



WATER-RIGHT DOCKET

Organ Pipe Cactus National Monument

Docket No: 9

WELL NO. 1 HEADQUARTERS WATER SYSTEM.

Preliminary Docket Information

06-10-1976: water right/source docket information

WATER RESOURCES/WATER RIGHT

DATE: June 10, 1976

WATER RIGHT/SOURCE DOCKET INFORMATION

REGION Western AREA Organ Pipe Cactus National Monument
SITE Headquarters Water System - Well No. 1
STATE Arizona COUNTY Pima DOCKET NO WR #9
LOCATION SW¹/₄, NW¹/₄, NE¹/₄, Sec. 17, T17S, R5E, G&SRB&M
REGIONAL BASIN Western Mexican Drainage LOCAL BASIN Rio Sonoita
ACQUIRED BY _____
APPLICATION _____ PERMIT _____ CERTIFICATE _____
ACTION DUE _____ PRIORITY _____ RESERVATION _____
QUANTITY _____ USE _____
STATUS Inactive SOURCE Well
REMARKS See WR #5 and #10

NARRATIVE:

As a first step in establishing a site for the Headquarters of the area, a potable water supply was sought. Three test borings were drilled by the Service in 1940. These borings were all dry. (See hydrological data files for NPS Test Wells #1-3). Another site was selected and drilling in July of 1941 produced a well, termed Headquarters Well # 1. The building of the Monument Headquarters then proceeded in this area and the need of a standby well prompted additional drilling. Well No. 2, completed on June 20, 1954, resulted in a dry hole. Well No. 3 was drilled in May of 1954. This well was essentially dry and has never been put to use. Well No. 4 was drilled on November 1, 1957, and had adequate yield for utilization as the desired standby well (see WR Docket #5).

In a memo of December 5, 1957, Mr. A. Van V. Dunn stated that Well No. 1 intercepted artesian water and he believed the possible yield might be 100 gpm. The well was utilized for employee and visitor domestic supply.

In December of 1973, the production of Well No. 1 had greatly diminished. The cause for this was attributed to the precipitation of minerals in the casing slots thereby constricting the flow severely. In attempting to swab the well, the swab became permanently lodged and thus the well was lost. A replacement well (Headquarters Well # 5) was drilled in August of 1974 - see WR Docket # 10.

There is no evidence that any applications for state water rights were filed on any of these wells.

Compiled by Kevin Kidder

Approved by W. Werrell

Page 1 of 1

FORM NO 9-1904-A

SITE NO (C-17-5) 17 a 6-21

Recorded by B. JOHNSON
(NPS RECORDS)U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULEDate 1-26-77

NATIONAL G W FILE

GENERAL SITE DATA (1)

Site Ident No 315702112480391 RG Number R=01 Transaction T=ADMY
 Site Type 2=C D H I M P T Reliability 3=C Data U Reporting Agency 4=USGS
 Project No. 5=WMD District 6=04 State 7=04 County (or town) PIMA 8=019
 Latitude 9=31.5702 Longitude 10=112.4803 Lat-Long Accuracy 11=5 D T M
 Local Number 12=C-17-05.17ABC1. UNSURV Land Net 13=SWNWNE 1.7 T. 17S. R. 05W
 Location Map 14=LUKEVILLE Scale 15=62500
 Altitude 16=1662 Method of Measurement 17=A L Accuracy 18=020
 Topo Setting 19=D C E F H K L P S T U V W Hydrologic Unit (OWDC) 20=
 Date of First Construction/Completion 21=07/00/1941 Use of Site 23=A D E G H M P R S T U W X Z
 Use of Water 24=A B C D E F H I M N P R S T U Y Z
 Secondary Water Use 25= Tertiary Use of Water 26= Depth of Hole 27=337 Depth of Well 28=337 Source of 29=A
 Water Level 30=305 Date Measured 31=05/02/1958 Source 33=A
 Method of Measurement 34=A C E G H L M S T V Z
 Site Status 37=D F G H P R S T V X Z
 Source of Geohydrologic Data 38= Pump Used 35= Measuring Point 266= Measuring Point Date 267=

OWNER IDENTIFICATION (1)

