1924

ANNUAL REPORT
5TH. IRRIGATION DISTRICT

PART I

CV-6417-201 NN013031

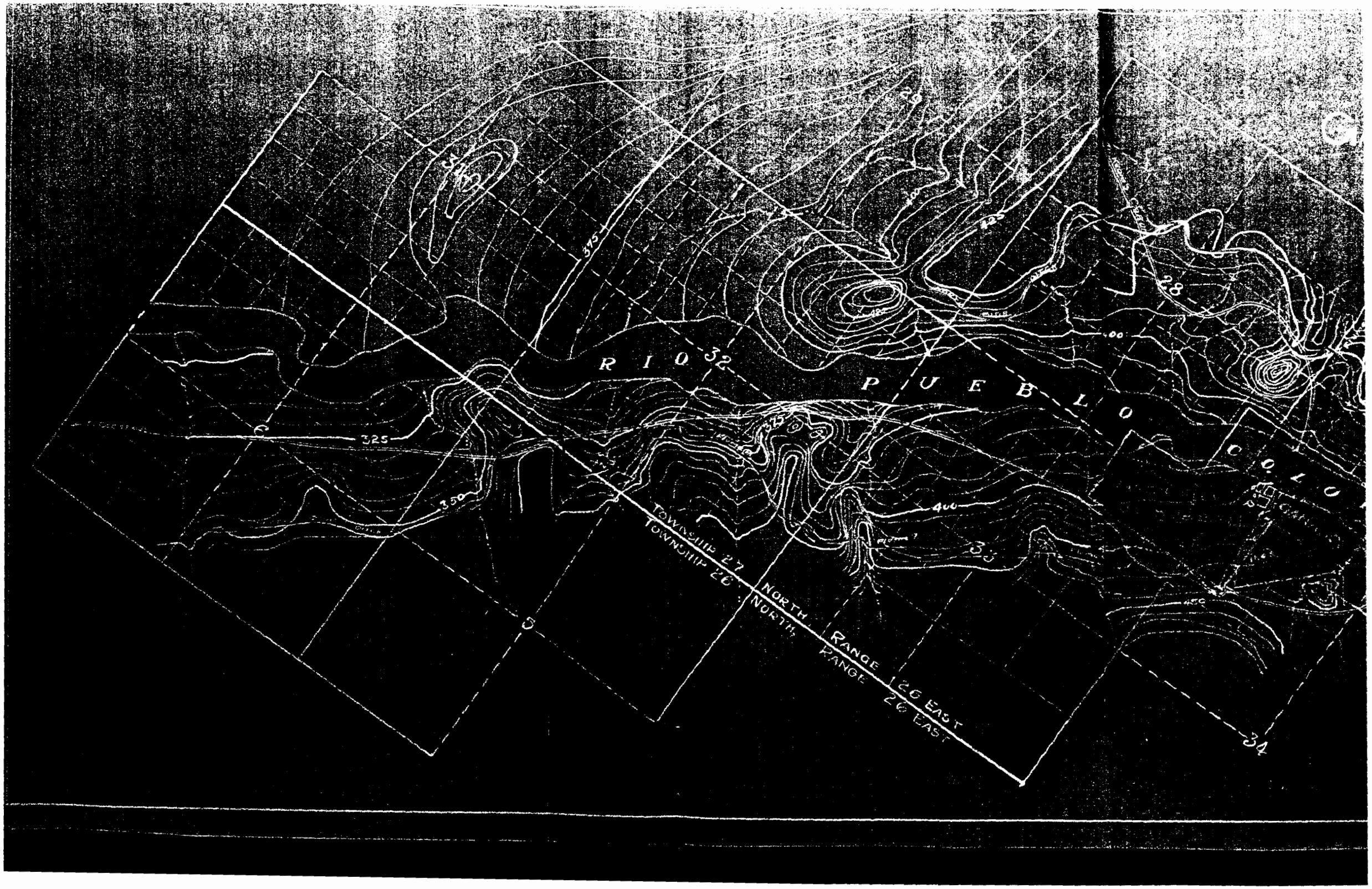
FIRST MESA WASH.

Plans were submitted some time ago for the possible irrigation of a considerable area adjacent to the First Mesa Wash in the Hopi country by means of diverting flood waters and allowing them to spread over a considerable area of country. These plans were submitted to the Chief Engineer but no action had been taken pending some further examinations.

The rains and floods of last fall brought down an immense amount of water through this stream bed until it was deepened and widened until, according to Mr. Womack, it resembles a miniature Grand Canyon.

Before any work can be done looking to the diversion of these flood waters, entire new surveys will have to be made to determine whether it is desirable or practicable.

HUBBELL'S SUB-RESERVOIR.



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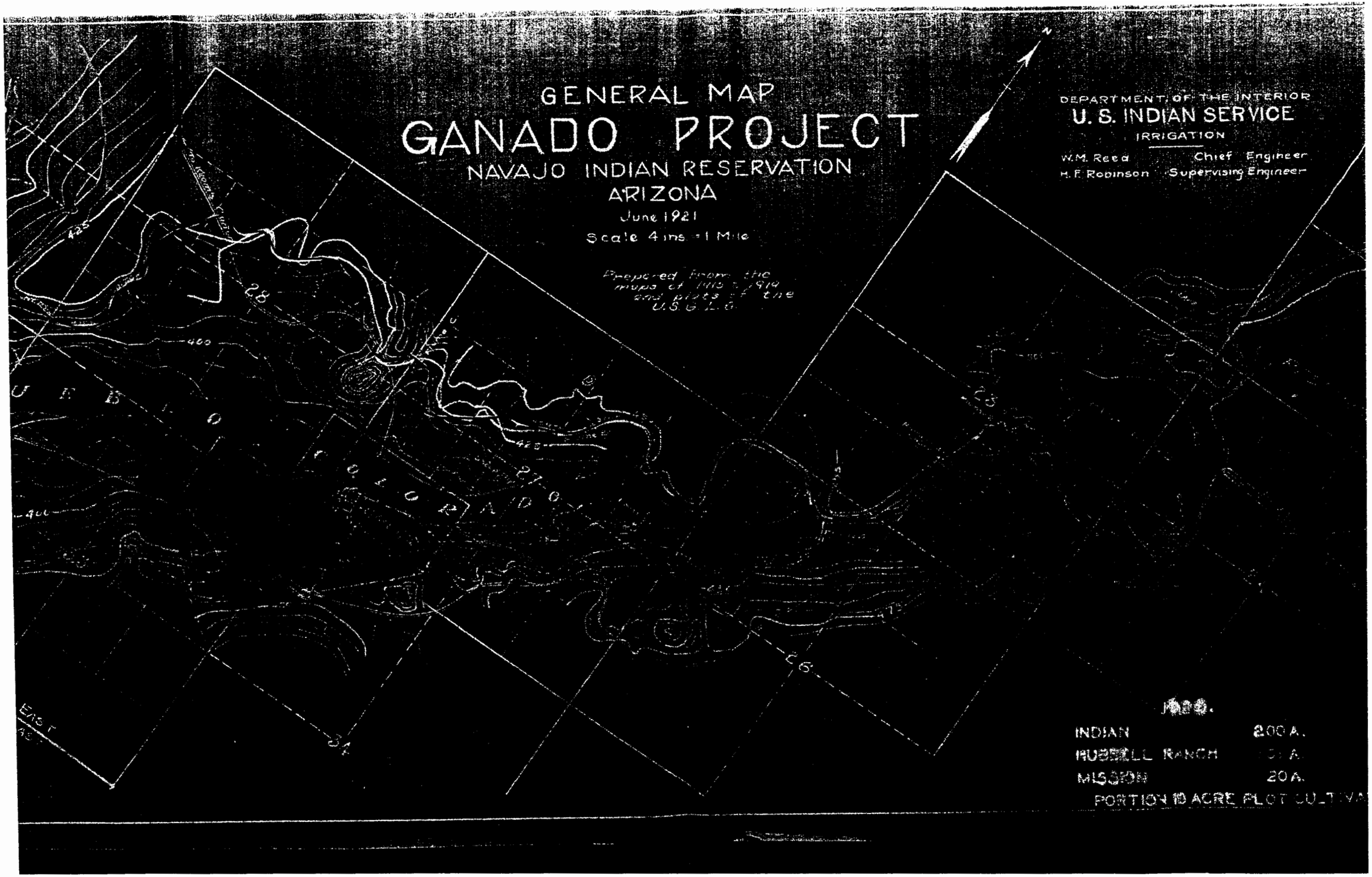
NN013034



