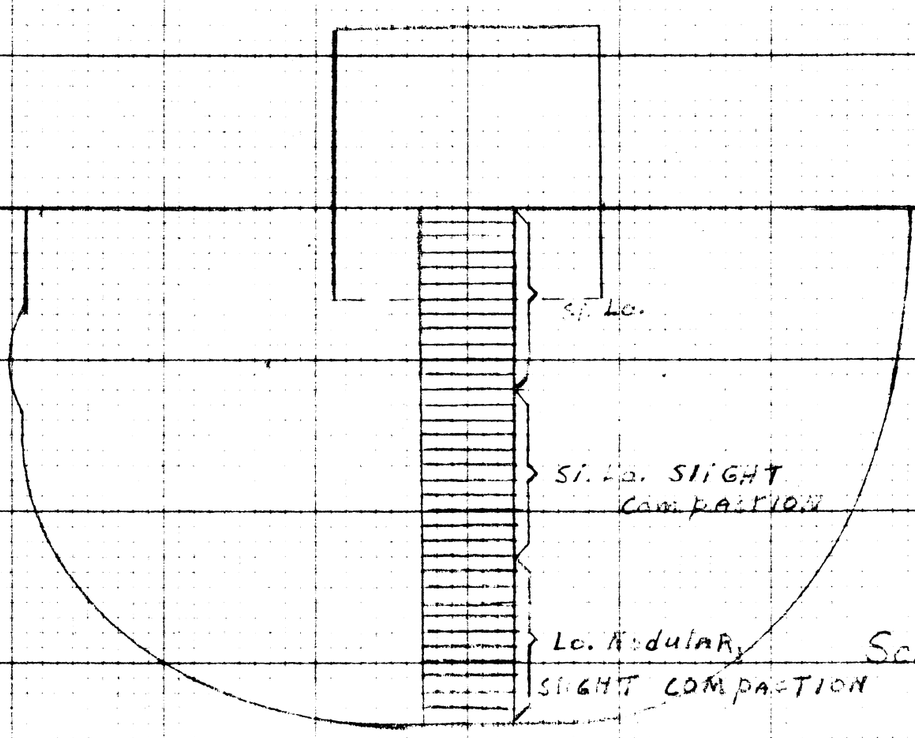
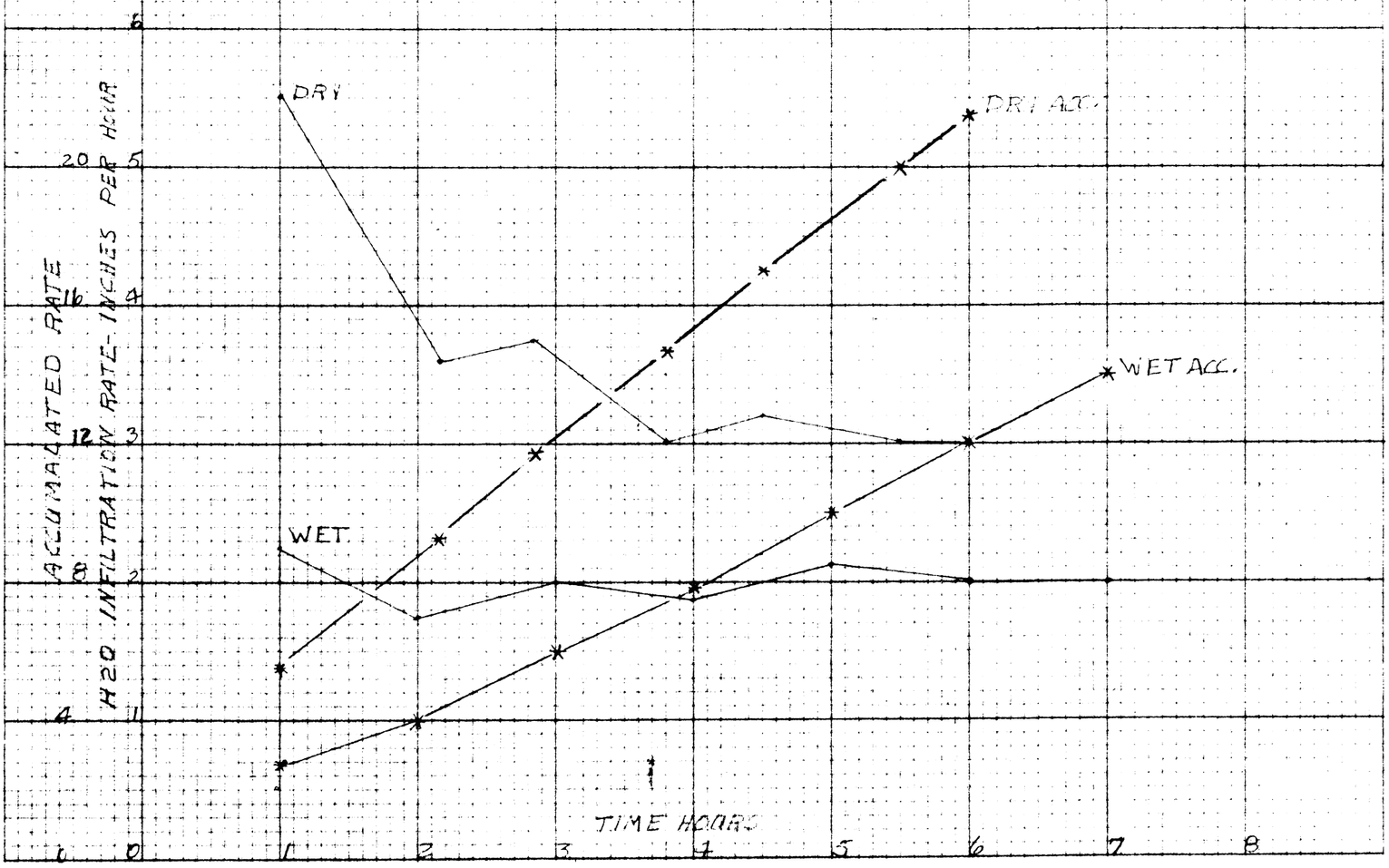