R=158 T=CDM Date of Ownership 159=07/00/1941
 Name: Last 161=PARK SERV First 162=NATIONAL Middle Initial 163=

OTHER SITE IDENTIFICATION NUMBERS (1)

R=189 T=CDM Ident 190= WELL NO. 1 Assigner 191=NAT PARK SERV
 New Card Same R & T Ident 190= Assigner 191=

SITE VISIT DATA (1)

R=186 T=ADM Date of Visit 187= Name of Person 188=

FIELD WATER QUALITY MEASUREMENTS (1)

R=192 T=ADM Date 193= Geohydrologic Unit 195=
 New Card Same R thru 196 Temperature 196# 0 0 0 1 0 Degrees C 197=
 Conductance 196# 0 0 0 9 5 μ Mhos 197=
 Other (STORET) Parameter 196# Value 197=
 Other (STORET) Parameter 196# Value 197=

FOOT NOTES:

① Source of Data Codes:

S D O A R L G Z
 reporting driller, owner, other geol. log. geologist, other agency reported.

1662
306
1356

(C-17-5) 17 a 6-21

WELL CONSTRUCTION DATA (1)

R-58 = **T** = **D** M = **585** 601 = Date of Construction Completion **60** = **07** **00** **94** = Source of **64** = **A** =

Name of Contractor/Driller **63** =

Method of Construction **65** = **A** **B** **C** **D** **H** **J** **P** **R** **T** **V** **W** **Z** =

Finish **66** = **C** **F** **G** **H** **B** **P** **S** **T** **W** **X** **Z** = Type of Seal **67** = **B** **C** **G** **Z** =

Bottom of Seal **68** = **A** **B** **C** **J** **N** **P** **S** **Z** = Number of Hours in Development **70** = **70** =

Special Treatment During Development **71** = **C** **D** **E** **F** **H** **M** **Z** =

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R-72 = **T** = **A** **D** **M** = **72** = **59** # **06** =

Top of Hole Segment Below LSD **73** # **73** # **73** # **73** #

Bottom of Hole Segment below LSD **74** # **74** # **74** # **74** #

Diameter of Hole Segment **75** # **75** # **75** # **75** #

New Card for Each Hole Segment Same R, T & Field 59

CASING SCHEDULE (2)

R-76 = **T** = **D** M = **76** = **59** # **06** =

Top of Casing Segment Below LSD **77** # **77** # **77** # **77** #

Bottom of Casing Segment Below LSD **78** # **78** # **78** # **78** #

Diameter of Casing Segment **79** # **79** # **79** # **79** #

Casing Material **80** # **80** # **80** # **80** #

Thickness of Casing **81** # **81** # **81** # **81** #

New Card for Each Casing With Same R, T & Field 59

OPENINGS SCHEDULE (2)

R-82 = **T** = **A** **D** **M** = **82** = **59** # **06** =

Top of Section Below LSD **83** # **83** # **83** #

Bottom of Section Below LSD **84** # **84** # **84** #

Type of Opening **85** # **85** # **85** #

Type of Material **86** # **86** # **86** #

Diameter of Open Section **87** # **87** # **87** #

Width of Opening **88** # **88** # **88** #

Length of Opening **89** # **89** # **89** #

New Card for Each Open Section With Same R, T & Field 59

FOOTNOTES:

① Source of Data Codes: **S** **D** **B** **A** **R** **L** **G** **Z** =

② Casing Material Codes: **B** **C** **G** **I** **M** **P** **R** **S** **T** **U** **W** **Z** =

③ Type of Opening Codes: **F** **L** **M** **P** **R** **S** **T** **W** **X** **Z** =

④ Type of Material Codes for Open Sections: **B** **C** **G** **I** **M** **P** **R** **S** **T** **Z** =

PRODUCTION DATA (1)

R=134 * T= C U M * Entry No 147# 001 * Date 148# 9 20 1958 *
flowing, pumped add, delete, modify

Discharge: 150# 20 * Source of Data 151# A *
add, delete, modify

Method of Measurement: 152# B C E F M O P Q T U V W Z *
bailey, current, estimated, flume, installing, master, orifice, reported, trajectory, venturi, volumetric, weir, other