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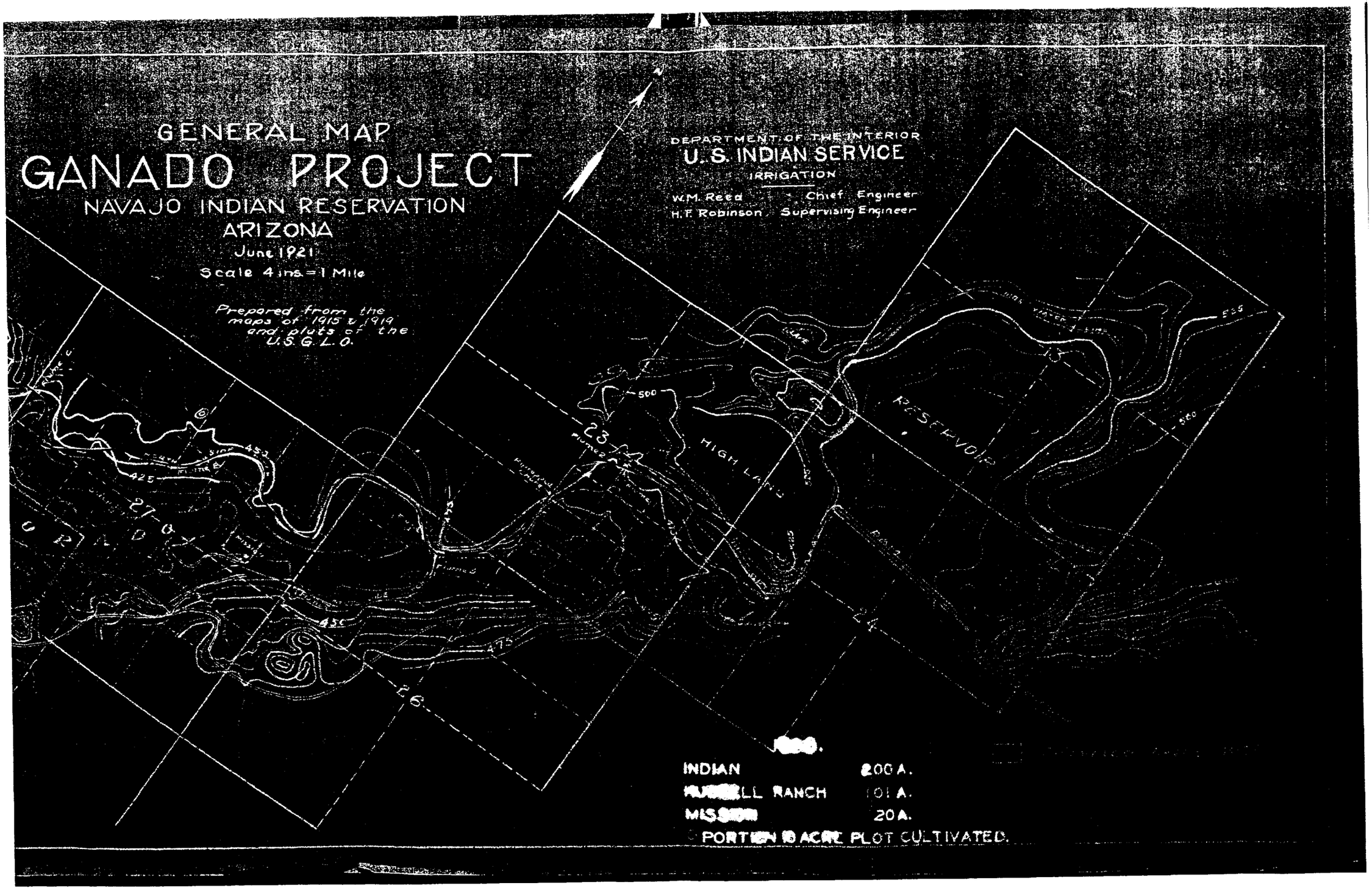


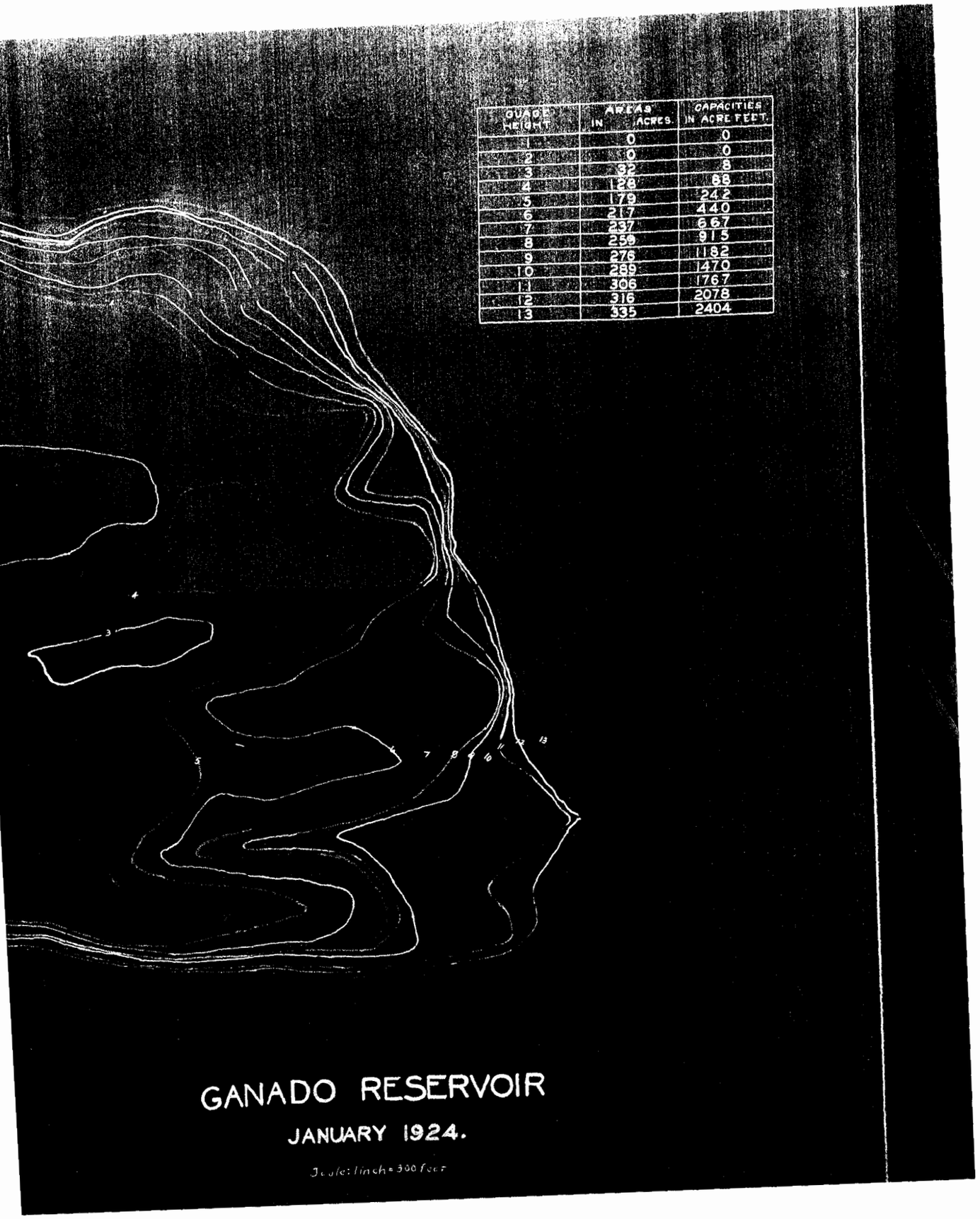
NN013036

GANADO.

No new construction work has been done on this project during the past year, but a great deal of repair work was necessitated by very heavy floods during the early part of the fiscal year. Full reports have been made from time to time of these heavy rains. They did much damage, cutting through the canal in various places, filling them with silt and destroying two flumes.

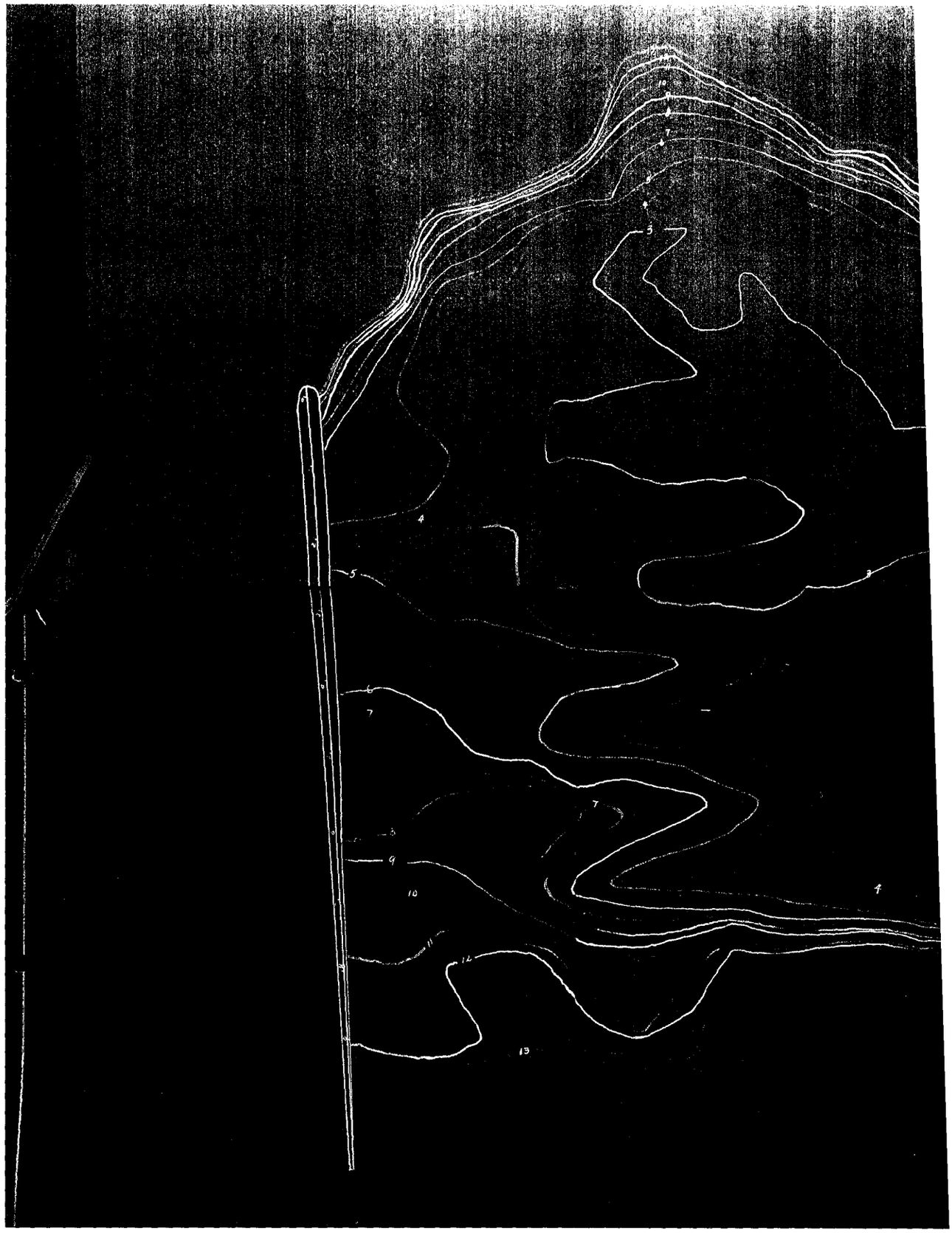
At one point where the canal cuts around the point of a small hill just above the river, the hill was struck by lightning and the ground so disrupted that a large portion of the hill slipped down into the river and where no sign of a slide had occurred at some distance away, a considerable portion of the river bed was bulged up several feet above its original grade. It has been necessary to rebuild several hundred feet of ditch on this hill side, and owing to its peculiarly shattered condition this section has been built and rebuilt half a dozen times. It has been necessary for some time, whenever water is running in the canal, to keep

NA 14070 (9-87)



GUAGE HEIGHT	AREAS IN ACRES.	CAPACITIES IN ACRE FEET.
1	0	0
2	0	0
3	32	8
4	128	88
5	179	242
6	217	440
7	237	667
8	259	915
9	276	1182
10	289	1470
11	306	1767
12	316	2078
13	335	2404

NN013039


3
4
5
6
7
8
9
10
11
12
13

man at this point with a shovel to hold the ater in the ditch.