Pattern of Infiltration

Loc. A Cyl. 1

At. 1/4 S Cor Sec 10 T 8S R 2SE

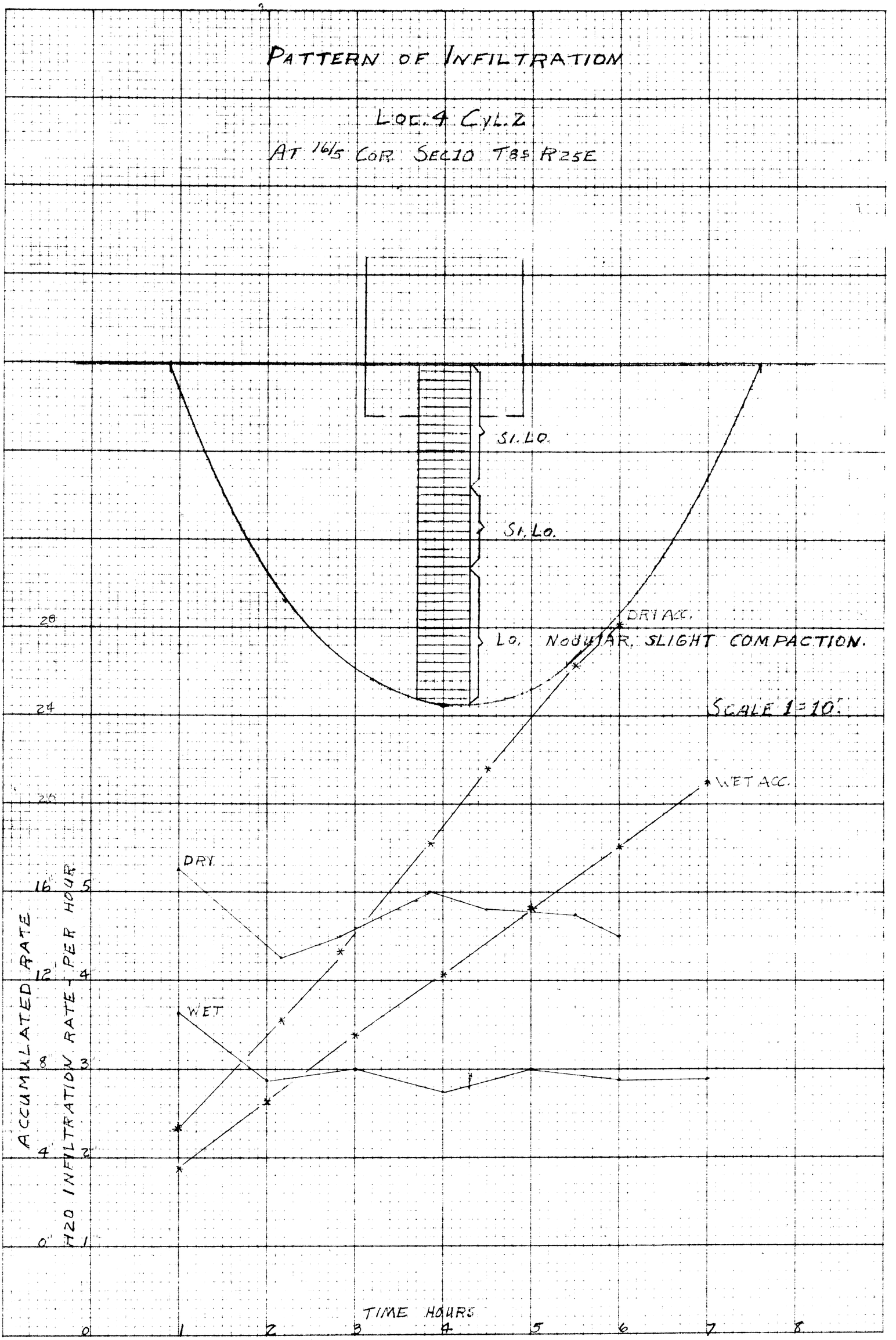




PATTERN OF INFILTRATION

LOC. 4 CYL. 2

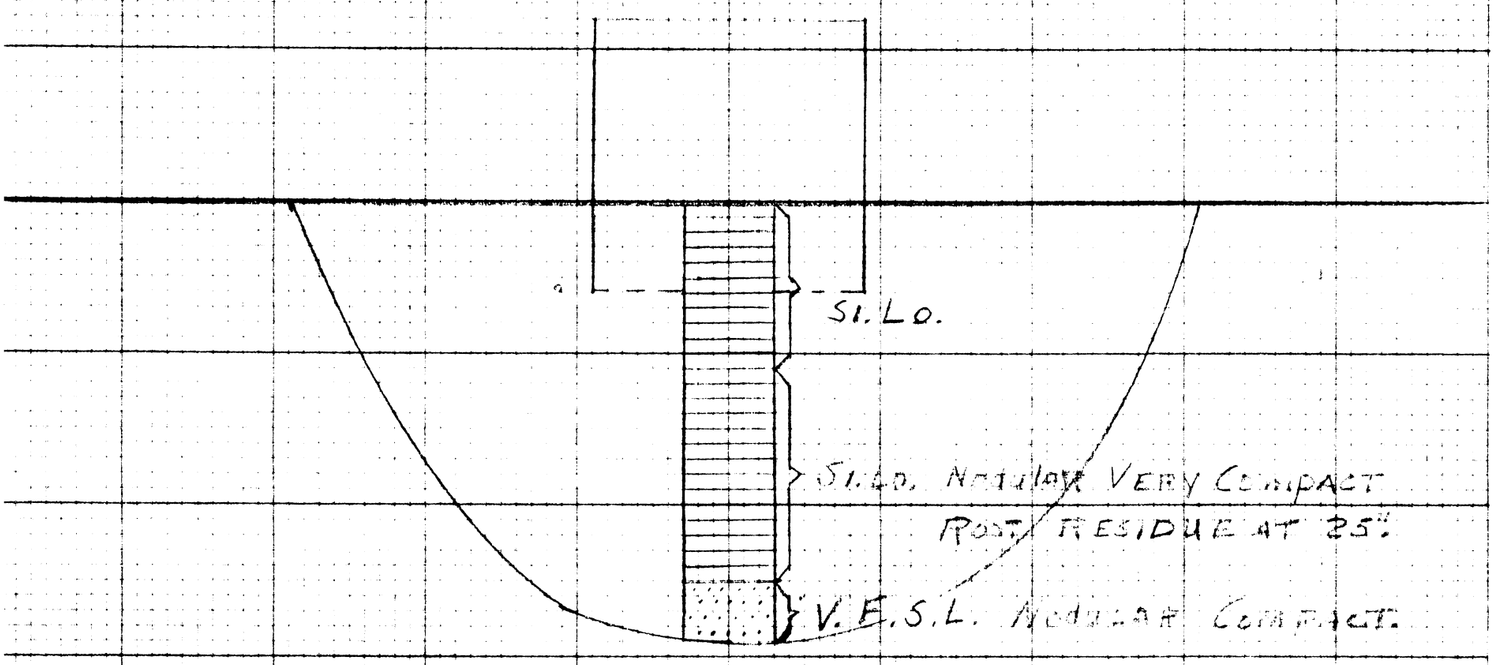
AT 16/5 COR SEC 10 T8S R25E



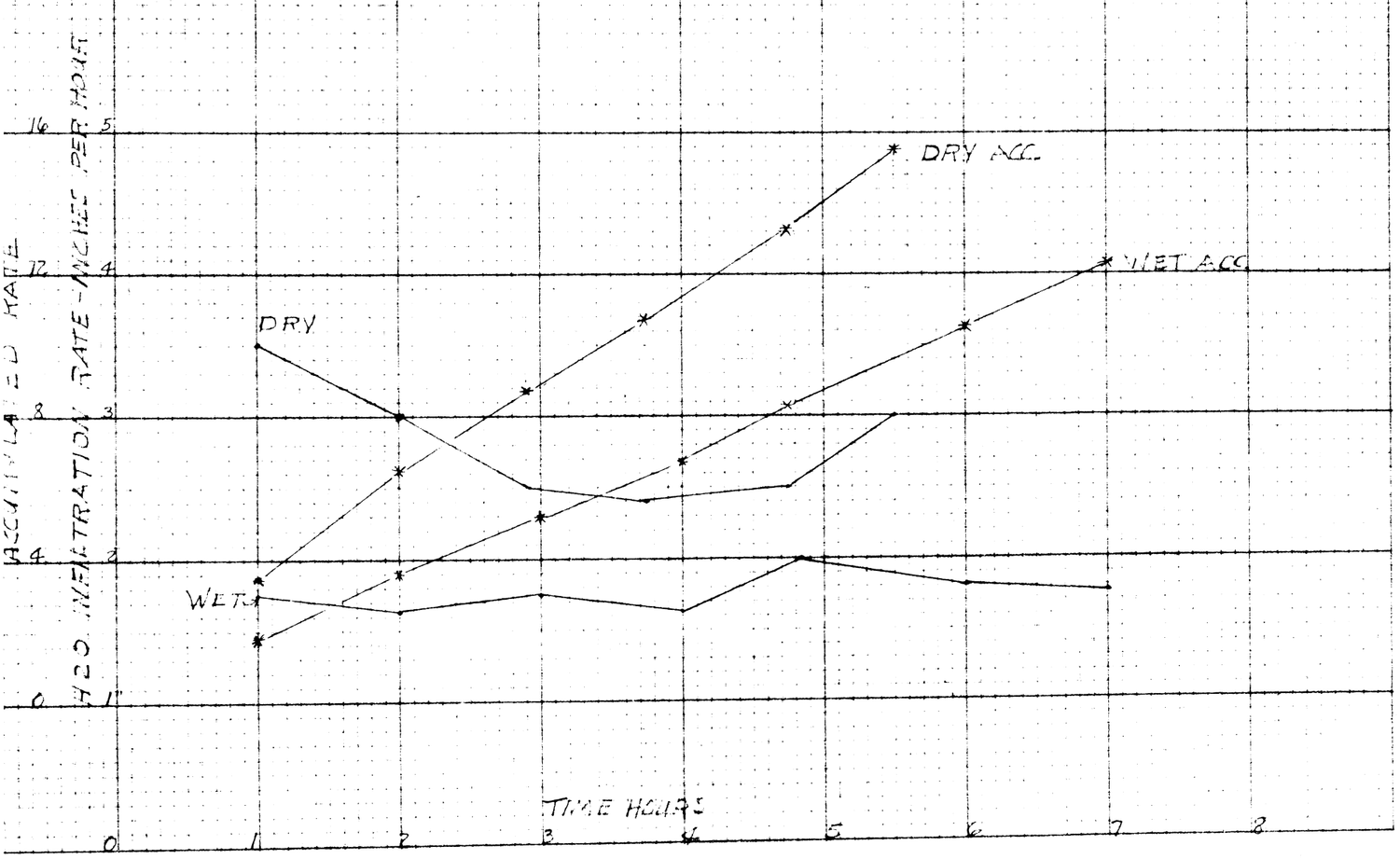
PATTERN OF INFILTRATION

Loc. 5 Cyl. 1

At 16/11 Cor. Sec. 20 T8S R25E.



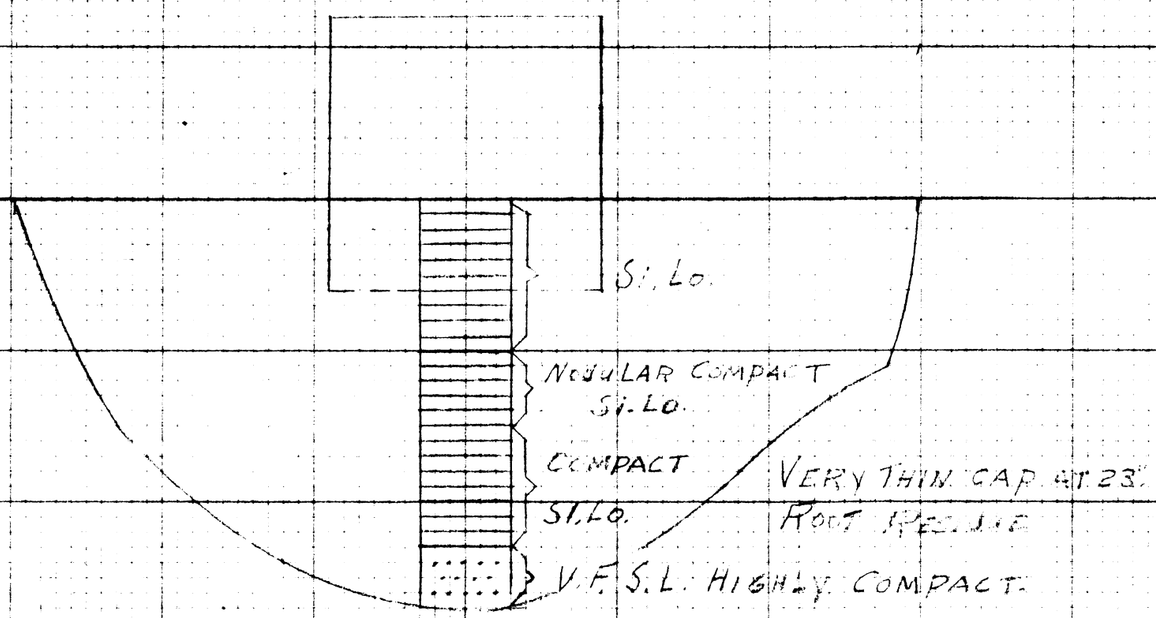
SCALE 1:1



PATTERN OF INFILTRATION

Loc. 5 Cyl. 2

AT 16/11 CAR. SEC. 10 T 8S R 25E



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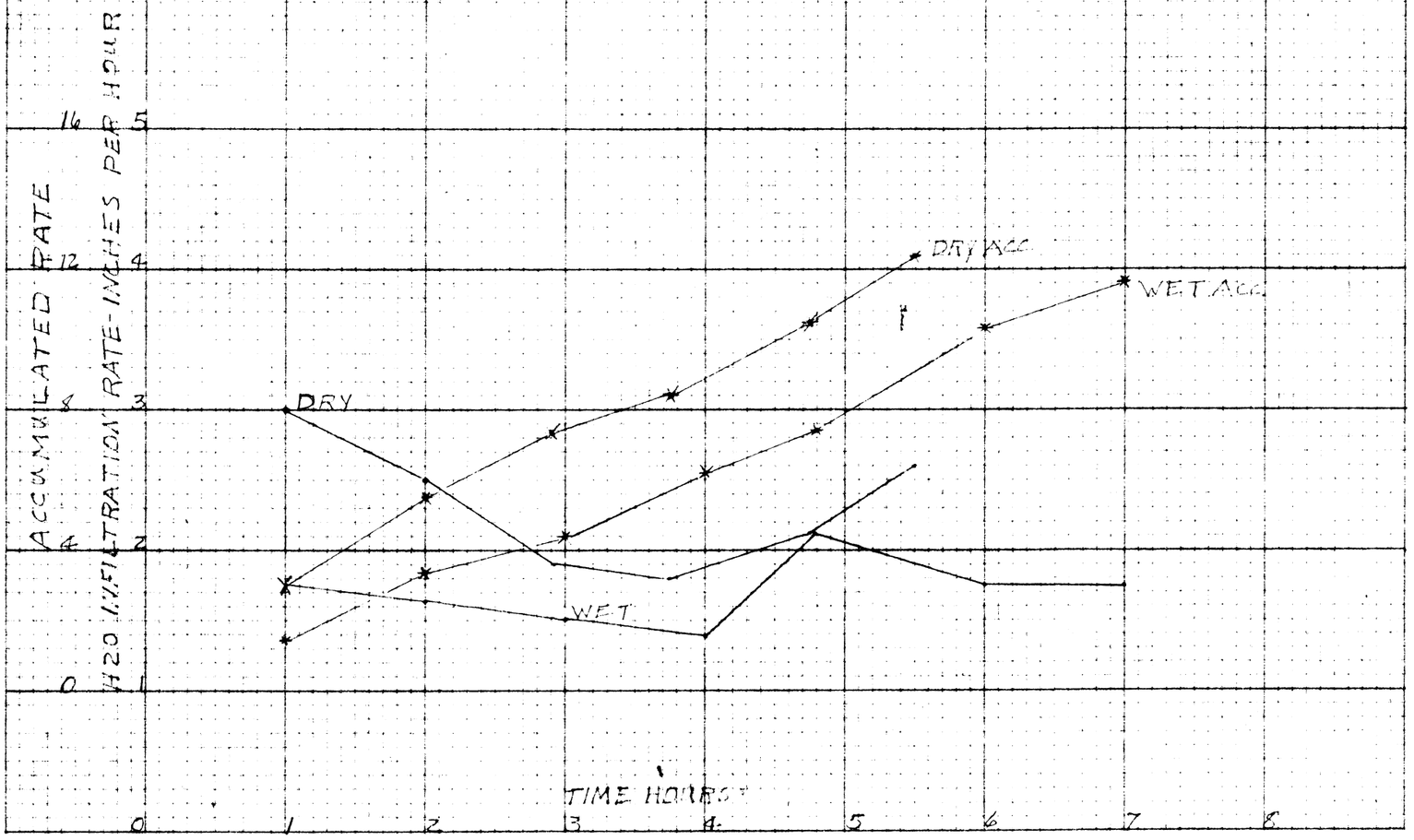
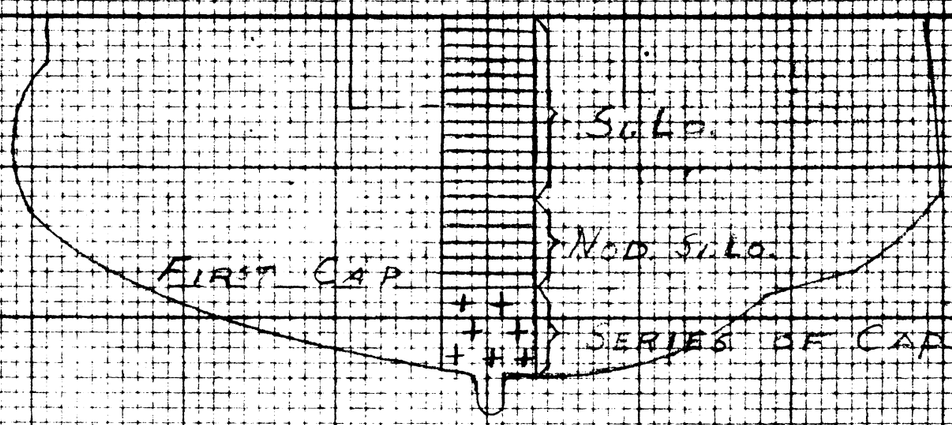