Production Level: 153# * Static Level: 154# * Source of Data: 155# * Specific Capacity: 272# *
add, delete, modify

Method of Measurement: 156# A C E G H L M R S T V Z * Pumping Period: 157# *
existing, installed, estimated, pressure, calibrated, geophysical, manometer, reported, steel, plastic, calibrated, other gauge, pressure gauge, logs tape, tape, electric tape

LIFT DATA (1)

R=42 * T= D M * Type of Lift: 43# A B C J P R S T U Z * Entry No 254# *
add, delete, modify air, bucket, centrifugal, jet, piston, rotary, submersible, turbine, unknown, other

Pump Intake Setting: 44# * Type of Power: 45# D G H L N W Z *
add, delete, modify diesel, electric, gasoline, hand, LP gas, natural, windmill, other

Date: 38# 03 09 1959 * Horsepower: 46# 7.5 *
month day year

MAJOR PUMP DATA (2)

R=47 * T= D M * Type of Lift: 43# S * Lift Entry No 254# * Manufacturer of Pump: 48# P E E R L E S S *
add, delete, modify

Serial No of Pump: 49# * Name of Power Company: 50# *
add, delete, modify

Power Company Account No: 51# * Power Meter No: 52# * Pump Rating: 53# *
add, delete, modify

Person or Company Who Maintains the Pump: 54# * Additional Lift: 255# * Rated Pump Capacity: 268# *
add, delete, modify

STANDBY POWER DATA (2) (See LIFT DATA for codes of fields 43 and 58 below)

R=55 * T= A D M * Type of Lift: 43# * Type of Power: 56# * Horsepower: 57# * Lift Entry No 254# *
add, delete, modify

AVAILABLE LOG DATA (1)

R=198 * T= A D M * New Card for Each Log Type Same R & T

Type of Log ②	Begin Depth	End Depth	Source of Data ①
199# *	200# *	201# *	202# *
199# *	200# *	201# *	202# *
199# *	200# *	201# *	202# *
199# *	200# *	201# *	202# *

WATER QUALITY DATA COLLECTION (1)

R=114 * T= A D M * Begin Year: 115# * End Year: 116# * Source Agency: 117# *
add, delete, modify

Frequency of Collection ③: 118# * Network Site: 257# * Type of Analysis: 120# *
add, delete, modify

WATER LEVEL DATA COLLECTION (1)

R=121 * T= A D M * Begin Year: 122# * End Year: 123# * Source Agency: 124# *
add, delete, modify

Frequency of Collection ③: 125# * Network Site: 258# *
add, delete, modify

WATER PUMPAGE WITHDRAWAL DATA COLLECTION (1)

R=127 * T= A D M * Begin Year: 128# * End Year: 129# * Source Agency: 130# *
add, delete, modify

Frequency of Collection ③: 131# * Network Site: 259# * Method of Collection: 133# C E M U Z *
add, delete, modify calculated, estimated, measured, unknown, other

OTHER DATA AVAILABLE (1)

R=180 * T= A D M * Type of Data: 181# * Loc: 182# C D Z * Format: 261# F M P Z *
add, delete, modify depth, time, direction, other file, machine, published, other

New Card Same R & T Type of Data: 181# * Loc: 182# C D Z * Format: 261# F M P Z *
add, delete, modify depth, time, direction, other file, machine, published, other

FOOT NOTES:

① Source of Data Codes:

S	D	O	A	R	L	G	Z
reporting	driller	owner	other govt.	other	logs	geologist	other
agency						reported	

② Type of Log Codes

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
tube	collar	caliper	driller's	electric	fluid	geologist	magnetic	induction	gamma	diameter	laterolog	microlog	neutron	μ later	photo	radio
conduit								ray								active

S	T	U	V	Z
sonic	temp	gamma	fluid	other
			gamma	velocity

③ Frequency of Collection Codes

A	B	C	D	F	I	M	O	S	W	Z
annual	bi-monthly	continuous	daily	semi	intermittent	monthly	one-time	quarter	semi	weekly
						monthly	only	annual		other