It will be necessary to line this ection of the ditch with concrete before it an be made safe. Additional funds were sked for to make these repairs, but for some eason were not available, and it is doubtful hether we can continue operations during the oming year and do the absolutely necessary epairs with the small amount of money given s for the project. Two flumes are out entirely nd of course none of the land under the canal elow these flumes can be irrigated until these re replaced. It is doubtful whether sufficient money can be saved from ordinary operation and maintenance to build even one of these flumes, but an endeavor will be made to do so.

Mr. Samuel G. Maus, who has been located in charge of this project for several years past has been transferred to our Hogback Project and Mr. H. M. Bond, who has had several years' experience in this Service will be placed in charge at Ganado.

GANADO

Alfalfa field.

GANADO

Alfalfa field.

NA 14070 (9-5-)

The Indians have taken up considerable additional land on the project during the past year, but it is believed that because of the inability to get water to the lower end of the canal some of them will have to give up the land, at least until such time as the repairs can be made. This is to be regretted as it has been difficult to get the Indians to take hold of the work on this project.

Ganado.
Jetty built to protect north end diversion dam. Like of diversion dam shows behind jetty at at upper right corner.

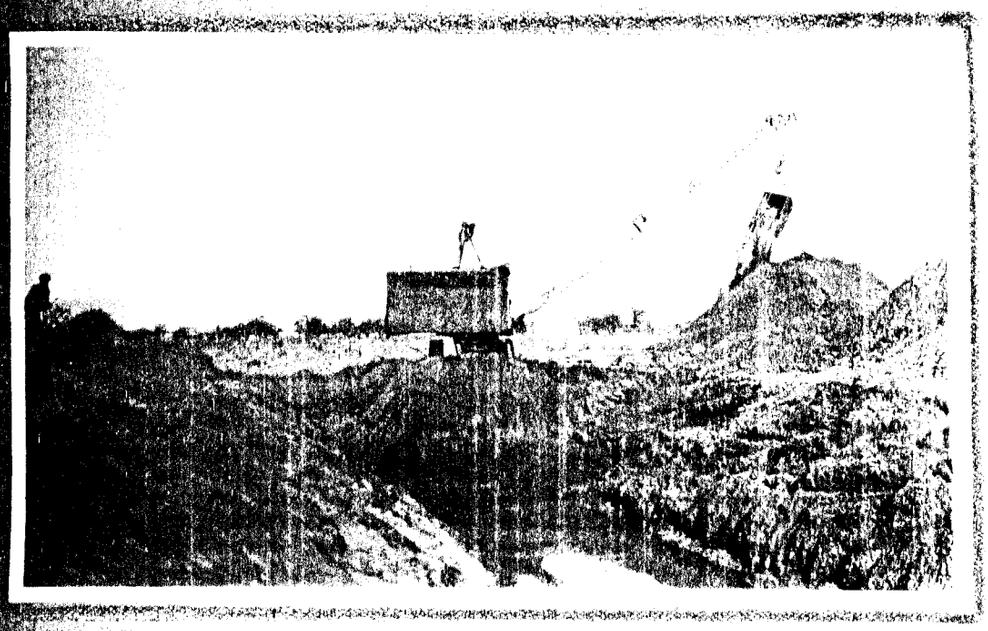
NA 14070 (9-87)

LEUPP.

No irrigation work has been done on this jurisdiction, but early in the year plans had been made for the development of an additional domestic water supply and authority was given to the agency to do the work.

This water supply was to be developed by an open well put down to ground water and perforated pipe was to be driven below this point to collect a sufficient supply. The agency force put down the open well, but after working for quite a while, seemed to be unable to get the pipe in place without which the plant would not be a success.

Finally they called on this office and Mr. Womack was loaned to them. In two days, by means of a water jet, he had placed eleven pieces of 6 inch perforated pipe 19 feet long and an adequate supply was secured.



Another view of dragline at work,
Station 112,
ISLETA.

FORT DEFIANCE.

Blue Canon Reservoir Site.

CV-6417-201 NN013047

NAVAJO AND HOPI WATER DEVELOPMENT.

The necessity for and the value of the water development being done for the Navajo Indians is so well known to the Office that there is no necessity to take up time and space in making an argument for continuing the work and setting forth its value.

The work here may be divided into three principal parts, the operation and maintenance of work already done, the drilling of new wells, and spring development.

SPRING DEVELOPMENT.

Hopi Jurisdiction.

One spring was developed on this reservation with an accumulation and storage tank with a capacity of 4050 gallons. This water will not only be used for domestic and stock supply but in season will be used for a sheep dip.

San Juan.

No spring development had been done on this jurisdiction until this spring, but a man was put in the field with the intention of keeping him at work on this jurisdiction until

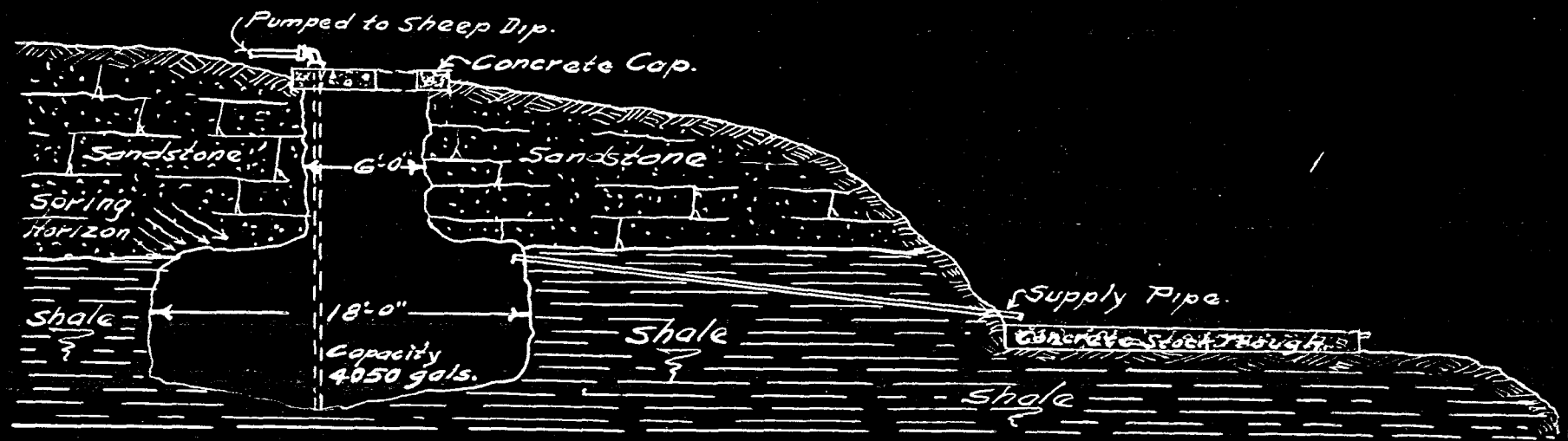
NAVAJO & HOPI WATER DEVELOPMENT.

SAND SPRING.

DENEBITO WASH.

ARIZONA.

1924.



CROSS-SECTION.
SCALE 1 IN.=8 FT.

CV-6417-201
NN013049

all the springs had been worked over. Two springs, one known as the Sulphur Spring and the other De-Jes-To, were developed and the water piped to large concrete troughs of the type shown on Page 102.

All of the equipment and most of the material necessary to continue through a considerable portion of the coming year is on the ground and work will be continued throughout the year.

Navajo Extension (Leupp).

Five springs were developed during the year, in each case the water being piped out to concrete troughs so that the spring would not be contaminated by the stock. In addition to this, several water holes were cleaned out and several dirt reservoirs built for the collection of surface water. We have a car of cement purchased and other material and equipment on the ground to carry out this work during the coming year.