PATTERN OF INFILTRATION

LOC. 6 CYL. 1

150' S OF ¼ COR. SEC. 10 T8S R25E



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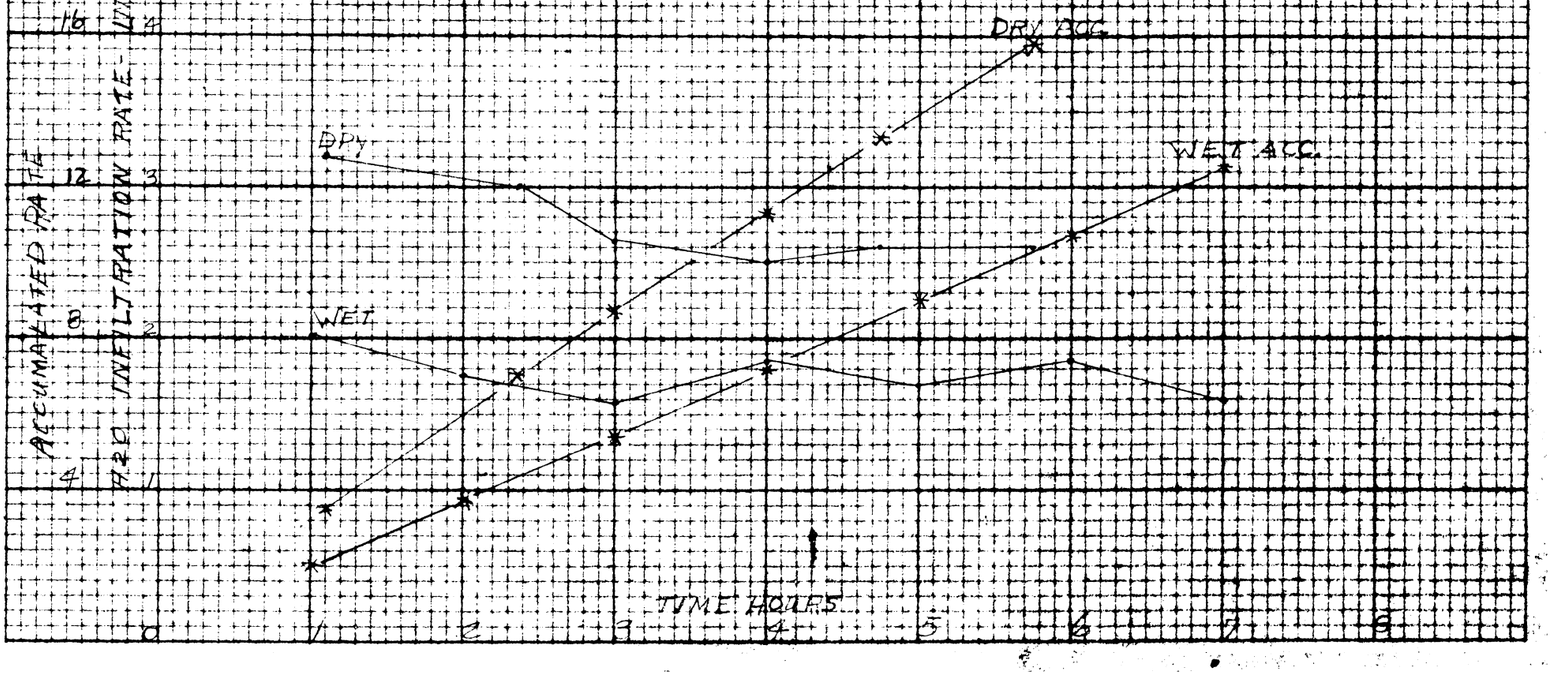
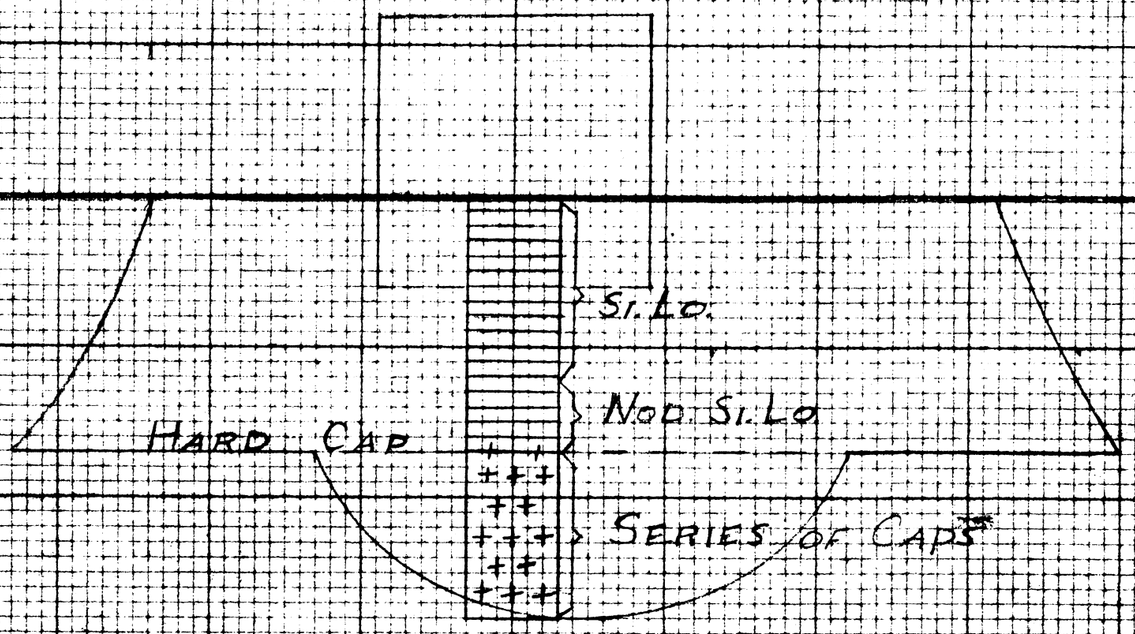


PATTERN OF INFILTRATION

LOC. 6 CYL. 2

150' S. OF 16/16 CORN. SEC. 10 T8S R25E



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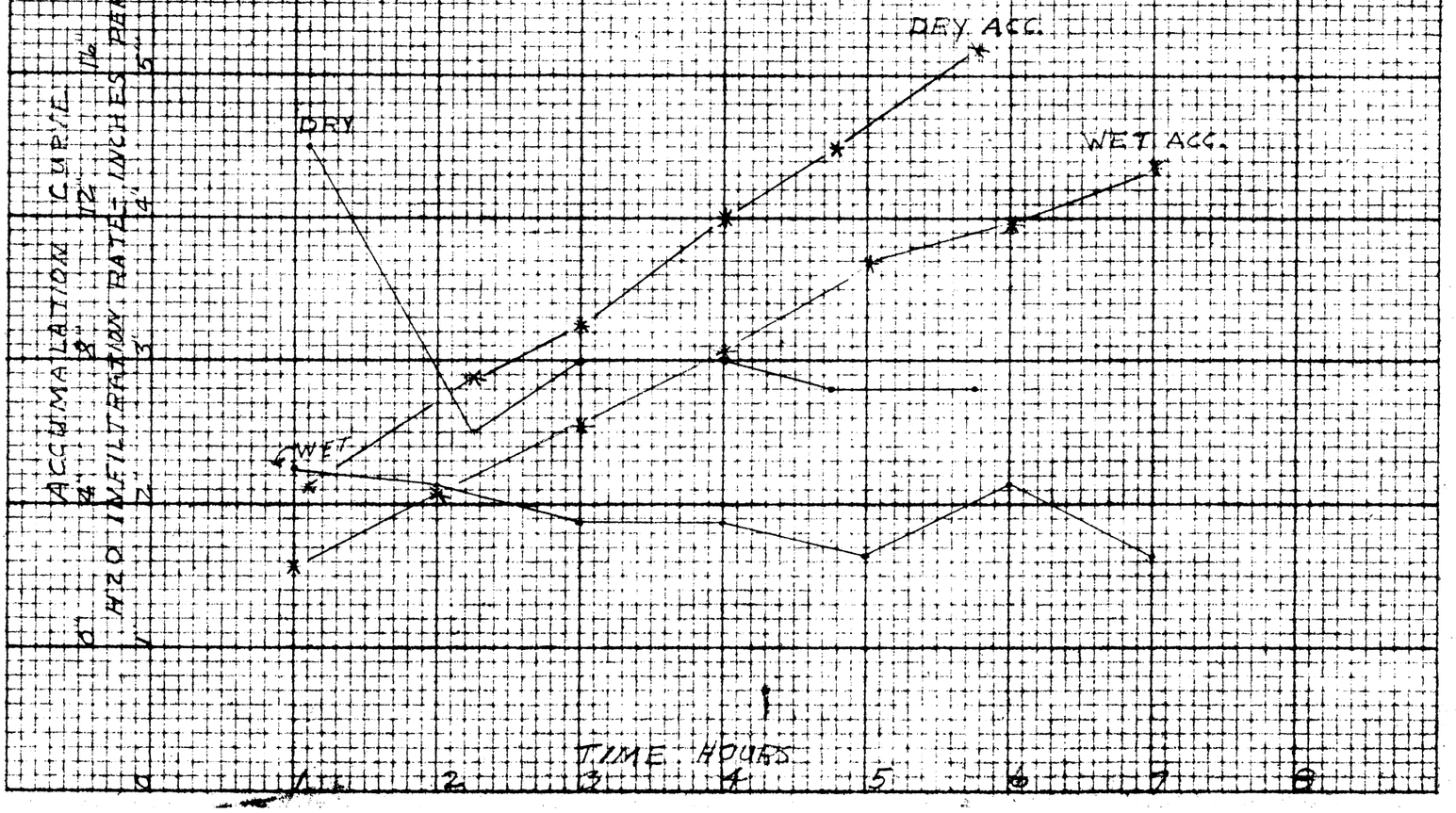


saturation or waterlogging of such soils could give rise to a salt problem by creating continuously wet conditions which promote surface salt concentrations rather than leaching. With the necessity of rigid economy of water and the general favorable topography for surface run-off, it should be possible to holdoversaturation or waterlogging to a minimum.

LAND CLASSIFICATION

The lands in this area were classified by use of the same standards as elsewhere on the Division. The evaluation of the lands for irrigation were by an integrated analysis of both physical and economic factors as applicable to these lands and as confirmed by actual experience on adjacent developed projects with similar lands.

The areas on nearby projects originally selected as correlation areas were the following:

1. An area immediately east of Twin Falls, Idaho having comparable high quality Class 1 lands as those on the North Side Pumping Division.

2. An area in the vicinity of Buhl, Idaho with lower quality lands due to shallower soils than in the Twin Falls area.

3. An area east of Hazelton, Idaho where the lands are of only medium quality because of compact to cemented subsoils and substrata.

Only about one-fifth of the soils of 8,400 acres recently classified have lands with soils and topography similar to the first correlation area. Those of the second area are only represented to a limited extent but the lands of the third are comparable to about three-fourths of those of the area recently surveyed.

Classification Specifications

Minimum specifications were the same as formerly set up for soils, topography, and drainage following the correlation of these physical conditions with similar conditions in adjacent irrigated areas. Basically, these specifications (table 4) follow closely the general overall specifications set up from past experience of the Bureau of Reclamation.

In the field, land classification areas regarded as arable, were separated from those considered nonarable, and, in turn the arable lands were separated into classes. About 88 percent of lands classified in this survey are arable. The various land classes were as follows:

Class 1

Soils of class 1 lands are deep, permeable and medium-textured, without restrictions to root growth. Surface soils are generally more than 14 inches deep over a slightly compacted calcareous subsoil. All soils are at least 54 inches deep over creviced basalt, but most are much greater in depth. They occupy gently sloping smooth uplands and broader depressional areas along drainageways. The lands may range up to 3 percent in general gradient but the slopes commonly are one-half to two percent. The soils are free from harmful accumulations of salts and have no drainage problems.

TABLE 3

PRELIMINARY SOIL PROFILE GROUPS AND CLASS WITH OTHER LAND FACTORS FAVORABLE, MINIDOKA NORTH SIDE EXTENSION PROJECT, RUPERT, IDAHO

SOIL GROUP NUMBER AND CHARACTERISTICS	SUB GROUP NUMBER AND CHARACTERISTICS 1/	SOME LIMITING CONDITIONS 2/	DEPTH IN 3/ INCHES	CLASS 4/
NUMBER 10 Permeable soils with no root restriction. Basalt bedrock at depths over 54". Subsoil may be nodular bot does not restrict roots.	110---Sandy surface soils underlain by sand or loamy sand subsoil.	Soil texture must be at least a heavy loamy sand throughout profile.	60	3s
	120---Medium textured calcareous subsoils. May have slight to medium compaction.	Depths to penetrable lime zone. " " " " "	14 14-	1 2s
	130---Same as number 120 except for positions. Occurs in drainageways.	Depths to penetrable lime zone.	18	1 5/
	140---Same as 210 except well drained.	Depth to penetrable lime zone.	18	1 5/
NUMBER 20 Enclosed basin soils. Generally heavy textured throughout profile.	210---Non-calcareous surface soils. Collodial staining. Very apparent structured development.	Will generally be non-arable because of drainage factor. Position generally unfavorable.		6d
NUMBER 30 Weakly cemented or very compacted subsoils restricting roots but having penetrable understrata.	310---Very compact or weakly cemented semi-permeable subsoils. May be nodular or platy. Understrata not compact and generally contains small lime basalt particles.	Depth to zone restricting roots. " " " " " " " " " "	12-24 24-36 36	4p 3s 2s
	320---Root restriction throughout subsoil	Same limiting conditions as 310.		
	330---Subsoils having a series of compacted limy layers with very thin cappings of shell-like indurations usually fractured allowing some root penetration and slow water percolation, where capping can be reached by subsoiling restrictions to roots can be lessoned.	Depth to zone restricting roots. " " " " " " " " " "	12-20 30-36 36-48	5 (2s) 5 (3s) 2s
NUMBER 40 Thin impervious limey caliche like layer, stops roots. Permeable profile above and below.	410---This soil is expected to respond favorably to subsoiling. Thin layer impenetrable to roots.	Depth to thin impervious layer. " " " " " " " " " "	12-30 30-42 42-54	5 (2s) 3s 2s
NUMBER 50 Substrata, indurated, hardpan, nodular or platy. Stops roots.	510---Impenetrable to roots. Hardpan of such a nature that subsoiling believed impossible. May have thin limey cappings with softer material between.	Depth to impenetrable layer. " " " " " " " " " " " " " " "	16-24 24-30 30-42 42-54	4p 3s 3s 2s
NUMBER 60 Impenetrable, indurated lime hardpan (caliche). Stops roots	610---Hardpan of such a nature that subsoiling believed impossible	Depth to hardpan. " " " " " " " " " " " " " " "	16-24 24-36 36-45 30-36 36-54 54	4p 4p 3s 3s 2s 1
	620---Subsoils with fractured indurated caliche hardpan which yields somewhat to root penetration and is slowly permeable to water			
NUMBER 70 Creviced basalt bedrock at less than 54". Roots stop on bedrock.	710---Creviced basalt bedrock at less than 54".	Depth to creviced basalt bedrock " " " " " " " " " " " " " " "	16-24 24-30 30-42 42-54	4p 3s 3s 2s
NUMBER 80 Scabland Shallow rock or hardpan or indurated lime layer.	810---	Depth to rock, hardpan or indurated lime layer.	16"	6s

1/ Mapping number, textural and depth symbols to be added in the field.
2/ If grade is lowered for some factor other than soil, topography, or drainage, the letter X will precede the class number and the reason will be put in parenthesis immediately following. Example: X3s (alkali).
3/ Depths to be added as fractions to sub-group number. Example: 510.26. the .26 indicates the area is 26" deep to indurated substrata, etc.
4/ High areas are to be outlined on field sheets and classified in paranthesis. 5h should precede the parenthesis. Example:

$$5h\left(\frac{1}{120.24\ Aa}\right)$$

5/ Generally will be grade lower because of position in drainageways.

SOIL TEXTURE NUMBER

1 — Sands
2 — Loamy sands and loamy fine sands.
3 — Sandy loams and fine sandy loams.
4 — Loams, silts, and very fine sandy loams.
5 — Silty clay loams, and light clay loams.
6 — Very permeable, friable clays.
7 — Permeable heavy clays
8 — Intractable, slowly permeable clays.