④ Type of Quality Analysis Codes

A	B	C	D	E	F	G	H	J	K	L	M	Z
physical	chemical	biological	nutrients	mineral	acid	base	conduct	radio	other	other	other	other
thermal	element				B&O	B&E	B&F	D&E	C,D&E	metal		

PERMANENT REFERENCE
 Do Not Discard

NATIONAL PARK SERVICE

FORM 9-1642B (DEC 68) Well No. (C-17-5) 17 abc 1

WELL SCHEDULE

U. S. DEPT. OF THE INTERIOR GEOLOGICAL SURVEY WATER RESOURCES DIVISION

MASTER CARD

Record by W. Werrell Source of data Field Date July 11, 73 Map Nariz Mt 2 NE, 7 1/2

State Ariz County Pima Sequential number 10

Latitude: 31 57 02 N Longitude: 111 24 80 W

Lat-long accuracy: 17 5 Sec 17 SW, NW, NE, G, SR, PM

Local well number: C-17-05 17 ABC 1 Other number: NPS #1

Local use: _____ Owner or name: National Park Service

Owner or name: NATL PARK SER I Address: _____

Ownership: County, (F) Fed Gov't, (M) City, Corp or Co, Private, State Agency, Water Dist _____ F

Use of water: (A) Air cond, Bottling, Comm, Dewater, Power, Fire, (H) Irr, Med, Ind, P S, Rec, (S) Stock, Instit, Unused, Repressure, Recharge, Desal-P S, Desal-other, Other _____ H

Use of well: (A) Anode, Drain, Seismic, Heat Res, Obs, Oil-gas, Recharge, Test, Unused, (W) Withdraw, Waste, Destroyed _____ W

DATA AVAILABLE: Well data _____ Freq. W/L meas.: _____ Field aquifer char. _____

Hyd. lab. data: _____

Qual. water data; type: Partial

Freq. sampling: _____ Pumpage inventory: _____

Aperture cards: _____

Log data: Drillers log

WELL-DESCRIPTION CARD

SAME AS ON MASTER CARD Depth well: 348 ft. Meas. Driller

Depth cased: 328 ft. Casing type: Steel Diam. 8 in

Finish: (C) porous gravel w. gravel w. horiz. open perf., screen, sd. pt., shored, open concrete, (perf.), (screen), gallery, end, other _____

Method: (A) air bored, (C) cable dug, hyd jetted, air reverse trenching, driven, drive rot, rot, percussion, rotary, wash, other _____

Date Drilled: July 1941 Pump intake setting: _____ ft

Driller: _____ name _____ address _____

Lift: (A) air, bucket, cent, jet, multiple, multiple, none, piston, rot, submers, turb, other _____ Deep _____

Power: (type): diesel, elec, gas, gasoline, hand, gas, wind; H.P. _____ Trans. or meter no. _____