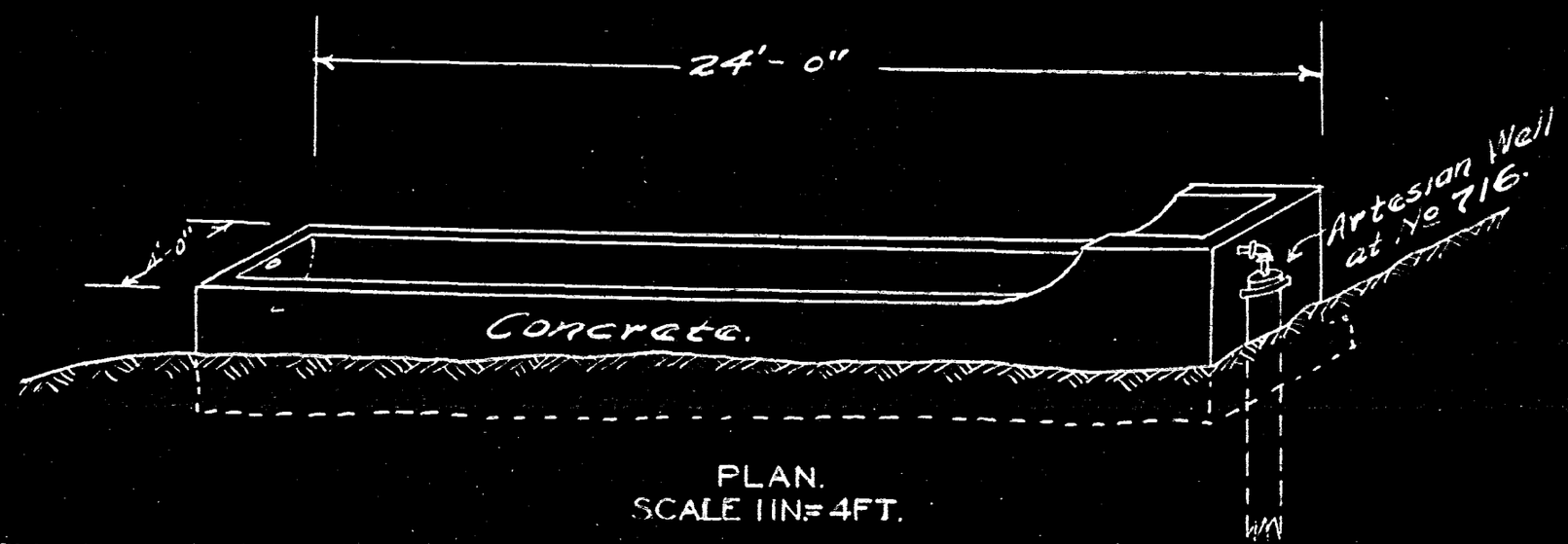
Western Navajo.

Some spring development was done during the fiscal year 1923 but very little for the past

STOCK WATERING TROUGH.

ARIZONA.

1924.



PLAN.
SCALE 1IN.= 4FT.

CV-6417-201
NN013051

year. There has been purchased a car of cement, proper tools and equipment, and work will be pushed during the fiscal year 1925 on the spring development.

WELL DRILLING.

Navajo Jurisdiction.

The well drilling outfit on this jurisdiction only operated part of the year. Eight holes were drilled, four of which developed good wells. Windmills, tanks and troughs were erected, and it is estimated that these four wells will increase the grazing area a total of about 290,000 acres.

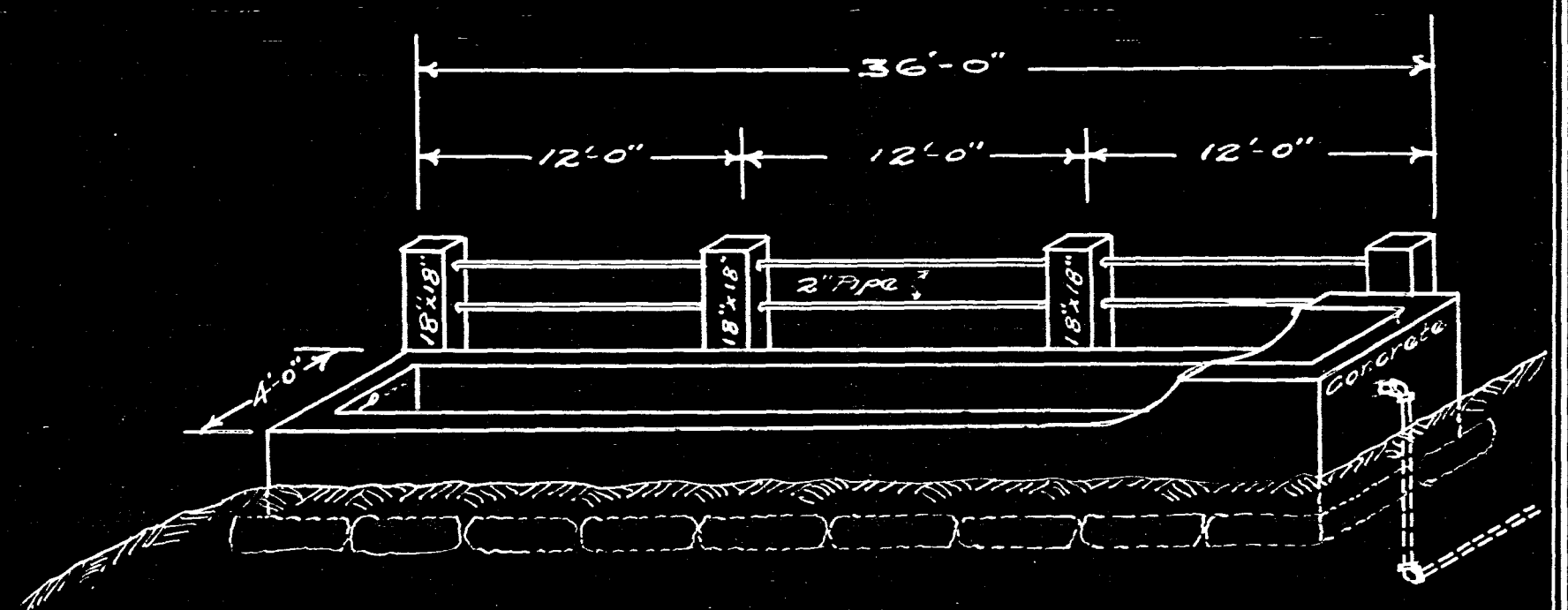
Pueblo Bonito Jurisdiction.

The well drilling in this jurisdiction is practically completed, unless authority be given and funds furnished for wells on lands outside of the reservation boundaries occupied by the Indians. All the wells drilled on this jurisdiction have developed an artesian flow, hence no maintenance is required.

San Juan Jurisdiction.

No well drilling has been done on this jurisdiction yet, but a new rig has been

STOCK WATERING TROUGH
BE-JES-TO SPRING
SAN JUAN DISTRICT.
1924.



SCALE 1 IN.=6FT.

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NN013053

purchased and work will be commenced at an early date in the Choiski Valley. Several wells that have been drilled in the oil development but which have failed to secure oil, have developed instead, good flows of water. These will probably be purchased by the Indian Office, but the acquiring of these wells is not under the jurisdiction of this office.

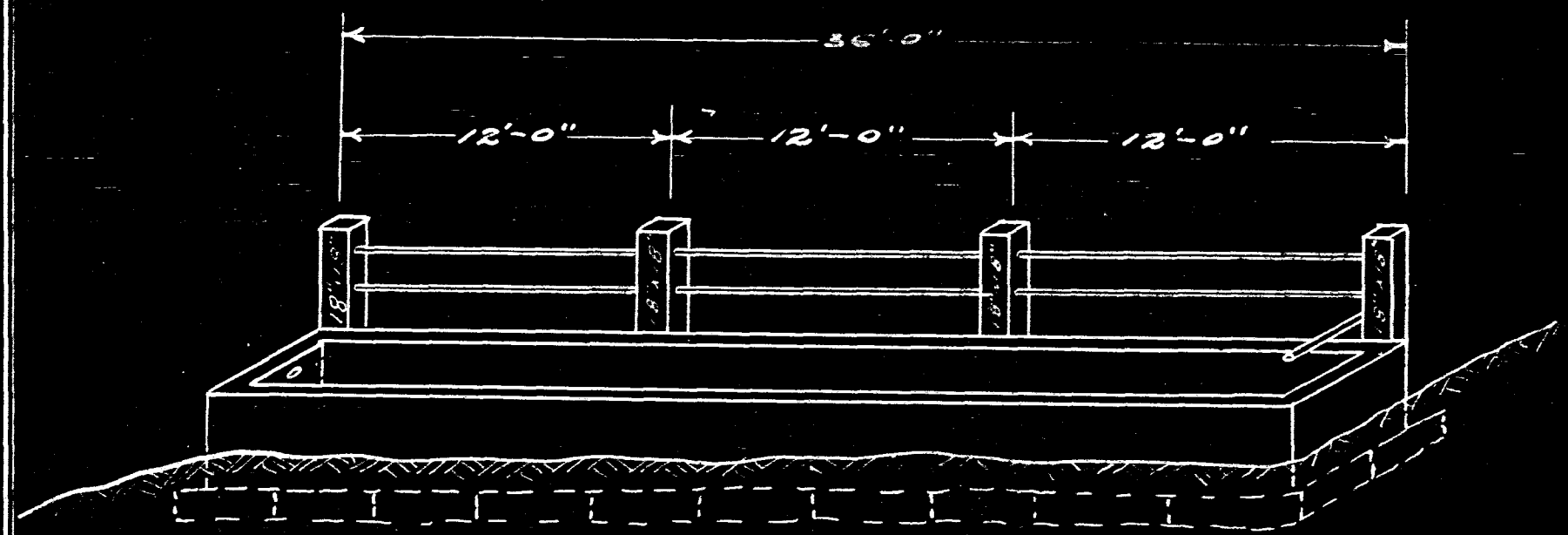
Western Navajo.

The present well rig No. 7 is drilling at the Marsh Pass School for a domestic water supply. Special funds therefor are being used. On the completion of this work, it is proposed to move this rig through Marsh Pass and drill in the valleys of the high plateaus, known as Shanto, Kaibito and Red Lake.

WELL MAINTENANCE.

Hopi Reservation.

Forty two wells that are equipped with windmills are being maintained and operated from headquarters at Polacca. These are visited at least once a month and any work necessary for



NAVAJO & HOPI WATER DEVELOPMENT.
STOCK WATERING TROUGH.
SULPHUR SPRING.
SAN JUAN DISTRICT.
1924.

SCALE 1IN.=6FT.

CV-6417-201
NN013055

their upkeep is done. During the year quite a number of troughs that had been damaged by stock or by freezing during the past winter have been rebuilt. Concrete troughs were also constructed at several of the artesian wells in this jurisdiction. (See page 100).