SLOPE

A — 0-3 %
B — 3-7 %
C — 7-12%
D — 12-18%
E — 18% plus

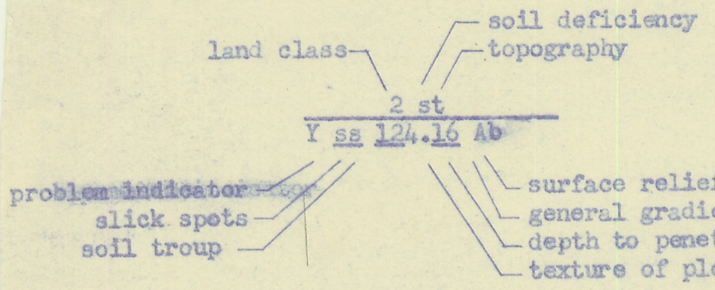
TOPOGRAPHY

SURFACE RELIEF

a — Smooth. Floating or light grading.
b — Irregular. Requires moderate grading on A slopes. May require some grading on B slopes.
c — Irregular or undulating. Requires moderate grading on B slopes or C and D slopes where grading is not feasible and would require short runs.
d — Strongly irregular. Grading not feasible. Irrigation not feasible

LAND USE SYMBOLD

I — Irrigated
Sg — Sagebrush
X — Idle, has been cleared but is not now being farmed. No clearing cost.
O — Dry grain land.



Key Revisions

Explanation and corrections for footmotes above:

2/ Land areas originally mapped X 3 a (Alkali) etc., have been changed on the tracings of the field sheets according to the following interpretation:

X 3 s (alkali) changed to 3 s X 2 s t (SS) or (slickspots) changed to $\frac{2s\ t}{Yss}$

$\frac{5\ (2s)}{414.26\ Aa}$ subsoiling problem due to thin hard layer $\frac{2s}{Y\ sub\ 414.26\ Aa}$

This was done to avoid confusing this symbolizat on with the X - 1, X - 2, etc., which was used areawise in the ection of the project lands. The Ya and Yss segregation draws attention to special problem areas which when ameliorated will likely result in a high quality of land.

3/ The decimal fraction may represent the depth to various zones depending upon the most important factor. Example: If the penetrable lime accumulation zone is the only detrimental factor then the fraction will relate to the depth to that zone. If caliche is found in the profile and it is overlying basalt, then the fraction will be the depth of soil mantle overlying the caliche which in this case is the controlling factor.

4/ The key was set up during the early stages of the investigation when the engineering plan called for gracity diversion and distribution from main canals. Since the plan changed to obtaining irrigation water by pumping from wells the importance of the high areas was largely nulified. This is due to the wells being located on the high areas. This segregation was eliminated from the tracings although it still remains on the original field sheets.

701-107-2949 Revised, November, 1954.

TABLE 2 4

MINIMUM LAND CLASSIFICATION SPECIFICATIONS

North Side Pumping Division
Minidoka Project, Idaho

Land Characteristics	Class 1 "Arable"	Class 2 "Arable"	Class 3 "Arable"	Class 4P "Limited Arable"
SOILS				
Texture	Sandy Loam to Friable Clay Loam	Loamy Sand to Very Permeable Clay	Loamy Sand to Permeable Clay	Loamy Sand to Permeable Clay
Depth: To sand, gravel or cobble.	36" plus--good free working soil of fine sandy loam or heavier; or 42" of sandy loam.	24" plus--good free working soil of fine sandy loam or heavier or 30"-36" of sandy loam to loamy sand	18" plus--good free working soil of fine sandy loam or heavier or 24"-30" of lighter textured soils.	
To creviced basalt or indurated nodular or silty platy, cemented hardpan. (Impenetrable to roots, but slightly permeable to water.)	54" plus	42" plus	30" plus	24" plus
To impervious indurated caliche hardpan.	60" plus	48" plus	36" plus	24" plus
To highly calcareous very compact semi permeable hardpan.	60" plus	36" plus	24" plus	12" plus
To penetrable lime zone.	14" plus with 54" penetrable			
Alkalinity 2/	pH not to exceed 8.6	pH not to exceed 9.0	pH not to exceed 9.0 unless soil is calcareous; total salts are low.	pH not to exceed 9.0
Salinity 1/	Total salts not to exceed 0.2%	Total salts not to exceed 0.3%	Total salts not to exceed 0.5%. May be higher in open permeable soils and under good drainage condition.	If salt content exceeds 0.5%, must be under conditions where it can be controlled.
TOPOGRAPHY				
Slopes	Smooth slopes up to 3% in general gradient in reasonably large bodies sloping in the same general plane.	Smooth slopes up to 7% in general gradient in reasonably large bodies sloping in the same plane; or rougher slopes which are less than 3% in general gradient.	Smooth slopes up to 12% in general gradient in reasonably large sized bodies sloping in the same plane; or rougher slopes which are less than 7% in general gradient.	Smooth slopes up to 18% in general gradient in reasonably large sized bodies; or rougher slopes which are less than 12% in general gradient.
Surface	Even enough to require only small amount of leveling and no heavy grading.	Moderate grading required, but in amounts found feasible at reasonable cost in comparable areas.	Heavy and expensive leveling required in spots, but in amounts found feasible in comparable irrigated areas.	Surface condition such that crop adaptability is very limited and management problems would be very complex.
Cover (loose rocks and vegetation)	None	Insufficient to modify productivity or cultural practices; or clearing costs small.	Sufficient to reduce productivity and interfer with cultural practices. Clearing required but at moderate costs.	Present in sufficient amounts to cause specific limited crop adaptability.
DRAINAGE				
Soil and topography	Soil and topographic conditions such that no specific farm drainage requirement is anticipated.	Soil and topographic conditions such that some farm drainage may be required and if required, reclamation by artificial means is feasible at reasonable cost.	Soil and topographic conditions such that significant farm drainage will probably be required and if required, reclamation by artificial means may be expensive but feasible.	Soil and topographic conditions such that significant farm drainage will probably be required, and if required by artificial means, surface drainage is at least feasible.

CLASS 6--NONARABLE

Includes lands which do not meet the minimum requirements of the next higher class, and small areas of arable land lying within larger bodies of nonarable land.

1/ Average for Root Zone and must be under soil, water and drainage conditions such that concentration will not become greater.

2/ Where slick spot conditions show deterioration of the subsoils, the land class must reflect the proportionate area occupied, as follows: class 1 up to 10%, class 2 10% to 20%, class 3 20% to 30%; if greater than 30% lands may be placed in a special Yss class if other conditions warrant, otherwise in class 6.

701-107-2948

R.24E.
R.25E.

N

T.7S.
T.8S.

R.25E.
R.26E.

T.7S.
T.8S.

1000 0 1000 2000 3000
SCALE OF FEET

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
MINIDOKA PROJECT
NORTH SIDE PUMPING DIVISION
IDAHO

LAND CLASSIFICATION

SUPPLEMENTAL SURVEY-1954

RUPERT, IDAHO DEC 1, 1954

701-107-4214

Table 5--ACREAGE OF LAND CLASSES - SUPPLEMENTAL SURVEY 1954

NORTH SIDE PUMPING DIVISION
Minidoka Project, Idaho

Location			Arable					Non-Arable		
Sec.	Twp.	Rge.	1	2	3	5N	Total	4	6	Total
15	7	24	49.2	22.1	68.3		139.6	2.3	18.1	20.4
22	7	24	97.5	29.6	294.9		422.0	20.4	37.6	58.0
23	7	24	202.4	72.0	273.0		547.4	59.9	33.7	93.6
26	7	24	63.4	25.5	193.7		282.6	17.4	9.3	26.7
27	7	24	29.8	17.2	144.1		191.1	9.3	12.0	21.3
28	7	24	62.1	139.9	237.9		439.9	0.3	24.0	24.3
27	7	25	8.4	23.9	104.5		136.8	15.0	8.2	23.2
29	7	25	0.0	4.0	140.3		144.3	5.0	10.7	15.7
30	7	25	0.0	88.1	321.8		409.9	24.6	16.8	41.4
31	7	25	0.0	81.5	306.0		387.5	11.9	29.1	41.0
32	7	25	0.0	73.4	475.8		549.2	18.0	32.9	50.9
33	7	25	69.7	27.1	465.3		562.1	0.1	46.1	46.2
34	7	25	40.0	16.8	238.1		294.9	14.5	8.3	22.8
3	8	25	102.5	50.8	423.9		577.2	24.4	15.4	39.8
4	8	25	0.0	106.6	479.1		585.7	15.6	40.5	56.1
5	8	25	0.0	208.7	218.2		426.9	0.1	12.9	13.0
10	8	25	5.5	79.6	164.6		249.7	10.7	7.9	18.6
11	8	25	0.0	26.2	314.5		340.7	0.0	7.3	7.3
12	8	25	0.0	160.2	282.0		442.2	30.4	167.8	198.2
13	8	25	0.0	178.9	25.6		204.5	15.0	195.6	210.6
TOTALS			730.5	1432.1	5171.6		7334.2	294.9	734.2	1029.1

Table 5A--ACREAGE OF LAND CLASSES FROM INITIAL SURVEY

NORTH SIDE PUMPING DIVISION
Minidoka Project, Idaho

Location			Arable				Non-Arable		
Sec.	Twp.	Rge.	1	2	3	Total	4P	6	Total
33	7	24		50.7	243.7	294.4	0.7	45.8	46.5
35	7	24	4.5	63.1	227.5	295.1	9.5	7.7	17.2
6	8	25		88.2	38.0	126.2		12.0	12.0
15	8	25		32.3	64.2	96.5		6.7	6.7
7	8	25	30.7	52.8	259.3	342.8	16.5	8.7	25.2
Totals			35.2	287.1	832.7	1155.0	26.7	80.9	107.6

R

[illegible]

[illegible] DIVISION
Minidoka Project, Idaho

LOCATION			ARABLE				NON-ARABLE		
Sec.	Twp.	Rge.	1	2	3	Total	4	6	Total
1	7	[illegible]	49.2	22.1	68.3	139.6	2.3	18.1	20.4
2	7	[illegible]	97.5	29.6	294.9	422.0	20.4	37.6	58.0
[illegible]	7	[illegible]	202.4	72.0	273.0	547.4	59.9	33.7	93.6
[illegible]	7	[illegible]	53.4	25.5	193.7	282.6	17.4	9.3	26.7
[illegible]	7	[illegible]	29.3	17.2	144.1	191.1	9.3	12.0	21.3
[illegible]	[illegible]	[illegible]	62.1	139.9	237.9	439.9	0.3	24.0	24.3
[illegible]	7	[illegible]	8.4	23.9	104.5	136.8	15.0	8.2	23.2
[illegible]	[illegible]	[illegible]	0.0	4.0	140.3	144.3	5.0	10.7	15.7
[illegible]	[illegible]	[illegible]	0.0	88.1	321.8	409.9	24.6	16.8	41.4
[illegible]	7	[illegible]	0.0	81.5	306.0	387.5	11.9	29.1	41.0
[illegible]	7	[illegible]	0.0	73.4	475.8	549.2	18.0	32.9	50.9
[illegible]	7	[illegible]	69.7	27.1	465.3	562.1	0.1	46.1	46.2
[illegible]	7	[illegible]	40.0	16.8	238.1	294.9	14.5	8.3	22.8
[illegible]	[illegible]	[illegible]	[illegible]	50.8	423.9	577.2	24.4	15.4	39.8
[illegible]	[illegible]	[illegible]	0.0	106.6	479.1	585.7	15.6	40.5	56.1
[illegible]	[illegible]	[illegible]	0.0	206.7	219.2	426.9	0.1	12.9	13.0
[illegible]	[illegible]	[illegible]	[illegible]	79.6	164.6	249.7	10.7	7.9	18.6
[illegible]	[illegible]	[illegible]	[illegible]	26.2	314.5	340.7	0.0	7.3	7.3
[illegible]	[illegible]	[illegible]	0.0	160.2	282.0	442.2	30.4	167.8	198.2
[illegible]	[illegible]	[illegible]	0.0	178.9	25.6	204.5	15.0	195.6	210.6
[illegible]									
Totals			730.5	1482.1	5171.6	7334.2	294.9	734.2	1029.1

Acreage of Land Classes
(Not included in 1954 Supplement)

Location			Arable				Non-Arable		
Sec.	Twp.	Rge.	1	2	3	Total	4P	6	Total
33	7	24		50.7	243.7	294.4	0.7	45.8	46.5
35	7	24	4.5	63.1	227.5	295.1	9.5	7.7	17.2
6	8	25		88.2	38.0	126.2		12.0	12.0
15	8	25		32.3	64.2	96.5		6.7	6.7
7	8	25	30.7	52.8	259.3	342.8	16.5	8.7	25.2
Totals			35.2	287.1	832.7	1155.0	26.7	80.9	107.6

Class 1 lands which occupy about 10 percent of the irrigable area are of high quality, are well suited to all crops grown in the area and are capable of sustained yields under common agricultural practices. They can be prepared for irrigation at relatively low cost.

Class 2

The class 2 lands are somewhat inferior to those of class 1 in having limiting factors of soil, topography, and drainage singly or in combination, depending on the intensity of the deficiency. The surface soils are shallower than 14 inches over the compact lime horizon or they may contain enough "slick spots" to reduce their productiveness. Lime cemented developments in the subsoil may limit their effective root depth and productiveness or slight to moderate salinity may decrease yields and make leaching operations necessary.

Some of the class 2 lands have slopes from 3 to 7 percent; others are sufficiently uneven to require leveling for efficient irrigation. These land conditions tend to increase development costs.

In the virgin state class 2 lands are well drained, but under irrigation it may be necessary to provide drains and drainage outlets for a few local flat areas or basins and for more extensive flat lands along the drainage courses. It is not anticipated that lime cemented layers or zones will affect internal drainage materially.

The class 2 lands which occupy about 20 percent of the irrigable land in the area classified will generally be a little more costly to develop, and in some cases more costly to irrigate. Where the surface soils are shallower a more intensive soil management and fertility program will probably have to be carried on to bring the fertility level up to that of the class 1 lands. Also on the more sloping lands crop selection may be slightly more limited. They are, however, relatively high quality lands as has been demonstrated on similar Division lands and on those on adjacent projects.