Descrip. MP _____ ft above LSD, Alt. MP _____

Alt. LSD: 1660 Accuracy: USGS Topo - 20' Contours

Water Level: 306 ft above MP; Ft. below LSD 306 Accuracy: Drillers log

Date meas: July 1941 Yield: _____ spm _____ Method _____

Drawdown: _____ ft Accuracy: _____ Pumping period _____ hrs _____

QUALITY OF WATER DATA: Iron 0.79 Sulfate 51 Chloride 83 Hard. 93

Sp. Conduct 714 K x 10 4 Temp. 89 °F Date sampled Mar 26, 65

Taste, color, etc. _____

Well No. (C-17-5) 17 abc 1

Well No. (C-17-5) 17 abc 1Latitude-longitude 31.57.02^N 112.48.04^W
d m s d m s

HYDROGEOLOGIC CARD

SAME AS ON MASTER CARD ☐ Physiographic Province: Basin & Range 2:2 Section: Sonoran
Desert B Drainage Basin: Western Mexican W.M.D. Subbasin: Rio Sonora 24
 (D) (C) (E) (F) (H) (K) (L)
 Topo of depression, stream channel, dunes, flat, hilltop, sink, swamp,
 well site: (P) (S) (T) (U) (V)
 offshore, pediment, hillside, terrace undulating, valley flat T
 MAJOR
 Aquifer: _____ system _____ series _____ aquifer, formation, group _____
 Lithology: _____ Origin: _____ Thickness: _____ ft
 Length of well open to: _____ ft Depth to top of: _____ ft
 MINOR
 Aquifer: _____ system _____ series _____ aquifer, formation, group _____
 Lithology: _____ Origin: _____ Thickness: _____ ft
 Length of well open to: _____ ft Depth to top of: _____ ft
 Intervals Screened: Torch cut slots from 328' to 348'
 Depth to consolidated rock: _____ ft Source of data: _____
 Depth to basement: _____ ft Source of data: _____
 Surficial material: _____ Infiltration characteristics: _____
 Coefficient Trans: _____ gpd/ft Coefficient Storage: _____
 Coefficient Perm: _____ gpd/ft² Spec cap: _____ gpm/ft; Number of geologic cards: _____

Drillers log:

Description	Depth	Thickness
Soft valley fill	0-10	10
Rock	10-35	25
Clay and gravel fill	35-165	130
Rock	165-190	25
Clay	190-195	5
Lava rock	195-250	55
Volcanic ash	250-265	15
Lava rock	265-300	35
Fine sand	300-348	48
		348

During a phone conversation with former superintendent Supernough he explained that a sample of the "fine sand" of the drillers log (the aquifer) was assayed by a friend of his at the Ajo mines. The assay showed that 50.5% of the composition was iron.

Township and Range location determined by projection.

Well is 315 feet North of (C-17-5) 17 abc,
NPS well # 4. Distance determined by steel tape.

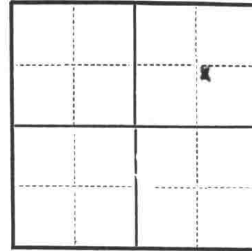
Well No. (C-17-5) 17 abc 1

8620

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES BRANCH

RECORD OF WELL

1. Location: State Arizona County Pima
Nearest P. O. Ajo Direction from P. O. south
NE $\frac{1}{4}$ sec. 17, T. 17S, R. S.W.



Locate well on plat of section.

2. Owner: National Park Service Address Organ Pipe Cactus Nat'l Mon.
Driller: _____ Address Ajo, Arizona
Site selected by: Dr. Ross Maxwell Address National Park Service
3. Situation: Is well on upland, in valley, or on hillside? foot of hill edge of valley
4. Type of well: drilled; kind of drilling rig used solid tool
(Dug, driven, bored, or drilled) (Solid tool, jetting, rotary, etc.)
5. Depth of well: 348 ft.; year in which well was finished 1941
Does well enter rock? no; if so, at what depth? _____ ft.; kind of rock _____
6. Depth to water: 306 ft.; Amount water rose above level where first struck no ft.
7. Diameter: At top 8" inches; at bottom 8" inches.
8. Principal water bed: extremely fine sand which assays 50.5 iron
(Gravel, sand, clay, or rock. If rock, state kind)
Depth to principal water bed 306 ft.; thickness of bed 50 ft.
If other water supplies were found, give depth to each none
9. Casings: Kind steel; size 7 1/2; length 348 ft.; between depths of _____ and _____ ft.
Kind _____; size _____; length _____ ft.; between depths of _____ and _____ ft.
Kind _____; size _____; length _____ ft.; between depths of _____ and _____ ft.
Packers (if any): Depth at which packers were used none; kind _____
Screen or Strainer: Was well finished with screen or perforated pipe? pipe; kind of screen _____;
length of screen 80' ft.; diameter 7 1/2 inches; size of openings slotted
perforated pipe; size of perforations _____; How were perforations made; burned, drilled? burned
10. Head: Does well at present overflow without pumping? no; did it overflow when new? no
11. Pump: Is the well pumped? yes; kind of pump deep well cylinder
size or capacity of pump 1 13/16 cyl.; kind of power gasoline engine
12. Yield: Natural flow at present (if any) _____ gallons per minute; original flow _____ gallons per minute;
well has been pumped at not tested gallons per minute continuously for _____ hours;
quantity of water ordinarily obtained from well 100 gal per day gallons per minute
13. Use: For what purpose is the water used? domestic
14. Quality of the water: soft; is there an analysis? yes
(Hard or soft, fresh or salty, etc.)