Navajo Reservation.

Operation and maintenance of the wells of this jurisdiction that are equipped with windmills continued from headquarters at Chin Lee. Considerable tank and trough renewals were necessary and in addition to the regular operation and maintenance considerable betterments were made in paving around the troughs, filling mud holes and putting each well and its surroundings in the best possible condition.

WATER CATCHES.

At the Hopi village of Chimopavi, construction was started on a water catch, the idea being to clear up a considerable space of bare rock so that the entire precipitation

U. S. INDIAN IRRIGATION SERVICE

WELLS DRILLED - NAVAJO AND HOPI RESERVATIONS.

Well Rigs . No. 1-2-3-4-6-7.

YEARS 1910 - 1924.

H. F. Robinson
Supervising Engineer.

REPRODUCED AT THE NATIONAL ARCHIVES

CV-6417-201

NN013057

CV-6417-201

WELLS DRILLED ON NAVAJO AND HOPI RESERVATIONS
ARIZONA AND NEW MEXICO.

No. Well	Location	Depth	Size	Result Dry	Result Good	Quantity of water	Year Drilled	Cost
1								
1	½ mi. East of Leupp School	90'	12"		"	16.3 m.In.	1910	
2	" " " " " "	80'	12"		"	16.8 " "	"	
3	" " " " " "	80'	12"		"	24.4 " "	"	
4	" " " " " "	77'	12"		"	24.4 " "	"	
5	Leupp Indian School	58'	12"		"		"	
	(Btwn. Leupp & Oraibi, 12 dry holes, aggregate depth	360'	4"	"			"	
5M	¼ mi. S.E. Ora ibi Day School	90'	8"		"	500 gal.	"	
7	S. E. of " " "	118'	3½"		"		"	
4		57'	3½"		"		"	
9	Mouth of Keams Canyon	63'	"		"		"	
6	S. of Second Mesa	117'	"		"		"	
7	Between Toreva and Polacca	88'	"		"	More than cap'y pump	1911	
8	Near mouth of Keams Canyon	64'	"	"			"	
11	2½ mi. S/E. Polacca	72'	"	"			"	
12	½ mi. W. of Five Houses	72'	"	"			"	
13	Near Five Houses	55'	"	"			"	
14	2 mi. S. E. of Polacca	84'	"		"	350	"	
15	Ceneghis Canyon	66'	"	"			"	
16	" "	59'	"	"			"	
17	" "	60'	"	"			"	
18	" " 4 mi. above mouth	80'	"		"	400	"	
19	" "	86'	"	"			"	
20	" "	35'	"	"			"	
21	" "	100'	"	"			"	
22	" "	88'	"	"			"	
23	" "	80'	"	"			"	
112	Keams Canyon	1309'	12" to 6"	"			1915	

NN013058

113	Near Tohatchi, N.M.	1150'	12" to 6"	"	Art.	6000 gal.	1918	12,723.[illegible]
114	Coyote Canyon, 15 mi. SE Tohatchi	210'	"	"	Art.	500 gal.	"	1,392.34
115	8 Mi. N. of #113	80'	"	"			"	628.55
116	" " NE of #113	530'	12" to 4"	"	Art.	900 gal.	"	1,899.82
117	12 Mi. N. of #116	550'	"	"	Art.	2000 gal.	"	1,998.70
118	8 Mi. E. of #116	558'	8"-4"	"	Art.	1025 gal.	1917	2,031.72
119	9 Mi. E. of #116	410'	10"-6"	"	Art.	1500 gal.	"	1,140.23
120	7 Mi. E. of Newcomb's Store	550'	"	"	Art.	300 gal.	"	3,409.53
121	15 Mi. SE of A. Newcomb's Store	550'	"	"		Salty	1918	2,131.01
122	16 Mi. SE of " "	550'	"	"		Lost Tools	1919	8,180.07
201	4 Mi. from Polacca on Keams Cn. Rd.	60'	3½"	"			1911	
202	3½ Mi. from Keams Canyon Road	46'	"	"			"	
203	5 Mi. NE Polacca	113'	"	"	"	600 gal.	"	
204	13 Mi. NE Polacca	103'	"	"	"	550 gal.	"	
205	8 Mi. NE #204 on Chin Lee Road	102'	"	"	"	400 gal.	1912	
206	4½ Mi. NW Keams Canyon School	82'	"	"	"	200 gal.	"	
207	300 yds. SW "One Rock" 1st Mesa	102'	"	"			"	
208	4 mi. SW " " " "	95'	"	"			"	
209	7 mi. N. Weepo	94'	"	"	"	600 gal.	"	
210	4 mi. N. 1st Mesa on Oraibi Road	84'	"	"			"	
211	4½ mi. N. " " "	104'	"	"			"	
212	7 mi. S. " "	81'	"	"			"	
213	7 mi. S. " "	90'	"	"	"	400 gal.	"	361.33
214	8 Mi. S. End Mesa	77'	"	"	"	75 gal.	"	
215	4 " N. Little Giant's Chair	20'	"	"			"	
216	4" E. Little Giant's Chair	124'	"	"	"	500 gal.	"	
217	6 mi. NW Comer Spring	48'	"	"			"	
218	8 mi. NW Comer Spring	24'	"	"			"	
219	8 " NW " "	50'	"	"			"	
220	4½ " NW " "	72'	"	"			"	
221	4 mi. N " "	86'	"	"			"	
222	4½ mi. NW " "	54'	"	"			"	

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NN013059

WELL	LOCATION	DEPTH	SIZE	DRY GOOD	QUANTITY OF WATER	YEAR DRILLED	COST
223	4 Mi. NW Comar Spring	82'	3½"	"		1912	
224	4 Mi. NW Comar Spring	80'	"	"		"	
225	4 Mi. NW Comar Spring	80'	"	"		"	
226	Near Store, Keams Canyon	60'	"	"		"	
227	" " " "	90'	"	"		"	
228	10 mi. S. Five Houses, Winslow Rd.	90'	"	"	500 gal.	"	
229	½ mi. N. Jettito Wash, Holbrook Rd.	100'	"	"		"	
230	" " " " " "	97'	"			"	
231	7 mi. N. #230	62'	"	"	No.rcd.	"	
232	7½ mi. N. #230	63'	"	"		"	
233	Jettito Wash on Polacca Winslow Rd.	91'	"	"	275 gal.	"	
234	Tally Hogan Wash " " "	110'	"	"		"	
235	" " " " " "	118'	"	"		"	
236	7 Mi. So. of Oraibi near KC Rd.	60'	"	"		1913	
237	7 " " " " 1 mi.E.Oraibi Wash	50'	"	"		"	
238	7 " " " " 3/4 " " "	65'	"	"	450 gal.	"	
239	Near Oraibi School	66'	"	"	400 gal.	"	385.77
240	6 mi. SW Lolomi Spring	54'	"	"		"	
241	Denebito Wash	40'	"	"		"	
242	Denibito Valley on Tuba Road	124'	"	"	500 gal.	"	1581.01
309	6 Mi. N. Cornfield Store, Hr.Ganado			"		"	
310	" Valley " "	78'	"	"	240 gal.	"	
311	Cornfields, Ariz.	73'	"	"	190 gal.	"	
312	Sen - ba - to	120'	"	"		"	
313	" " "	118'	"	"		"	
314	Near Sunrise Springs Store	62'	"	"	360 gal.	"	
314	" " " " redrilled	103'	"	"	150 gal.	1915	
315	To-na-Glenda Canyon	117'	"	"	150 gal.	1912	
316	" "	20	"	"	150 gal.	"	
317	" "	85'	"	"		"	
318	" "	231'	"	"		"	
319	" ½ mi. above Steamboat	175'	"	"		"	
320	Ganado Project Camp	49'	"	"	420 gal.	"	

CV-6417-201
NN013060
REPRODUCED AT THE NAVAJO AREA ARCHIVES

NO. WELL	LOCATION	DEPTH	SIZE	[illegible]	[illegible]	[illegible]	[illegible]
321	Da-Ka-Has-Gasji Wash, 6 mi. No. of Ganado	45'	3½"	"	360 gal.	1913	
322	Da-Ka-Has-Gasji, 8 mi. N.	63'	"	"	180 "	"	
323	3 Mi. S. E. of Ganado	155'	"	"		"	
324	Beautiful Valley	41'	"	"	360 "	"	
325	" " 12 M. S. Chin Lee	76'	"	"		"	
326	" " 13 " " " "	90'	"	"		"	
327	" " 8 " " Nos Lini	87'	"	"		"	
328	" " 6 M. W. " "	101'	"	"		"	
329	Near Noslini Store	120'	"	"	300 "	1914	
330	4 Mi. W. " "	124'	"	"		"	
331	7 " " " "	124'	"	"		"	
332	7 " SW " "	100'	"	"		"	
333	14 Mi. W. of Chin Lee	138'	"	"		"	
334	Cornfields, 18 Mi. W. of Chin Lee	100'	"	"		"	
335	5 Mi. N. of #334	143'	"	"		"	
336	10 Mi. NE of #334, Tolocon Wash	86'	"	"		"	
337	10 " " " " " "	148'	"	"		"	
338	10 " N " Salt Springs	148'	"	"		"	
339	7 " " " Kennedy's Store	115'	"	"		"	
340	5 " NE " Salina Springs	138'	"	"		"	
341	3 " " " " "	150'	"	"		"	
342	5 " " " " "	100'	"	"		"	
343	4 " SE " " "	135'	"	"	210 "	"	
344	8 " " " Well #343	170'	"	"		1915	
345	6 " " " " "	125'	"	"	120 "	"	
346	4 " NW " Salina Springs	80'	"	"	460 "	"	
347	10 " N " " "	106'		"	180 "	"	458.25
348	8 " NW " Well #347	272'	"	"	100 "	"	1362.25
349	6 " NE " " #348	322'	"	"		"	767.51
350	1 " NW " Stagg's Store	232'	"	"		"	1245.58
351	7 " N " " "	252'	"	"		1916	795.48
352	6 " E " " "	107'	"	"	100 "	"	725.25
353	15 " N " Rocks Springs	303'	"	"		"	1265.03