Class 3

In the class 3 lands the deficiencies in soil, topography and drainage are more exacting than in class 2. These deficiency factors singly or in combination strongly influence the cost of land preparation for irrigation, the crop adaptability and cost of maintaining fertility. On nearby irrigation projects similar lands have been extensively developed for forage and cereal crops though they are not necessarily limited to those crops except where the soils are shallow or the lands more strongly sloping.

The surface soils are mostly, but not always, shallow over compacted or weakly cemented subsoils, which in turn may overlie lime hardpan or crevviced bedrock at relatively shallow depths. In places the soils are deeper but salt concentrations in the highly calcareous cemented subsoil

and substrata developments lower their value or may possibly increase the time or cost of reclamation by leaching.

A considerable part of the class 3 land has slopes of 8 or 9 percent or lesser slopes with uneven surface. These features reduce the desirability of the lands for row crops and reduce yields because of cultural difficulties.

About 70 percent of the irrigable lands in the area recently classified are class 3.

Class 4P

Class 4P lands are low quality lands which ordinarily, on most projects, have only limited use for pasture. On this Division they were excluded from the irrigable acreage and water assessment because of the high cost of water. Only about 3 percent of the lands classified are class 4P.

These lands consist of a scattering of small areas with deficiencies in soil, topography, and occasionally drainage. Slopes range in gradient up to 18 percent when slopes are smooth or up to 12 percent when the slopes are rough and irregular. The soil depth may be shallow over crevised basalt or caliche. The shallower areas often have a scattering of loose rock and, in some areas, "slick spots" are numerous.

Class 6

The class 6 nonarable lands are those which do not meet the qualifications for any of the above classes. They consist principally of uneven shallow rocky soil areas, many of which are almost completely devoid of soil cover or covered with numerous rock outcroppings. They include also, small gully areas and small local enclosed basins without adequate drainage outlets. A few areas are definitely too high to be irrigated economically. Class 6 lands occupy about 9 percent of the area classified in this survey.

Table 6.—Land classification summary - supplemental survey 1954

North Side Pumping Division
Minidoka Project, Idaho

Land Class	Arable Land Acres	Irrigable Land 1/	Productive Land 2/ Acres
Class 1	730.5	701.3	659.2
Class 2	1,432.1	1,374.8	1,292.3
Class 3	5,171.6	4,964.8	4,666.9
Total	7,334.2	7,040.9	6,618.4

1/ Arable less 4 percent for additional rights-of-way.

2/ Irrigable less 6 percent for farmsteads, farm roads, and farm ditches.

Table 6A--LAND CLASSIFICATION SUMMARY OF LANDS FROM INITIAL SURVEY

NORTH SIDE PUMPING DIVISION
Minidoka Project, Idaho

Land Class	Arable Land Acres	Irrigable Land 1/ Acres	Productive Land 2/ Acres
Class 1	35.2	33.9	31.8
Class 2	287.1	275.7	259.2
Class 3	832.7	799.5	751.6
Totals	1,155.0	1,109.1	1,042.6

1/ Arable Land less 4 percent for additional rights-of-way.

2/ Irrigable Land less 6 percent for farmsteads, farm roads, and farm ditches.

Irrigability Classification and Development of the Group 7 Wells Area

The lands classified as irrigable in this supplemental survey and the previously classified lands included in the 8,150 irrigable acres of this group, like those elsewhere in Unit B, will obtain irrigation water by pumping from wells. Likewise, as determined by location, elevation and capacities of the individual wells, the potentially irrigable lands will be laid out into farm units of acceptable size (see memorandum - table 8.)

The irrigable area map of the supplemental survey of 1954, following page 14, shows the arable lands and the tentative exterior boundary of the irrigable lands upon completion of the survey and in table 6, the arable, irrigable, and productive acreages are shown. Table 5-A gives the location and land class breakdown of the lands previously classified, and in table 6-A, the arable, irrigable, and productive acreages of that area are shown. The irrigable acreages will be subject to some minor changes upon the completion of the farm unit layout.

1/ Arable less 4 percent for additional rights-of-way.

2/ Irrigable less 6 percent for farmsteads, farm roads, and farm ditches.

Irrigability Classification and Development

The lands classified in this supplemental survey, like those elsewhere in Unit B, will obtain irrigation water by pumping from wells. Likewise, as determined by location, elevation and capacities of the individual wells, the potentially irrigable lands will be laid out into farm units of acceptable size (see memorandum - table 8).

The irrigable area map following page 14 shows the arable lands and the tentative exterior boundary of the irrigable lands upon completion of the survey and in table 6 the arable, irrigable and productive acreages are shown. The irrigable acreages will be subject to some minor changes upon the completion of the farm unit layout.

Table 6A - Land Classification Summary (Not included in 1954 Supplement)

Land Class	Arable Land Acres	Irrigable Land 1/ Acres	Productive Land 2/ Acres
Class 1	35.2	33.9	31.8
Class 2	287.1	275.7	259.2
Class 3	832.7	799.5	751.6
Totals	1,155.0	1,109.1	1,042.6

1/ Arable Land less 4 percent for additional rights-of-way.

2/ Irrigable Land less 6 percent for farmsteads, farm roads, and farm ditches.

7-1594
(AUG. 1954)
BUREAU OF RECLAMATION

Table 7 LAND CLASSIFICATION--SUMMARY DATA

DATE 11/15/54

1. AREA

REGION 1
PROJECT Minidoka Project, Idaho
DIVISION North Side Pumping Division
UNIT Group 7 Wells Area
OTHER

2. BASE MAPS

AERIAL PHOTO	X	SCALE 1:4800
TOPOGRAPHIC	X	SCALE 1:4800
PLANE TABLE		SCALE
OTHER		SCALE

3. FIELD WORK
INIT. 1947 & 1954 COMP. 7/1/54 OTHER 8/1/54 APPENDIX REPORT 11/15/54

4. ACREAGE CLASSIFIED

	TOTAL SURVEY	PROJECT OR UNIT		
		IRRIGATED	NONIRRIGATED	TOTAL
CLASS 1	765.7		735.2	735.2
CLASS 2	1,719.2		1,650.5	1,650.5
CLASS 3	6,004.3		5,764.3	5,764.3
CLASS 4	321.6		321.6	--
SUBTOTAL	8,810.8		8,471.6	8,150.0 *
CLASS 5				
CLASS 6W				
CLASS 6	815.1		815.1	815.1
R.O.W.	384.8		352.0	339.2
TAL	10,010.7		9,638.7	9,304.3

* IRRIGABLE AREA. PRODUCTIVE AREA 7,661.0
ACREAGE NOT CLASSIFIED

5. NUMBER OF BORINGS AND PITS

	MINIMUM	AVERAGE	TOTAL
SHALLOW (5')	16 per section	22 per section	342
DEEP (OVER 10')			6
OPEN PIT OR DEEP PROFILES			6

6. SUPPLEMENTAL PROCEDURES

SALINITY	X	SODIUM	X
pH	X	GYPSUM	
LIME	X	LEACHING	X
MECH. ANAL.	X	ORG. MATTER	
H_2O CONDUCT.	X	FIELD CAPACITY	X
INFILTRATION	X	WILTING POINT	X
BULK DENSITY	X	H_2O STABILITY	
OTHER			

7. SPECIFICATIONS AND INFORMATIVE APPRAISALS

TYPE OF SPECS.: GENERAL OR REGIONAL PHYSICAL PROJECT X OTHER
ESTIMATE OF PAY. CAPACITY OF IRRIGABLE LAND CLASSES: average $12.38 $ $ $
TYPE OF APPRAISALS: LAND USE X PRODUCTIVITY X LAND DEVEL. X WATER REQUIR. X
LAND DRAINABILITY X OTHER
DESCRIPTION OF CLASS 4: 4P not irrigable under project plans (see specifications)
DESCRIPTION OF CLASS 5: None

8. DETERMINATION OF IRRIGABLE AREA (STEPS COMPLETED)

WATER SUPPLY X DISTRIBUTION SYSTEM PLAN X DRAINAGE SYSTEM PLAN X PAYMENT CAPACITY X
FARM UNIT LAYOUT X REVIEW BY WATER USERS O.M.+ R X

9. USE OF LAND CLASSIFICATION

WATER REQUIREMENTS X DISTRIBUTION SYSTEM PLAN X DRAINAGE SYSTEM PLAN X IRRIGATION ASSESSMENTS X
LAND APPRAISAL X FARM UNIT DEVELOPMENT X LAND USE AND MANAGEMENT X IRRIGATION BENEFITS X OTHER X

10. PRIOR SURVEYS OR CLASSIFICATIONS

TYPE AND AGENCY	YEAR	SCALE	COVERAGE
U.S.D.A. Soil Survey	1923	1"=1 mi.	complete

11. REVIEWS AND COOPERATION

OFFICE OR AGENCY	DATE
Ida. Experiment Sta. and Extension Service	1947-48 4/10/50 and 4/30/54
U.S.D.A. - F.H.A.	Continuing

12. DATE OF SECRETARIAL CERTIFICATION

R R

Interior - Reclamation - Denver, Colo.

7-1594 (AUG. 1954) ... OF RECLAMATION

LAND CLASSIFICATION--SUMMARY DATA

DATE 11/26/54

N 1

JECT Minidoka Project, Idaho

DIVISION North Side Pumping Division

UNIT Group 7 Wells Area

OTHER

2. BASE MAPS

AERIAL PHOTO	X	SCALE 1:4,800
TOPOGRAPHIC	X	SCALE 1:4,800
PLANE TABLE		SCALE
OTHER		SCALE

3. FIELD WORK INIT. 1947 & 1954 COMP. 7/1/54 OTHER 8/1/54 APPENDIX REPORT 11/15/54

4. ACREAGE CLASSIFIED

	TOTAL SURVEY	PROJECT OR UNIT IRRIGATED	PROJECT OR UNIT NONIRRIGATED	PROJECT OR UNIT TOTAL
CLASS 1	765.7		735.2	735.2
CLASS 2	1,719.2		1,650.5	1,650.5
CLASS 3	6,004.3		5,764.3	5,764.3
CLASS 4	321.6		321.6	--
SUBTOTAL	8,810.8		8,471.6	8,150.0 *
CLASS 5				
CLASS 6W				
CLASS 6	815.1		815.1	815.1
R.O.W.	384.8		352.0	339.2
TAL	10,010.7		9,638.7	9,304.3

8,150

* IRRIGABLE AREA. PRODUCTIVE AREA 7,661.0

ACREAGE NOT CLASSIFIED

5. NUMBER OF BORINGS AND PITS

	MINIMUM	AVERAGE	TOTAL
SHALLOW (5')	16 per section	22 per section	342
DEEP (OVER 10')			6
OPEN PIT OR DEEP PROFILES			6

6. SUPPLEMENTAL PROCEDURES

SALINITY	X	SODIUM	X
pH	X	GYPSUM	
LINE	X	LEACHING	X
MECH. ANAL.	X	ORG. MATTER	
H_2O CONDUCT.	X	FIELD CAPACITY	X
INFILTRATION	X	WILTING POINT	X
BULK DENSITY	X	H_2O STABILITY	
OTHER			

7. SPECIFICATIONS AND INFORMATIVE APPRAISALS

TYPE OF SPECS.: GENERAL OR REGIONAL [ ] PHYSICAL [ ] PROJECT [X] OTHER [ ]

ESTIMATE OF PAY. CAPACITY OF IRRIGABLE LAND CLASSES: average $ 12.38 $ $ $

TYPE OF APPRAISALS: LAND USE [X] PRODUCTIVITY [X] LAND DEVEL. [X] WATER REQUIR. [X]

LAND DRAINABILITY [X] OTHER [ ]

DESCRIPTION OF CLASS 4: 4P not irrigable under project plans (see specifications)

DESCRIPTION OF CLASS 5: None

8. DETERMINATION OF IRRIGABLE AREA (STEPS COMPLETED)

WATER SUPPLY [X] DISTRIBUTION SYSTEM PLAN [X] DRAINAGE SYSTEM PLAN [X] PAYMENT CAPACITY [X]

FARM UNIT LAYOUT [X] REVIEW BY WATER USERS [ ] O.M.+ R [X]

9. USE OF LAND CLASSIFICATION

WATER REQUIREMENTS [X] DISTRIBUTION SYSTEM PLAN [X] DRAINAGE SYSTEM PLAN [X] IRRIGATION ASSESSMENTS [X]

LAND APPRAISAL [X] FARM UNIT DEVELOPMENT [X] LAND USE AND MANAGEMENT [X] IRRIGATION BENEFITS [X] OTHER [X]

10. PRIOR SURVEYS OR CLASSIFICATIONS

TYPE AND AGENCY	YEAR	SCALE	COVERAGE
U.S.D.A. Soil Survey	1923	1"=1 mi.	complete

11. REVIEWS AND COOPERATION

OFFICE OR AGENCY	DATE
Ida. Experiment Sta. and Extension Ser.	1947-48 4/10/50 and 4/30/54
U.S.D.A. - F.H.A.	Continuing

12. DATE OF SECRETARIAL CERTIFICATION

COPY

In Reply Refer To:

740

TABLE 8
UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Reclamation
Regional Office, Region 1
Box 937, Boise, Idaho

April 13, 1954

Memorandum

To: Regional Director, Bureau of Reclamation, Boise, Idaho

From: Karl J. Magleby, Farmers Home Administration, C. O. Youngstrom, University of Idaho Extension Service, and J. Karl Lee, Chief, Economic Resources Branch, Region 1, Bureau of Reclamation.