Name of person filling blank William R. Superbaugh, Custodian
Date August 2, 1947 Address Box 38, Ajo, Arizona

On the back of this sheet give the record of the beds through which the well passes and any other facts not given above.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HEADQUARTERS, SOUTHWESTERN MONUMENTS
COOLIDGE, ARIZONA

July 7, 1941.

MEMORANDUM for the Regional Director, Region III.

We are pleased to advise your office that, on the last day of the fiscal year, water was struck in the well, Organ Pipe Cactus National Monument. Drilling was stopped at a depth of 320 feet, and time only permitted bailing for an approximate 30-minute period. Bailing at the rate of 5 gallons per minute did not lower the water level, which stands about 25 feet in the hole.

Mr. Supermough has recommended that the well be deepened approximately 30 feet, and that it be cased to the 165 foot depth to prevent cave in. This work is very desirable and it is hoped that we will be able to finance it this fiscal year.

The following well log is submitted for your information:

0 - 10 feet	valley fill
10 - 35 "	rock
36 - 165 "	clay and gravel fill
166 - 190 "	rock
191 - 195 "	clay
196 - 250 "	rock
251 - 265 "	volcanic ash
266 - 285 "	rock
286 - 300 "	porphyry rock
300 - 320 "	water began seeping at 300 feet and increased as deepened.

HUGH M. MILLER

Superintendent.

cc: Director.
Capt. Supermough.

Other Supporting Information

APR 14 1961

Memorandum

From: Assistant Regional Director

In a memorandum dated March 27 the Assistant Chief of the Water Resources Section requested that we reproduce Form 10-174 and the first three pages of the narrative statement of the subject Completion Report for insertion in the Dockets. We have reproduced these and have inserted them in our Docket 5, Organ Pipe Cactus National Monument. These copies are attached for insertion in your Docket.

(SIGNED)

In duplicate

Attachments

Copy to: Chief, WODC (2) w/attachments
Supt., Organ Pipe Cactus w/attachments

mp

Form 10-174
(Rev. 8-56)UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

COMPLETION REPORT OF CONSTRUCTION PROJECT

REGION Three	AREA Organ Pipe Cactus National Monument	COUNTY Pima	STATE Arizona
PROJECT OR JOB TITLE Expansion of Headquarters Water System			PCP NO. U-12-1
LOCATION IN AREA Headquarters Area		MASTER PLAN NO. NM-OPC-2025-C	BUILDING NO.
WORKING DRAWING NO. AND TITLE NM-OPC-3022 Water System Improvements			
APPROPRIATION TITLE AND SYMBOL NM-OPC-3017 100,000-gallon Reservoir and Connecting Water Lines			
MASTER PLAN CORRECTED BY:			WORK ORDER NO.
AS-BUILT DRAWING BY:			B-3
CONTRACT NO. 14-10-333-425 and 14-10-333-514		DATE WORK STARTED September 2, 1958	DATE WORK COMPLETED January 20, 1961
NAME OF CONTRACTOR H. R.'s Construction Company and Consolidated Western Steel Div. of U.S. Steel		ADDRESS Cortez, Colorado 600 W. Grant St., Phoenix, Arizona	

COST ANALYSIS

CONSTRUCTION ITEMS	QTY.	UNIT COST IN PLACE	TOTAL COST IN PLACE
Personal Services			591.84
Contract 14-10-333-425			18,953.00
Contract 14-10-333-514			26,986.63
Supplies and Materials			101.97
Other Direct Expenses			994.00
FIELD FINANCE OFFICE CLEARANCE:			
Robert L. Giles, Regional Accountant			
February 15, 1961			
			47,627.44
		17.51%	8,339.56
			55,967.00
		8V-049	
		TOTAL	47,627.44

SUMMARY OF EXPENDITURES

PERSONAL SERVICES	~~591.84~~	~~OTHER DIRECT EXPENSES~~	MATERIALS AND SUPPLIES
OTHER	~~18,953.00~~	~~26,986.63~~	101.97
	~~27,540.47~~		