REPRODUCED AT THE NATIONAL ARCHIVES

CV-6417-201

NN013061

CV-6417-201

NAVAJO & HOPI WELLS DRILLED

NO. WELL	LOCATION	DEPTH	SIZE	RESULT DRY GOOD	QUANTITY OF WATER	YEAR DRLD.	COST
354	15 Mi. N. Rough Rocks Spring	304'	3½"	"	350 gal.	1916	1351.31
355	8 " " " " " NW #354	126'	"	"	400 "	"	1251.37
356	8 " " # 355	60'	"	"	600 "	"	1011.36
357	10 " " of Bradley's Store	151'	"	"	140 "	"	1373.86
358	8/ " SE " Kayenta	212'	"	"	600 "	"	1659.75
359	Kayenta	204'	"	"	300 "	1917	1521.17
360	15 Mi. NE of Kayenta	104'	"	Artesian	1000 "	"	1823.19
401	Chin Lee Valley, ¼ mi. from KC Rd.	116'	"	"	"	1911	
402	" " "	162'	"	Good	70 "	1912	
403	" " "	120'	"	"	65 "	"	
404	" " "	70'	"	"	490 "	"	
405	" " "	123'	"	"	120 "	"	
406	" " School	28'	6"	"	"	"	
407	" " "	28'	"	"	240 "	"	
408	" " "	28'	"	"	240 "	"	
409	" " "	28'	"	"	240 "	"	
410	" " "	28'	"	"	240 "	"	
411	" " "	40'	3½"	"	"	"	
412	" " "	33'	"	"	360 "	"	
413	" " Valley	74'	"	"	"	"	
414	" " "	193'	"	"	60 "	1915	
415	" " Wash	90'	"	"	400 "	"	391.70
416	" "	185'	"	"	600 "	"	
417	" " Valley, north	83'	"	"	360 "	"	
418	" " "	28'	"	"		"	
419	" "	120'	"	"		"	
419B	" "	205'	"	"		"	
[illegible]	" " " W. end	40'	"	"		1914	
[illegible]	" " 8 mi. N. Chinle	22'	"	"	130	"	[illegible]
419	1 Mi. S. "	60'	"	"	180 "	"	
422	Chinlee Valley, 12 Mi. N. Chinlee	30'	"	"	200 "	"	
423	" " 16 " " "	30'	"	"	50 "	"	

NN013062

[illegible]

NO. WELL	LOCATION	DEPTH	SIZE	RESULT DRY	RESULT GOOD	QUANTITY OF WATER	YEAR DRLD.	COST
424	Chinlee Valley,	38'	3½"		"	300 Gal.	1914	124.00
425	" " 22 Mi. N. Chinlee	56'	"	"			"	
426	" "	34'	"	"			"	
427	" " " "	114'	"	"			"	
428	" " 25 Mi. " "	35'	"		"	400 "	"	445.34
429	" "	40'	"	"			"	357.81
430	" " 8 mi. from Round Rk.	34'	"	"			"	
431	" " 10 " SW " "	54'	"		"	120 "	"	1011.61
432	" " 5 " S " "	90'	"	"			"	1228.90
432A	" " 32 " from Chinlee	50'	"		"	90 "	"	
433	" "	64'	"	"			"	
434	" " 35 " " "	110'	"	"			"	
435	" " 5 " W. Round Rock	75'	"		"	100 "	"	
436	" " 12 " " " "	131'	"	"			1915	
437	" " 15 " NW " "	109'	"		"	30 "	"	
438	Near Round Rock Store	40'	"		"	300 "	1916	537.85
439	4 Mi. E. " " "	78'	"		"	180 "	"	514.29
440	4 " NE " " "	54'	"		"	600 "	"	312.09
441	South Carrizo Creek	65'	"	"			"	60.40
442	10 Mi. NW Round Rock Store	52'	"		"	550 "	"	367.90
443	Chinlee Valley near Red Rock	145'	"		"	200 "	"	357.18
444	8 Mi. W. Well 443, " "	105'	"		"	600 "	"	329.45
445	5 " SW Round Rock Store	120'	"		"	125 "	"	982.71
446	6 " NE " " "	72'	"		"	240 "	"	389.35
447	Polacca Wash 12 Mi. NE Well 205	85'	"	"			"	716.52
448	" " 11 " " " "	124'	"		"	200 "	"	1151.81
449	" " near head	384'	"		"	600 "	"	1410.72
450	Non-ton-de-lit Valley	142'	"				"	275.00
451	" "	115'	"		"	200 "	"	264.79
452	" "	95'	"	"			1917	167.84
453	" "	100'	"	"			"	124.83
454	" "	95'	"	"			"	252.70
455	" "	118'	"		"	600 "	"	733.37

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NO. WELL	LOCATION	DEPTH	SIZE	CAPACITY OF WELL	DRLD.	COST.
456	Near Head of Weepo Wash	284'	3½"	"		
457	" " " " " East Branch	200'	"	" 540 Gal.	1917	1145.64
458	Wepo Wash, 7 mi. S. Well 456	208'	"	" 500 "	"	935.59
459	8 Mi.SW Hubbell Pinon Store	134'	"	" 150 "	"	501.88
	Hubbell Pinon Store	223'	"	" 360 "	"	940.80
460	7 mi. N. " " Oraibi Wash	138'	"	" 180 "	"	1003.50
461	Oraibi Wash, 18 mi. NE Oraibi	139'	"	" 600 "	"	890.17
462	7 Mi. NE Oraibi	125'	"	" 720 "	"	993.77
463	6 " " "	138'	"	"	"	273.60
464	3 " " "	100'	"	" 200 "	1918	407.02
465	Keams Canyon, 2 mi. NW School	70'	"	" 1100 "	"	209.67
466	" " 2 " Below "	75'	"	"	"	82.00
467	" " 1 " " "	92'	"	"	"	35.00
468	" " 3 " " "	55'	"	"	"	336.33
469	" " " " " "	115'	"	"	"	43.00
470	" " " " " "	64'	"	"	"	78.
471	" " 5 " " "	84'	8 "	"	"	42.00
472	Near Polacca	101'	6"	" 800 "	"	503.89
473	Wepo Wash, west of Jat Kesa	90'	3½"	" 1000 "	"	728.21
474	2½ mi. S. of Oraibi	70'	"	" 480 "	"	393.00
475	3 " " " "	67'	"	"	"	129.33
476	3 " " " "	152'	"	"	"	80.
477	2½ " N " "	92'	"	"	"	202.80
478	6 " N. Hotavilla	157'	"	" 1500 "	"	196.67
479	6 " " "	335'	"	"	"	449.34
480	6 " W. Oraibi	343'	"	" 30 "	1919	1295.39
481	7 Mi. NW Denebito Springs	127'	"	" 500 "	"	2201.69
482	8 " " " "	171'	"	"	"	534.32
483	10 " " " "	800'	"	"	"	232.17
484	7 " S. Polacca	183'	"	" 400 "	"	1246.69
485	7½ " " " "	160'	"	"	"	818.26
486	7 " " " on Winslow Road	93'	"	"	"	262.83
487	15 " SW " " " "	174'	"	" 450 "	"	414.97
				" 450 "	"	308.33

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NN013064

No. Well	LOCATION	DEPTH	SIZE	DRY GOOD	OF WATER	DRLD.	COST
488	23 Mi. S. Polacca on Winslow Road	253'	3½"	"		1920	1180.00
489	23 " " "	159'	"	"		"	705.40
490	22 " " " 1st Mesa Wash	119'	"	"	600 gal.	"	1660.69
601	Stony Butte 20 Mi. E. Mannings Store	550'	4½"	"	225 "	"	1946.60
602	12 Mi. N. Peach Springs	900'	"	"	67 "	1921	3529.88
603	2 mi. W. Newmand Ranch	596'	6"	"	600 "	"	1318.02
604	1 Mi. No. Dalton Pass Store	1014'	"	"	120 "	"	3493.11
605	Gov't Farm Crownpoint	1196'	8"	"	1050 "	1922	3017.39
606	1½ Mi. NW Chas. Jexus Hogan	577'	4½"	"		"	2422.23
607	1½ Mi. " " " "	690'	"	"	600 "	1923	2953.75

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NN013065
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[illegible] DRILLED.

NO. WELL	LOCATION	DEPTH	SIZE	RESULT DRY	RESULT GOOD	QUANTITY OF WATER	YEAR DRLD.	COST
702	Tallahogan Wash Pol-Wins. Road	142'	3½"		"	360 Gal.	1921	931.58
703	Jedito Wash, 8 Mi. SW Tallahogan Sp.	327'	"		"	400 "	"	856.01
704								940.67
705	Jeddi-Toh Wash, 5 Mi. below Pol Win Rd	85'	6"	"			"	132.16
706	" " " " " " " "	77'	"	"			"	81.17
707	Tallahogan Wash N. of Snake Butte	281'	5"	"			"	535.17
708	" Valley	48'		"			"	20.67
709	" "	44'		"			"	27.33
710	" "	92'		"			"	72/33
711	" "	74'		"			"	58.33
712	First Mesa Wash nr. Polacca	428'	3½"		"	200 "	"	1102.67
713	Wepo Wash btwn 1st & 2nd Mesa	210'	6"	"			"	439.30
714	Polacca Wash, 10 Mi. NE School	473'	3½"		"	460 "	"	696.15
715	6 mi. NE Polacca	694'	"		"	2000 "	"	975.06
716	16 mi. NE Polacca	570'	"		"	200 "	"	821.68
717	Kah-ga-toh Valley	190'	5½"	"			"	347.67
718	20 Mi. E. Oraibi Pinon Road	190'	4½"		"	400 "	"	579.81
719	7 Mi. No Wepo Springs	213'	3½"		"	450 "	"	477.75
720	Steamboat Canon, near store	210'	6"		"		"	811.47
721A	Steamboat Canon, near store	190'		"		"	"	124.66
721B	Steamboat " " "	348'	"	"		180 "	1922	910.61
722	" " " "	150'			"		"	406.67
723	" " " "	115'	"	"			"	55.
724	" " " "	138'	"	"			"	59.
725	" " " "	137'	"	"			"	75.50
726	Mouth of Steamboat Canon	124'	"	"			"	126.33
727	Toh-gay Wash	107'	"	"			"	124.67
728	Mouth of Steamboat Canon	[illegible]	[illegible]		"	200 "	"	1776.02
730	Toh-gay Wash [illegible] M. Stmb. Can.	31'	6"	"			"	39.34
731	" " "	55'	"	"			"	39.33
732	" " " 7 mi. Stm. Canon	129'	"	"			"	124.67
733	" " " " " " "	138'	"	"			"	134.50

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NAVAJO AND HOPI WELLS DRILLED.