Subject: Size-of-Farm Units, Northside Pumping Division, Minidoka Project

The Size-of-Farm Committee for the North Side Pumping Division of the Minidoka Project met at Rupert, Idaho, on April 7, to reconsider, in light of operating experience, its original recommendation of April 10, 1950. Individuals present included:

University of Idaho	Farmers Home Administration	Bureau of Reclamation
Virgil Kennedy	Karl J. Magleby	O. L. Kime
Robert W. Wilcox	C. Bendixsen	Robert Pittard
William Fola	Willard Stevenson	L. R. Swarner
Vance Smith	Anders J. Passey	E. N. Poulson
Wilmer C. Priest		J. Karl Lee
L. M. Williams		

The Committee reviewed the operating experience to date, and made a short inspection trip to certain areas in and adjacent to the project, after which it met to determine whether or not it wished to modify its previous recommendation with respect to (1) size of units in terms of acreage equivalents and (2) conversion ratios for land classes 2 and 3.

As a result of its re-evaluation, the Committee recommended that as a minimum, farm units to be laid out in the future should not be less than 90 acres in size in terms of class 1 acreage equivalents, and that in determining acreage equivalents 1-1/4 acres of class 2 would continue to equal 1 acre of class 1, but that 1-1/2 acres of class 3, except where topography is the limiting factor, would equal 1 acre of

class 1. It was suggested that where topography is the limiting factor that the individuals laying out the farm units and reviewing them should use their judgment in determining suitable adjustments.

This recommendation results in some significant changes from the previous criteria followed. These changes are, (1) it increases the minimum size from 76 to 90 acres class 1 equivalent, (2) it changes the conversion ratio of class 3 to class 1 from 2 acres to 1-1/2 acres, (3) as result of these two changes noted above, it narrows the range of sizes between land classes, and (4) it eliminates the requirement that class 3 land be combined with better classes of land in farm units and makes it possible to lay out farm units entirely with class 3 land.

These recommendations appeared to be genuinely concurred in by everyone present. So far as we are able to determine, they do not represent a compromise in any respect. For that reason we are particularly pleased with the results of the meeting and consider the recommendations an improvement over the previous procedures.

The method of implementing the recommendation was discussed. It was pointed out that it would, of course, be impossible to change the size of the 157 units for which public notices have already been issued; and further that it would cause considerable delay if we made extensive changes in the other 150 farm units already laid out. In recognition of this latter condition, it was suggested that a representative of the Farmers Home Administration make an immediate review of these 150 units and that if there appeared to be any units that would not meet the FHA requirements for farm loans that an attempt would be made to adjust the size of such units within the framework of the general recommendation noted above. It was recognized, however, because adjoining units are of the desirable size and cannot be either increased or decreased in acreage, or because topographic features impose certain restrictions, that it may be impossible at this time to adjust the size of individual units within the group. It was also recognized that the preliminary review to be made by the Farmers Home Administration will not necessarily commit the Farmers Home Administration to subsequent approval of such units.

For the balance of approximately 400 units that are not yet laid out, it was agreed that the recommendation would be followed. The suggestion was made that it would be desirable to have a local representative of the Farmers Home Administration participate with Regional representatives in the review of the farm unit layout. It was also suggested if problems were encountered in the layout of the

balance of 400 units, the Bureau would review them with local representatives of the Farmers Home Administration and the University of Idaho and base their action on the combined recommendation of the group.

/s/ Karl J. Magleby
Karl J. Magleby

/s/ C. C. Youngstrom
C. C. Youngstrom

/s/ J. Karl Lee
J. Karl Lee

Attachments

Approved: April 26, 1954

/s/ H. T. NELSON
Regional Director

SOIL PROFILE SYMBOLS

- GRAVEL OR COBBLE
- SANDS
- LOAMY SANDS
- SANDY LOAM
- LOAMS & SILT LOAMS
- CLAY LOAMS
- VERY PERMEABLE CLAYS
- PERMEABLE CLAYS
- SLOWLY PERMEABLE CLAYS
- CALCAREOUS HARDPAN
- CALICHE (INDURATED)
- SOLID ROCK

PROFILE REPRESENTS 5' DEPTH

2 — 18/90 — .18 % = TOTAL SALTS - 9.0 = PH
3/L = REACTION TO DILUTE HCL
2 = PROFILE NO.

1 — 50' W. of S.E. Corner
Sagebrush & slick spots
19" to 32" thin caps

2 — 60' N. of 16/7
Sagebrush & slick spots
19" to 21" thin caps with very compacted soil under cap.

3 — 30' W. of E. 1/4
Giant Sagebrush
Excellent Profile

4 — 40' S.W. of 16/8
Sagebrush & grasses
Excellent Profile

5 — At N.E. Corner
Sagebrush
Caliche like caps at 17"
Rock fragments below 45"

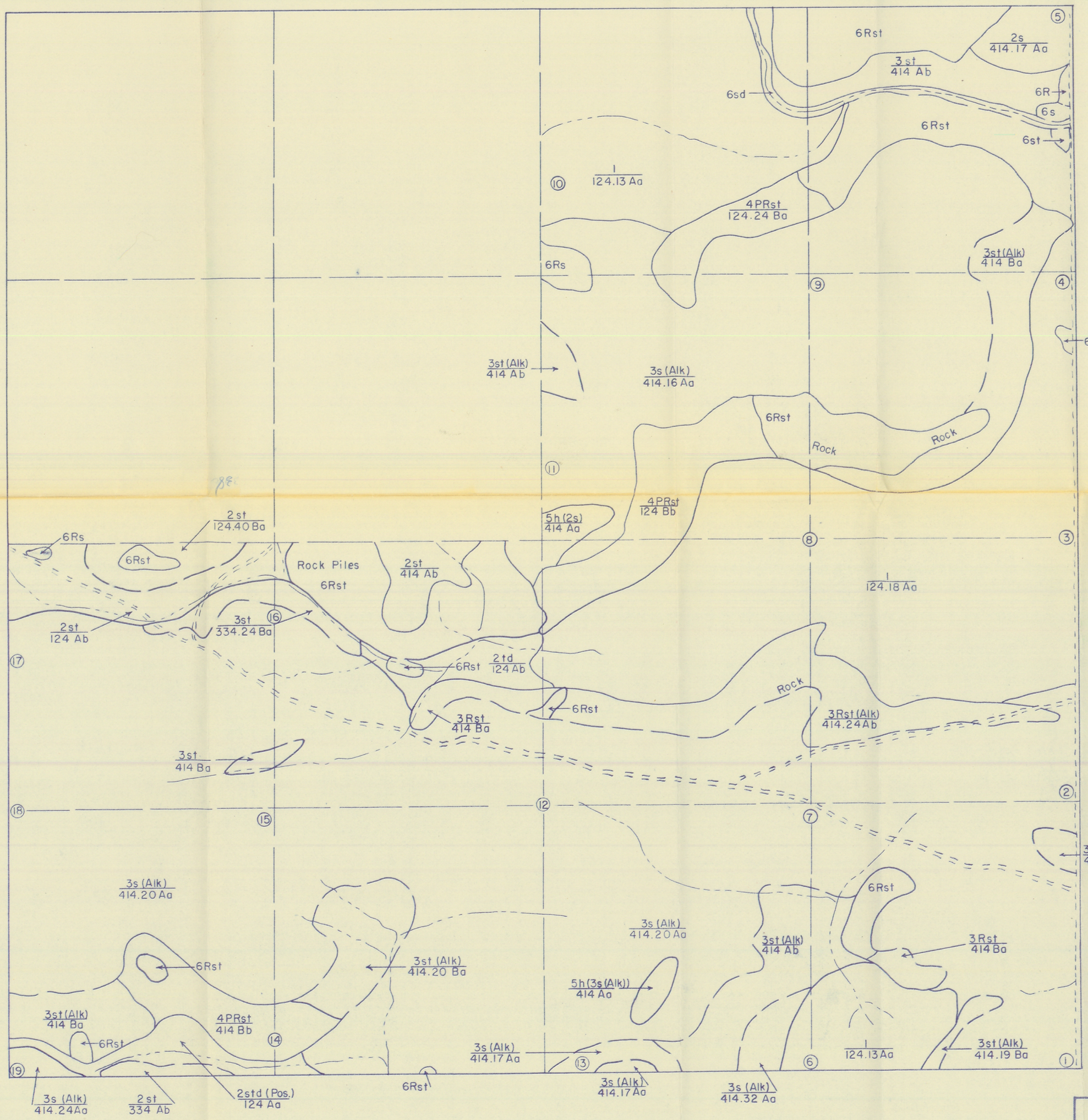
6 — At 16/6
Sagebrush
36" to 60" very compacted, colloidaly stained peds.

7 — At 16/15
Sagebrush
16" to 28" caliche like thin caps

8 — At 16/14
Grasses
24" to 52" slightly nodular
52" to 60" colloidaly stained peds

9 — 50' S.E. of 16/9
Sagebrush, grasses & slick spots
17" to 20" very compact. Caliche like caps
52" to 60" deep caps

10 — 475' N. of 16/10
Grasses
28" to 38" compact, crusty
38" to 60" brown, colloidaly stained peds



LEGEND

ARABLE LAND
- CLASS 1
- CLASS 2
- CLASS 3

LIMITED ARABLE LAND
- CLASS 4

TENTATIVELY NON ARABLE LAND
- CLASS 5

NON ARABLE LAND
- CLASS 6

REASONS FOR LOWER CLASS THAN "1"
- s = INFERIOR SOIL
- t = INFERIOR TOPOGRAPHY
- d = INFERIOR DRAINAGE
- R = SURFACE ROCK
- (POS) = POSITION

② LOCATION OF PROFILE

11 — 375' N. of 16/13
Grasses, sagebrush
16" to 36" several thin caps, crusty appearance
Large rock below 52"

12 — At 16/16
Sagebrush, slick spots
16" thin caliche like caps
36" to 48" heavy silt loam to clay loam
48" rock fragments

13 — 200' E. of S. 1/4
Sagebrush, grasses, & surface rock
17" thin caliche like caps
36" to 52" Si L, with small colloidaly stained peds. Rock fragments below 52"

14 — 180' N. of 16/5
Sagebrush, grasses, numerous surface rock
20" caliche like caps
Rock fragments throughout profile

15 — 50' S. of 16/17
Sagebrush, grasses, slick spots
20" thin cap

16 — 400' S. of 16/12
Sagebrush, cheatgrass, slick spots
23" thin cap
Large rock fragments below 33"

17 — 570' S. of W. 1/4
Cheatgrass
Calcareous below 12"
36" thin cap
36" to 60" crusty slightly platy

18 — 70' E. of 16/4
cheatgrass
Caps 42" & 52" 1/8" thick

19 — At S.W. corner
Cheatgrass
16" to 24" mottled
24" to 40" crusty salt caps
Broke auger at 40"

20

400 0 400 800
SCALE IN FEET

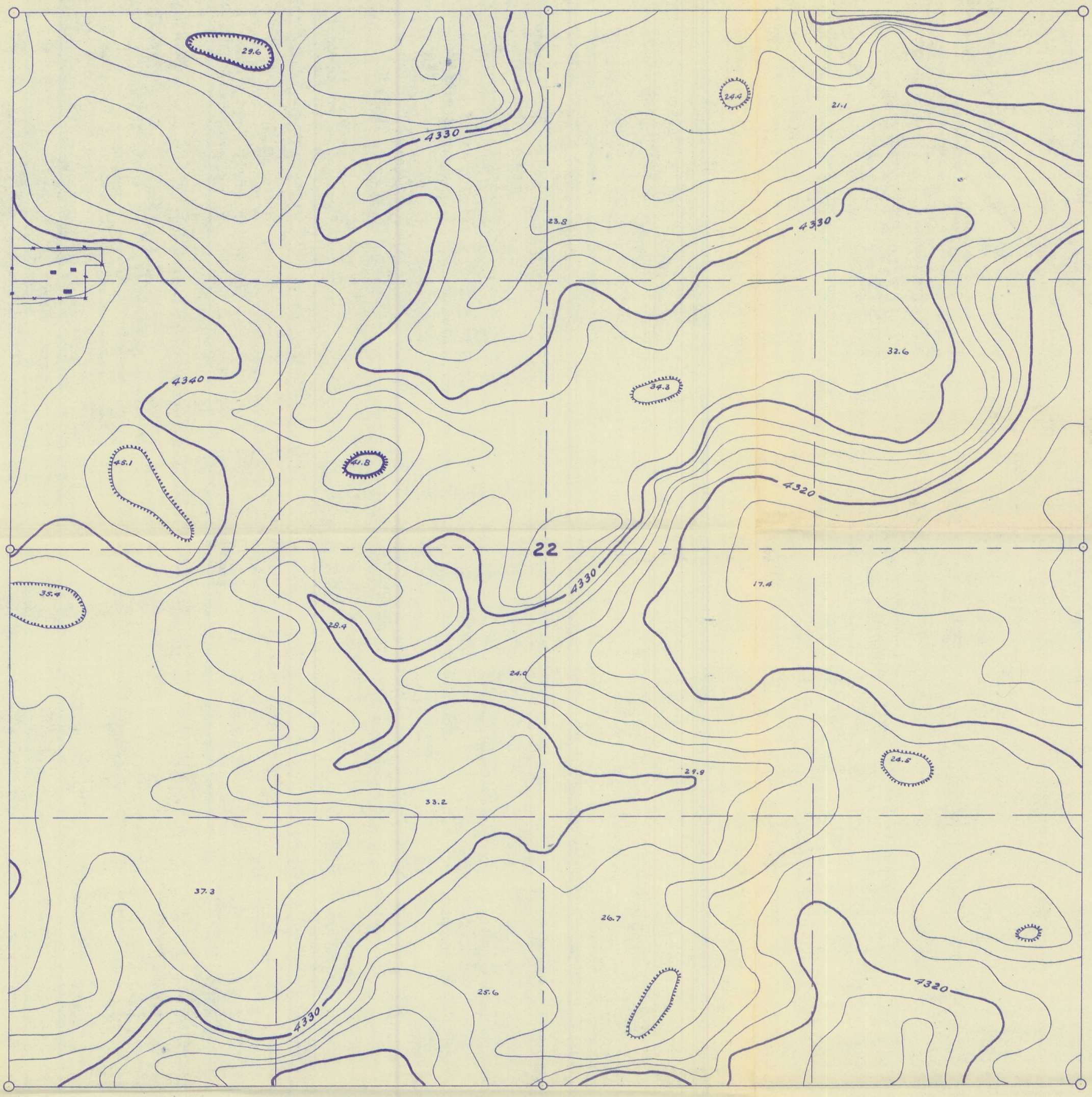
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

MINIDOKA PROJECT
NORTH SIDE PUMPING DIV. - IDAHO

DETAILED LAND CLASSIFICATION

DRAWN	ASD	SUBMITTED	
TRACED	LLN	RECOMMENDED	
CHECKED		APPROVED	

SEC. 22 T. 7S. R. 24E. | BOISE, IDAHO



Sec. 22 T. 7S. R. 24 E. B. M.