CHANGE ORDERS

ORIGINAL CONTRACT AMOUNT	FIRST	SECOND	THIRD
45,873.47	66.16		
FINAL CONTRACT AMOUNT	FOURTH	FIFTH	SIXTH
45,939.63			

THIS PROJECT OR JOB HAS BEEN COMPLETED IN ACCORDANCE WITH
APPROVED DRAWINGS, SPECIFICATIONS, AUTHORIZED CHANGES

SUBMITTED BY (Name and title)	DATE
Monte E. Fitch, Jr., Superintendent	January 31, 1961
APPROVED BY (Name and title)	DATE
Monte E. Fitch, Jr., Superintendent (SIGNED)	January 31, 1961

(ATTACH NARRATIVE STATEMENT, PHOTOGRAPHS, AND "AS BUILT" DRAWINGS TO THIS FORM)

Narrative Statement
 Completion Report
 Water System Improvements
 Headquarters Area
 Organ Pipe Cactus National Monument, 1959 and 1960 FY

This project was accomplished in three phases under two separate contracts and a Day Labor Project. Each is described below:

Construction of 100,000-gallon Water Storage Tank and Connecting Water Lines

Plans and specifications for the above project were mailed from WODC on July 3, 1958, for distribution by the Regional Office, Region Three, and by the Superintendent at Organ Pipe Cactus National Monument, the bid opening date having been established as July 31, 1958. The project as advertised provided for construction of a 100,000-gallon steel water storage reservoir and approximately 350 lineal feet of 6-inch asbestos-cement water line, including all necessary excavation, embankment and backfill and such appurtenances as valves, and concrete thrust blocks and pipe anchors.

Four bids were received, the lowest of which was submitted by Consolidated Western Steel Division of United States Steel Corporation, 600 West Grant Street, Phoenix, Arizona, in the amount of \$17,478.00, 50% below the Engineer's Estimate of \$35,200.00.

from
 By letter of August 4, 1958, the Superintendent and Contracting Officer, Contract No. 14-10-333-425 was awarded to the above-mentioned low bidder. Notice to proceed was received by the contractor on August 18, 1958, thereby establishing the contract completion date as October 18, 1958. Contract operations were begun on September 3, 1958.

The work progressed in accordance with the plans and specifications and was generally of a very high standard of quality. Completion of the contract work was achieved on October 17, 1958, on which date a final inspection was made and the Acting Contracting Officer found the job complete and accepted the project.

Total contract payment amounted to \$18,953.00 or approximately 11% above the contract amount, the difference having been brought about by an overrun in the quantity of excavation required for preparation of the reservoir site.

Construction Items	Qty.	COST ANALYSIS	
		Unit Cost In Place	Total Cost In Place
1. Excavation for Preparation of Site	213 c.y.	25.00	5,325.00
2. 100,000-gallon steel reservoir in place	1 job	9,888.00	9,888.00
3. 6" AMWA Gate Valve, furn. & installed	1 ea.	110.00	110.00
4. 4" AMWA Gate Valve, furn. & installed	1 ea.	80.00	80.00
5. 6" Asbestos-Cement pipe, furn. & inst.	350 l.f.	9.00	3,150.00
6. Concrete Pipe Anchors, furn. & inst.	5 ea.	50.00	250.00
7. Concrete Thrust Blocks, furn. & inst.	3 ea.	50.00	150.00
8. Pressure reducing valves w/attachments	6 ea.	11.752	70.51
			<u>19,023.51</u>

Schedule No. 2, Well Area

1. 2" Steel Pipe removed to storage	2,030 l.f.	.53	1,075.90
2. 4" Asbestos-cement pipe furn. & inst.	2,030 l.f.	2.03	4,120.90
3. 4"x4"x2" Tapped Tee, furn. & inst.	1 ea.	103.50	103.50
4. 6"x6"x4" Cast Iron Tee, furn. & inst.	1 ea.	71.50	71.50
5. 4" Gate Valve, furn. & inst.	1 ea.	67.50	67.50
SUBTOTAL SCHEDULE NO. 2 WELL AREA			5,439.30