NO. WELL.	LOCATION	DEPTH	SIZE	RESULT DRY	RESULT GOOD	QUANTITY OF WATER	YEAR DRLD.	COST.
739	Toh-Gay Wash, 7 mi. Sta. Can.	143'	3½"		"	400 gal.	1922	459.13
740	Beautiful Valley, 20 mi. s. Chinlee	15'	7"	"			1923	203.17
741	" " " " " "	20'	"	"			"	33.83
742	Nasini Canon & Beautiful Valley	42'	3½"		"	125 "	"	235.17
743	" " " " "	48'	"		"	500 "	"	276.09
744	9 Mi. SE Saline Springs	124'	6"	"			"	332.87
745	½ mi. West Well 746	80'	"	"			"	41.49
746	150 yds. so. of 746	125'	"	"			"	68.33
747	9 Mi. SE Saline Springs	130'	3½"		"	300 "	"	391.90
748	¼ mi. SE Saline Springs	98'	6"	"			"	129.34
749	" " " " "	146'	"	"			"	126.83
750	" " " " "	63'	"	"			"	40.66
751	" " " " "	98'	"	"			"	88.67
752	" " " " "	120'	"	"			"	169.66
753	4½ " " " "	92'	"	"			"	161.09
754	4 " " " "	40'	"	"			"	40.67
755	" " " " "	135'	"	"			"	54.83
756	10 " " " "	135'	3½"		2	250 "	"	339.23
757	10 " " " "	80'	6"	"			"	278.50
758	10 " " " "	160'	"	"			"	91.50
759	10 " " " "	88'	"	"			"	45.16
760	10 " " " "	88'	"	"			"	101.67
761	10 " " " "	125'	"	"			"	48.00
762	10 " " " "	129'	"	"			"	61.00
763	10 " " " "	81'	"	"			"	98.83
764	10½ " SE " " 7	92'	"	"			"	119.16
765	10½ " " " " 8	100'	"	"			"	40.67
766	10½ " " " "	[illegible]	"				"	40.67
767	10½ " " " "	[illegible]	"				"	40.67

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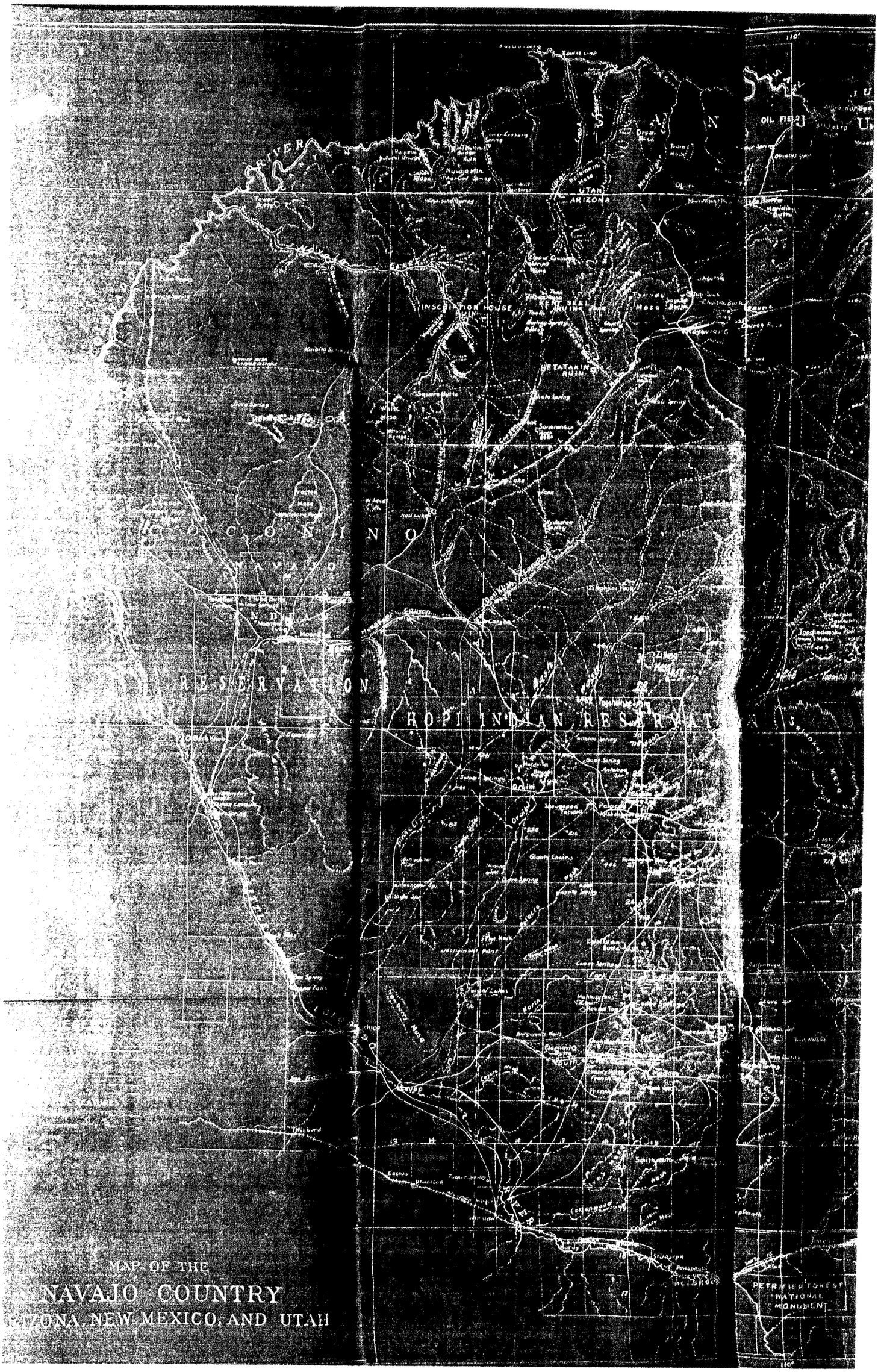
NN013067

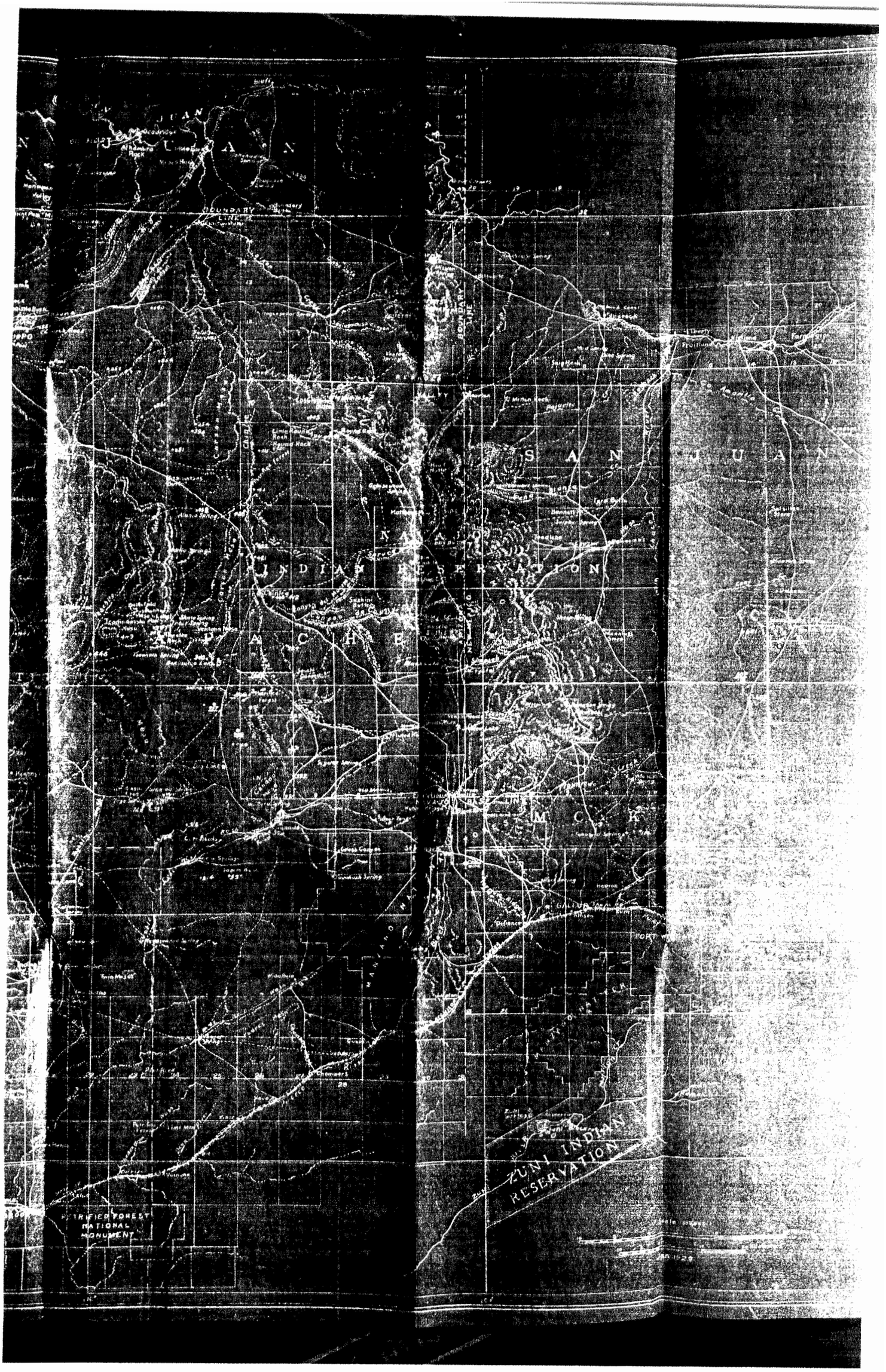
would be conducted to a tank excavated in the rock, and this to be equipped with a pump for the Indians of this village. Their entire domestic supply of water comes from a little pond that they have made in the dirt near the village which is in an extremely filthy condition the year around; or water which is carried on the backs of women from springs at the foot of the mesa nearly a mile away which involves a vertical climb of about 600 feet.