2-H-7422

12-107-2089

2580

5.0-P-20

APPENDED MATERIAL

This part of the Supplement to the Project Lands Appendix of 1952 deals with that portion of the North Side Pumping Division of the Minidoka Project designated as the area to be served by the Group 8 Wells. This area is outlined on the map entitled Irrigation Development by Years, and on the land classification maps that follow.

The Group 8 Wells area consists of 3,100 irrigable acres, which, when added to the 69,500 irrigable acres initially certified in 1952, and the 8,150 acres covered for certification in the 1954 Supplement, raises the total acreage of the division proposed for development to 80,750 irrigable acres.

The derivation of the 3,100 irrigable acres for development in the area to be served by the Group 8 Wells is shown on the Land Classification Summary Data Sheet. The soils, land conditions and classification of these lands are described in the original 1952 Project Lands Appendix.

Draft
ENPoulson:ab
June 8, 1956

-15-

A P P E N D E D M A T E R I A L

This part of the Supplement to the Project Lands Appendix of 1952 deals with that portion of the North Side Pumping Division of the Minidoka Project designated as the area to be served by the Group 8 Wells. This area is outlined on the map entitled Irrigation Development by Years, and on the land classification maps that follow.

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The derivation of the 3,100 irrigable acres for development in the area to be served by the Group 8 Wells is shown on the Land Classification Summary Data Sheet. The soils, land conditions and classification of these lands are described in the original 1952 Project Lands Appendix.

7-1594 (AUG. 1954) BUREAU OF RECLAMATION

Table 9 — LAND CLASSIFICATION--SUMMARY DATA

DATE: 6/6/56

1. AREA

REGION: I

PROJECT: Minidoka Project, Idaho

DIVISION: North Side Pumping Division

UNIT: Group 8 Wells Area

OTHER:

2. BASE MAPS

		SCALE
AERIAL PHOTO	X	1:4800 ~~1:4800~~
TOPOGRAPHIC	X	
PLANE TABLE		
OTHER		

3. FIELD WORK — INIT. 1947 — COMP. 1950 — OTHER — APPENDIX REPORT 1952

4. ACREAGE CLASSIFIED

	TOTAL SURVEY	PROJECT OR UNIT: IRRIGATED	PROJECT OR UNIT: NONIRRIGATED	PROJECT OR UNIT: TOTAL
CLASS 1	447		429	429
CLASS 2	~~1891~~		~~1815~~	~~1815~~
CLASS 3	891		856	856
CLASS 4	41		~~41~~	-
SUBTOTAL	3270		3141	3100 *
CLASS 5				
CLASS 6W				
CLASS 6	475		475	475
R.O.W.	135		129	129
TOTAL	3880		3745	3704

2914

* IRRIGABLE AREA. PRODUCTIVE AREA

ACREAGE NOT CLASSIFIED

5. NUMBER OF BORINGS AND PITS

	MINIMUM	AVERAGE	TOTAL
SHALLOW (5')	~~16 per sec.~~	~~22 per sec.~~	90
DEEP (OVER 10')			2
OPEN PIT OR DEEP PROFILES			2

6. SUPPLEMENTAL PROCEDURES

SALINITY	X	SODIUM	X
pH	X	GYPSUM	
LIME	X	LEACHING	X
MECH. ANAL.	X	ORG. MATTER	
H_2O CONDUCT.	X	FIELD CAPACITY	X
INFILTRATION	X	WILTING POINT	X
BULK DENSITY	X	H_2O STABILITY	
OTHER			

7. SPECIFICATIONS AND INFORMATIVE APPRAISALS

TYPE OF SPECS.: GENERAL OR REGIONAL [ ] PHYSICAL [ ] PROJECT [X] OTHER [ ]

ESTIMATE OF PAY. CAPACITY OF IRRIGABLE LAND CLASSES: average $ 12.38 $ ____ $ ____ $ ____

TYPE OF APPRAISALS: LAND USE [X] PRODUCTIVITY [X] LAND DEVEL. [X] WATER REQUIR. [X]

LAND DRAINABILITY [X] OTHER [ ]

DESCRIPTION OF CLASS 4: 4P not irrigable under project plans (see specifications)

DESCRIPTION OF CLASS 5: None

8. DETERMINATION OF IRRIGABLE AREA (STEPS COMPLETED)

WATER SUPPLY [X] DISTRIBUTION SYSTEM PLAN [X] DRAINAGE SYSTEM PLAN [X] PAYMENT CAPACITY [X]

FARM UNIT LAYOUT [X] REVIEW BY WATER USERS [ ] O.M.+ R [X]

9. USE OF LAND CLASSIFICATION

WATER REQUIREMENTS [X] DISTRIBUTION SYSTEM PLAN [X] DRAINAGE SYSTEM PLAN [X] IRRIGATION ASSESSMENTS [X]

LAND APPRAISAL [X] FARM UNIT DEVELOPMENT [X] LAND USE AND MANAGEMENT [X] IRRIGATION BENEFITS [X] OTHER [X]

10. PRIOR SURVEYS OR CLASSIFICATIONS

TYPE AND AGENCY	YEAR	SCALE	COVERAGE
U.S.D.A. Soil Survey	1923	1" = 1 mi.	Complete

11. REVIEWS AND COOPERATION

OFFICE OR AGENCY	DATE
Idaho Expt. Sta. and Extension Service	4/30/54 continuing
U.S.D.A.-FHA	

12. DATE OF SECRETARIAL CERTIFICATION

Interior - Reclamation - Denver, Colo.

7-1594
(AUG. 1954)
BUREAU OF RECLAMATION

Table 9

LAND CLASSIFICATION--SUMMARY DATA

DATE 6/6/56

1. AREA

REGION I

PROJECT Minidoka Project Idaho

DIVISION Twin Falls Division

UNIT Group 8 Wells Area

OTHER

2. BASE MAPS

AERIAL PHOTO	X	SCALE 1: 4800
TOPOGRAPHIC	X	SCALE 1: 4800
PLANE TABLE		SCALE
OTHER		SCALE

3. FIELD WORK

INIT. 1947 COMP. 1950 OTHER APPENDIX REPORT 1952

4. ACREAGE CLASSIFIED

	TOTAL SURVEY	PROJECT OR UNIT		
		IRRIGATED	NONIRRIGATED	TOTAL
CLASS 1	747		721	729
CLASS 2	1991		1815	1315
CLASS 3	291		856	856
CLASS 4	41		41	—
SUBTOTAL	3270		3141	3100 *
CLASS 5				
CLASS 6W				
CLASS 6	475		475	475
R.O.W.	135		129	129
TOTAL	3880		3745	3704

* IRRIGABLE AREA. PRODUCTIVE AREA 2717

ACREAGE NOT CLASSIFIED

5. NUMBER OF BORINGS AND PITS

	MINIMUM	AVERAGE	TOTAL
SHALLOW (5')	4 per Sec.	22 per Sec	90
DEEP (OVER 10')			2
OPEN PIT OR DEEP PROFILES			2

6. SUPPLEMENTAL PROCEDURES

SALINITY	X	SODIUM	X
pH	X	GYPSUM	
LINE	X	LEACHING	X
MECH. ANAL.	X	ORG. MATTER	
H_2O CONDUCT.	X	FIELD CAPACITY	X
INFILTRATION	X	WILTING POINT	X
BULK DENSITY	X	H_2O STABILITY	
OTHER			

7. SPECIFICATIONS AND INFORMATIVE APPRAISALS

TYPE OF SPECS.: GENERAL OR REGIONAL PHYSICAL PROJECT X OTHER

ESTIMATE OF PAY. CAPACITY OF IRRIGABLE LAND CLASSES: average $ 12.38 $ $ $

TYPE OF APPRAISALS: LAND USE X PRODUCTIVITY X LAND DEVEL. X WATER REQUIR. X

LAND DRAINABILITY X OTHER

DESCRIPTION OF CLASS 4: All is irrigable under project plan (See specification)

DESCRIPTION OF CLASS 5: None

8. DETERMINATION OF IRRIGABLE AREA (STEPS COMPLETED)

WATER SUPPLY X DISTRIBUTION SYSTEM PLAN X DRAINAGE SYSTEM PLAN X PAYMENT CAPACITY X

FARM UNIT LAYOUT X REVIEW BY WATER USERS O.M.+R X

9. USE OF LAND CLASSIFICATION

WATER REQUIREMENTS X DISTRIBUTION SYSTEM PLAN X DRAINAGE SYSTEM PLAN X IRRIGATION ASSESSMENTS X

LAND APPRAISAL X FARM UNIT DEVELOPMENT X LAND USE AND MANAGEMENT X IRRIGATION BENEFITS X OTHER X

10. PRIOR SURVEYS OR CLASSIFICATIONS

TYPE AND AGENCY	YEAR	SCALE	COVERAGE
U.S.D.A. Soil Survey	1923	1" = 1 mile	Complete

11. REVIEWS AND COOPERATION

OFFICE OR AGENCY	DATE
Idaho Expt. Sta. and Extension Service	4/30/57 continuing
U.S.B.R — FHA	

12. DATE OF SECRETARIAL CERTIFICATION

IRRIGATION DEVELOPMENT BY YEARS

NORTH SIDE PUMPING DIVISION MINIDOKA PROJECT IDAHO

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

REVISED JAN. 10, 1956
RUPERT, IDAHO DEC. 1, 1954

701-107-4221 R.H.F.

SCALE OF MILES

½ 0 1 2

LOCATION MAP

NORTH SIDE PUMPING DIVISION
MINIDOKA PROJECT

IDAHO
BOISE
American Falls Reservoir
Idaho Falls
Pocatello
Snake
Gooding
Rupert
Twin Falls
Burley

AREA AND FIRST YEAR OF IRRIGATION

1954	GROUP 1
1955	GROUP 2
1956	GROUP 3
1957	GROUP 4
1957	UNIT "A"
1958	GROUP 5
1958	GROUP 6
1958	GROUP 7
1959	GROUP 8

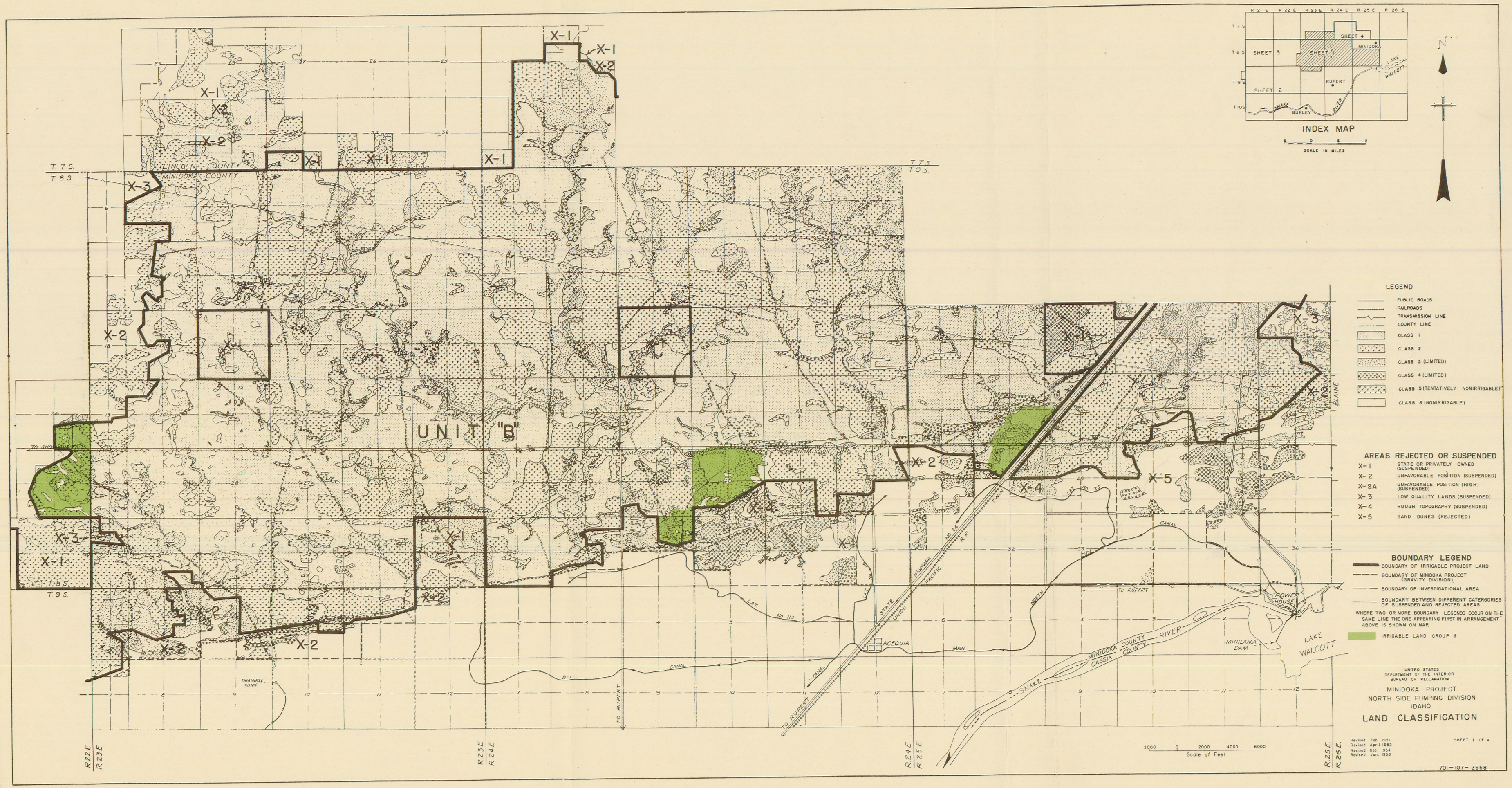
GROUP NO.	NO. OF WELLS	IRRIG ACRES	NO. OF RELIFTS
1	16	7,333.9	0
2	22	8,783.9	0
3	30	10,467.5	0
4	34	10,524.2	0
Unit "A"	1	14,230.0 *	5
5	29	10,361.8	4
6	18	6,584.5	4
7	30	9,530.0	0
8	13	3,108.1	1
TOTAL	193	80,923.9	14

* 580 Acres will be supplied from ground water.