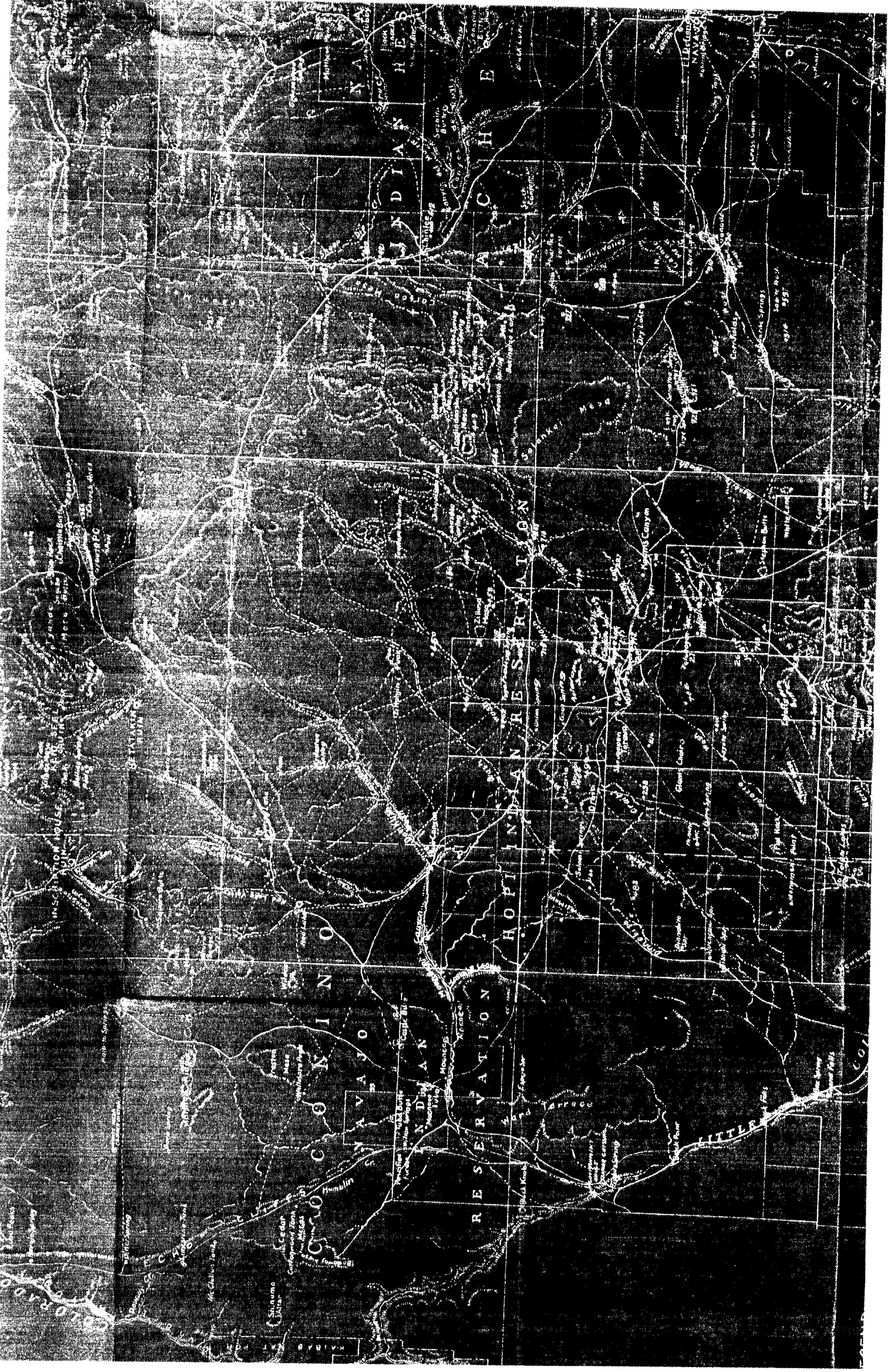
The rock surface upon which the water will be caught, has been cleared and put in shape and the cistern, or tank, has been blasted out of the rock. As the rock is very porous, it is necessary to line it with a cement plaster. Owing to the extreme shortage of water, of which none was available for mixing the cement, this part has been postponed until the summer rains which will come in July and August and water will be collected from the rains to complete this work.

It is proposed to build another water catch at Oraibi where conditions are similar

NN013068


MAP OF THE
NAVAJO COUNTRY
ZONA, NEW MEXICO, AND UTAH
UTAH
ARIZONA
INSCRIPTION HOUSE
HETATAKIN RUIN
RESERVATION
HOPI INDIAN RESERVAT
PETRIFIED FOREST NATIONAL MONUMENT


SAN JUAN
INDIAN RESERVATION
PACHECO
ZUNI INDIAN RESERVATION
PETRIFIED FOREST NATIONAL MONUMENT


HOPI INDIAN RESERVATION
Ward Terrace
Keams Canyon
INSCRIPTION HOUSE RUIN

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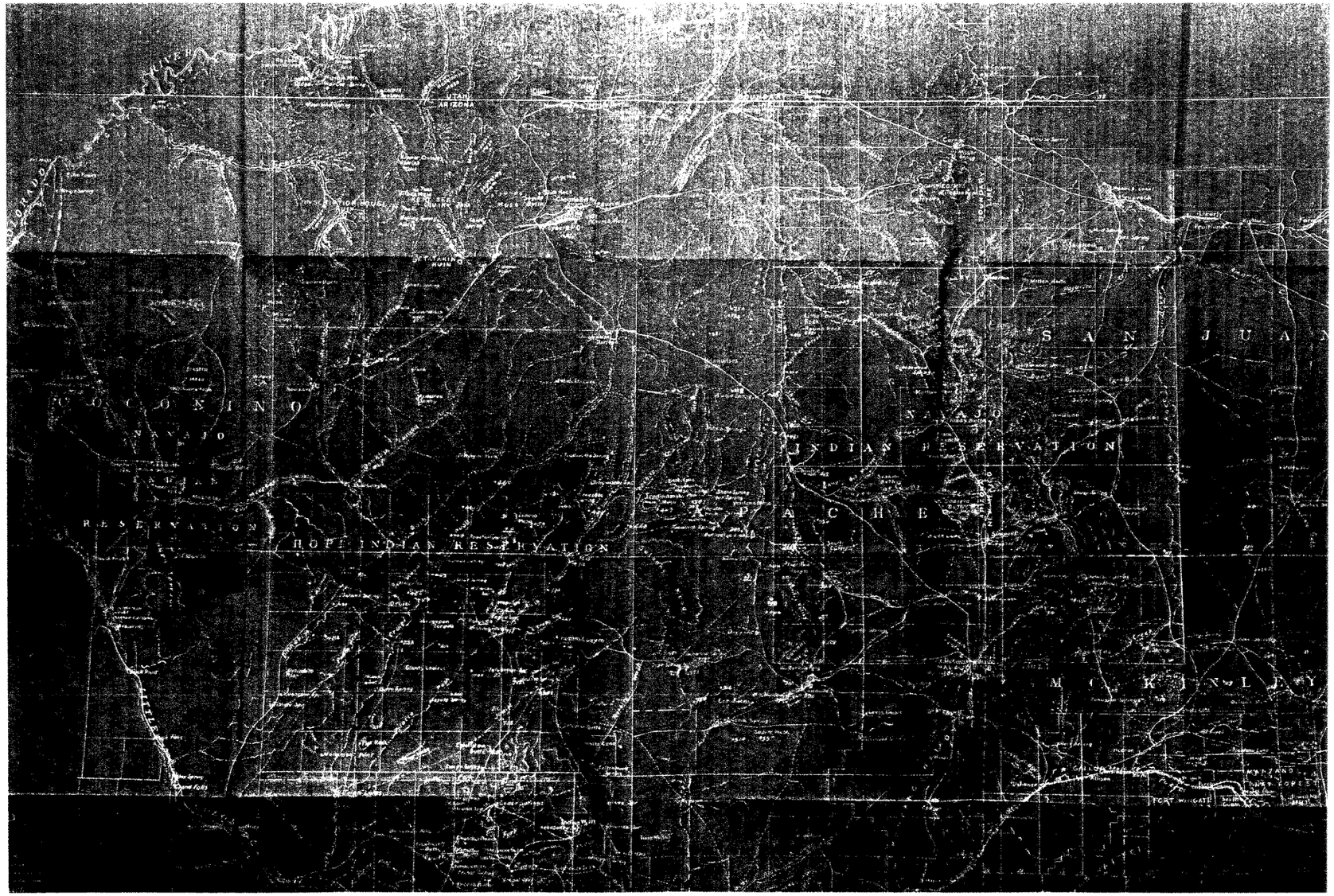

NN013073

and a thorough test will then be made to determine the value of this work where the water supply is so scarce.

Tesuque.
Erecting boiler for
operating steam hammer.

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