- Existing Single Wells
- Existing Double Wells
- Proposed Group 8 Wells

UNIT "A"
UNIT "B"
LAKE WALCOTT
MINIDOKA DAM AND POWERPLANT
MINIDOKA CASSIA COUNTY LINE
MINIDOKA BLAINE COUNTY LINE
TO AMERICAN FALLS
RUPERT
ROE'S CORNER
ACEQUIA
DUFFIN SUB.
HEYBURN SUBSTATION
MINIDOKA GRAVITY DIVISION
MINIDOKA PROJECT 34.5 Kv. TRANSMISSION LINES
NORTH SIDE BRANCH NO. 25
UNIT "A" MAIN CANAL
UNIT "A" PUMPING PLANT
P.A. LATERAL PUMPING PLANT
MILNER DIVERSION DAM
TO SHOSHONE
TO SHOSHONE FALLS
TO GOODING
4 MILES TO HAZELTON
MILNER
SNAKE
BURLEY
U.S. HIGHWAY 30 N.
STATE HIGHWAY
RAILROAD
TRANSMISSION LINE
138 Kv.
IDAHO POWER CO.
UNION PACIFIC
MERIDIAN ROAD
GOODING CANAL
T.7S. T.8S.
T.8S. T.9S.
T.9S. T.10S.
R.24E. R.25E.
R.23E. R.24E.
R.22E. R.23E.
R.21E. R.22E.
R.20E. R.21E.

GPO 987912



LEGEND

- PUBLIC ROADS
- RAILROADS
- TRANSMISSION LINE
- COUNTY LINE
- CLASS 1
- CLASS 2
- CLASS 3 (LIMITED)
- CLASS 4 (LIMITED)
- CLASS 5 (TENTATIVELY NONIRRIGABLE)
- CLASS 6 (NONIRRIGABLE)

AREAS REJECTED OR SUSPENDED

X-1	STATE OR PRIVATELY OWNED (SUSPENDED)
X-2	UNFAVORABLE POSITION (SUSPENDED)
X-2A	UNFAVORABLE POSITION (HIGH) (SUSPENDED)
X-3	LOW QUALITY LANDS (SUSPENDED)
X-4	ROUGH TOPOGRAPHY (SUSPENDED)
X-5	SAND DUNES (REJECTED)

BOUNDARY LEGEND

- BOUNDARY OF IRRIGABLE PROJECT LAND
- BOUNDARY OF MINIDOKA PROJECT (GRAVITY DIVISION)
- BOUNDARY OF INVESTIGATIONAL AREA
- BOUNDARY BETWEEN DIFFERENT CATERGORIES OF SUSPENDED AND REJECTED AREAS

WHERE TWO OR MORE BOUNDARY LEGENDS OCCUR ON THE SAME LINE THE ONE APPEARING FIRST IN ARRANGEMENT ABOVE IS SHOWN ON MAP.

- IRRIGABLE LAND GROUP 8

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

MINIDOKA PROJECT
NORTH SIDE PUMPING DIVISION
IDAHO
LAND CLASSIFICATION

Revised Feb. 1951
Revised April 1952
Revised Dec. 1954
Revised Jan. 1956

SHEET 1 OF 4

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T.8S.
T.9S.

T.9S.
T.10S.

UNIT "B"

UNIT "A"

COUNTY
COUNTY

JEROME
MINIDOKA

X-1
X-2
X-2A
X-3

N

CANAL
BRANCH
TO RUPERT
TO JEROME
STATE HIGHWAY NO. 25
MILNER
GOODING
DRAIN
MAIN
44 KV. TRANSMISSION LINE
SNAKE RIVER
MINIDOKA COUNTY
CASSIA COUNTY
JEROME COUNTY
TWIN FALLS COUNTY
MILNER DIVERSION DAM
PUMP LIFT
R.20E.
R.21E.
R.22E.
R.23E.

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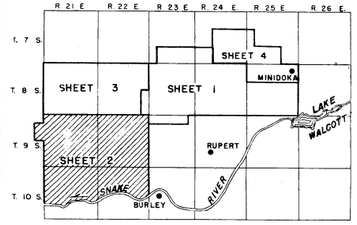

INDEX MAP

6 0 6 12
SCALE IN MILES

BOUNDARY LEGEND

- BOUNDARY OF IRRIGABLE PROJECT LAND
- BOUNDARY BETWEEN IRRIGABLE LANDS OF UNIT A AND UNIT B
- BOUNDARY OF MINIDOKA PROJECT (GRAVITY SYSTEM)
- BOUNDARY OF INVESTIGATIONAL AREA
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IRRIGABLE LAND GROUP 8

2000 0 2000 4000 6000
Scale of Feet

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MINIDOKA PROJECT
NORTH SIDE PUMPING DIVISION
IDAHO

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Revised Feb. 1951
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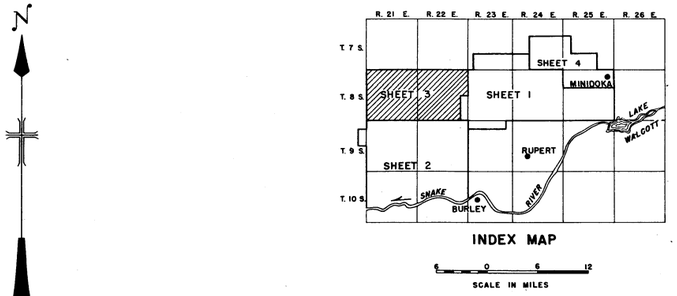

INDEX MAP

SCALE IN MILES

LEGEND

- PUBLIC ROADS
- RAILROADS
- TRANSMISSION LINE
- COUNTY LINE
- CLASS 1
- CLASS 2
- CLASS 3 (LIMITED)
- CLASS 4 (LIMITED)
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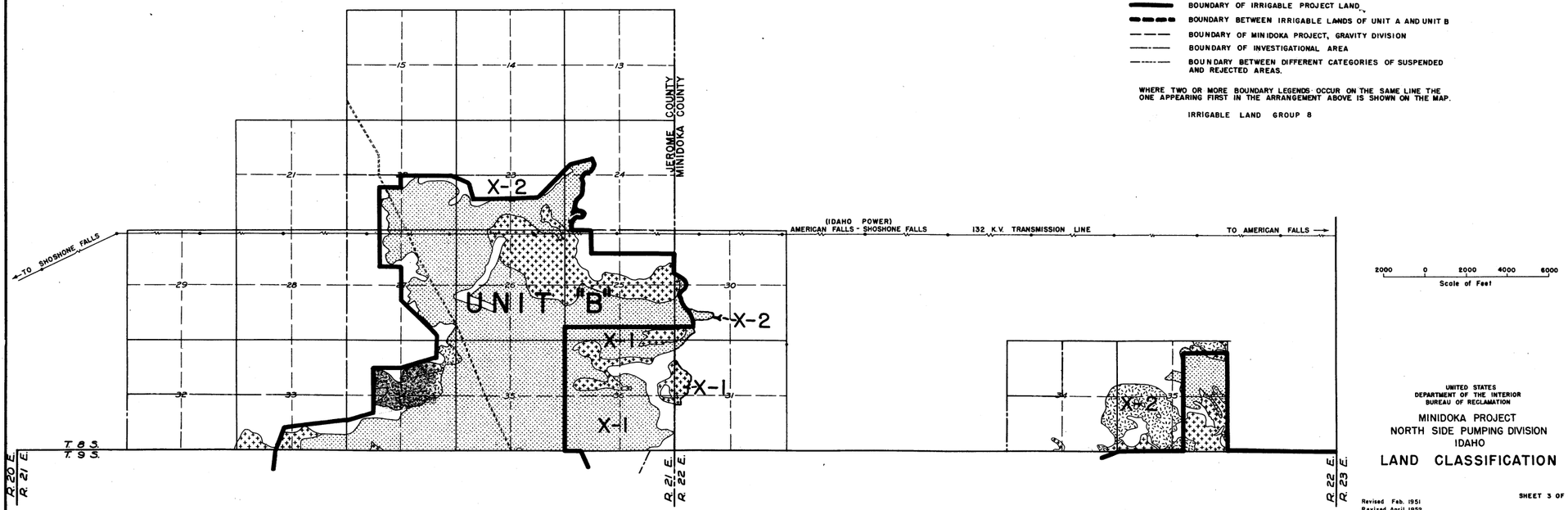
IRRIGABLE LAND GROUP 8



2000 0 2000 4000 6000
Scale of Feet

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IDAHO

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SHEET 3 OF 4

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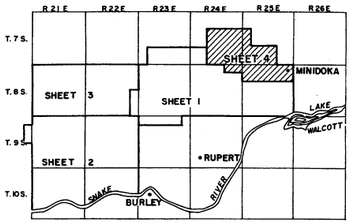

INDEX MAP

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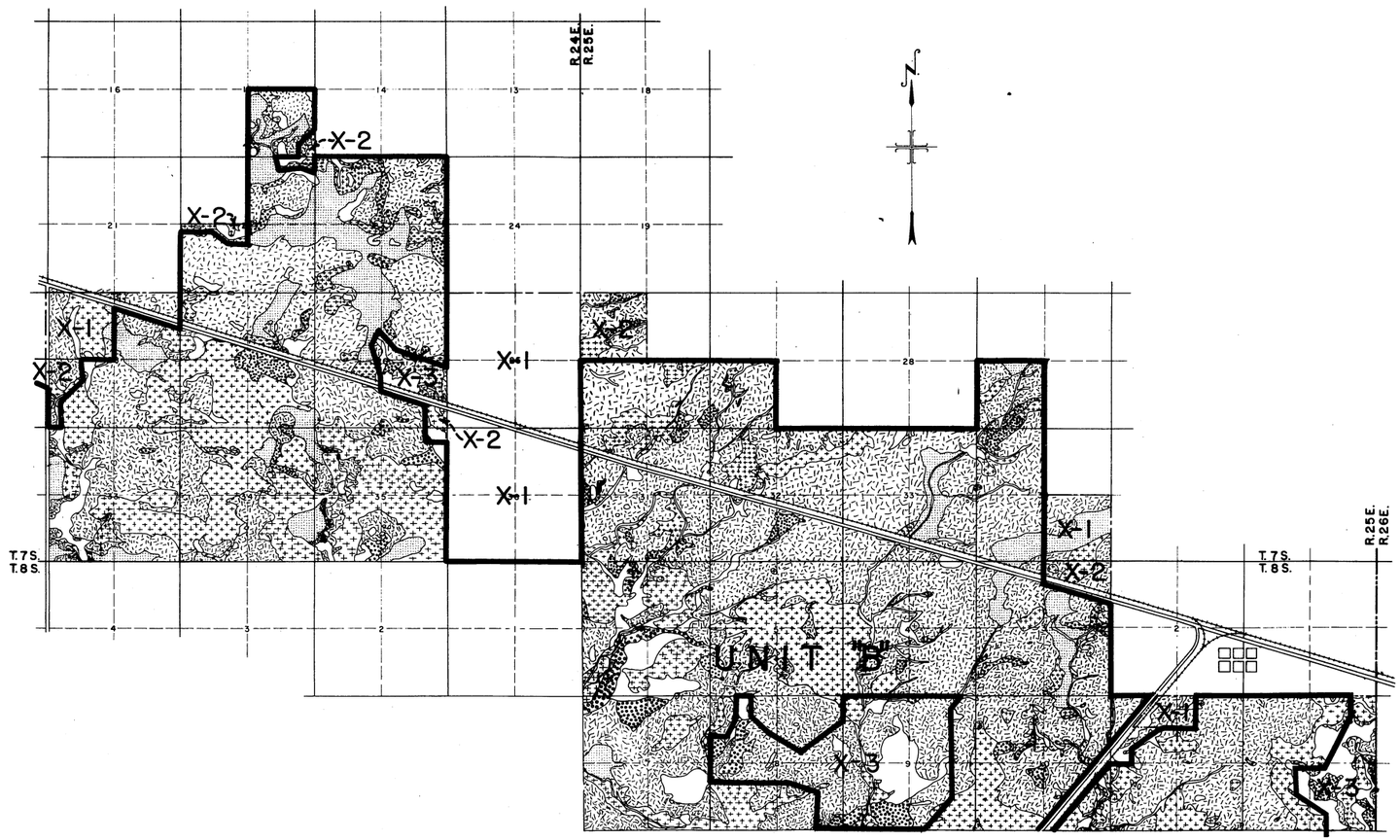

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