Schedule No. 3, Utility Area

1. 4" Asbestos-cement Pipe, furn. & inst.	275 l.f.	4.87	1,339.25
2. 6"x4" Reducer, furn. & inst.	1 ea.	20.40	20.40
3. 3/4" Hose Bib and Riser, furn. & inst.	1 ea.	4.50	4.50
SUBTOTAL SCHEDULE NO. 3, UTILITY AREA			1,364.15

Schedule No. 4, Residential Area

1. 6" Asbestos-cement Pipe, furn. & inst.	1,465 l.f.	3.63	5,317.95
2. 6" Gate Valves, furn. & inst.	2 ea.	84.50	169.00
SUBTOTAL SCHEDULE NO. 4, RESIDENTIAL AREA			5,486.95

TOTAL, ALL SCHEDULES	28,042.15
ADD CHANGE ORDER NO. 1	66.16
	28,108.31

LESS 4% on \$28,042.15, Contract Terms	1,121.68
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TOTAL CONTRACT PAYMENT	26,986.63
------------------------	-----------

Purchase and Erection of two Metal Pump Houses at Water Wells

Additional construction funds in the amount of \$1,470.00 were made available from Region Three reserves on August 24, 1960. This amount, with a balance from the above two phases, of \$154.49, provided \$1,624.49 for completing the project.

Quotations for furnishing two metal buildings 8' x 10' were solicited on July 14, 1960. Low quotation was furnished by Young Steel Buildings, Inc., 642 North 17th Avenue, Phoenix, Arizona.

Building materials were delivered to the site on October 12, 1960 and erection was started on November 14, 1960. Some difficulty was encountered due to plant fabrication errors. This was corrected and the building erection was completed on January 20, 1961.

Summary of Expenditures

1. Purchase of two metal buildings (PO 33-20-OPC)	\$994.00
2. Cement for foundation (Petty Cash)	31.46
3. Personal Services	591.84
TOTAL	\$1,617.30

Relocation and Installation of 50,000-Gallon Reservoir and Extension of Water Lines.

Plans and specifications for the above project were mailed from WODC on June 9, 1959 for distribution by the Regional Office, Region Three. The bid opening date was established as June 29, 1959. The project was advertised calling for relocation and installation of one 50,000-gallon steel storage reservoir, the removal to storage of 4,000-gallon steel reservoir and 3,770 lineal feet of two-inch steel pipe, and the installation of 5,017 lineal feet of four-inch and 1,465 lineal feet of six-inch asbestos-cement pipe together with necessary fittings.

Of three bids received, low bidder for this project was the LR's Construction Company of Cortez, Colorado with a bid of \$26,920.47, or \$5,426.53 below the engineer's estimate.

By letter of June 30, 1959, from the Regional Administrative Officer and Contracting Officer, Contract No. 14-10-333-514 was awarded to the above mentioned low bidder. Notice to proceed was received by the contractor on July 17, 1959, thereby establishing the contract completion date as November 14, 1959.

The work progressed in accordance with the plans and specifications and was carried out in a satisfactory manner. Completion of the work under this contract was accomplished on September 1, 1959, on which date a final inspection was made by the contracting officer's representative and the Project Supervisor. The work was found to be complete and was accepted.

Total contract payment amounted to \$26,986.63. An additional cost of \$66.16 over the original contract amount was necessitated by a change in design made to protect pipe at a wash crossing and to permit connection to existing well pumps.

SUMMARY OF EXPENDITURES			
Construction Items	Qty.	Unit Cost in Place	Total Cost in Place
Schedule No. 1 Campground			
1. 50,000-gallon reservoir relocated & inst.	1	7,558.43	7,558.43
2. 4,000-gallon reservoir removed to storage	1	382.74	382.74
3. 4" Asbestos-cement pipe furn. & Inst.	2,712LF	2.435	6,603.72
4. 2" Steel pipe removed and reinstalled	680LF	.325	221.00
5. 2" Steel pipe removed to storage	1,060LF	.43	455.80
6. 3/4" Corporation Stop furn. & Inst.	1	3.30	3.30
7. 4"x4"x2"x2" Tapped Crosses, furn. & Inst.	3	33.50	100.50
8. 4"x4"x3/4"x3/4" tapped Cross. , Furn & Inst.	5	18.50	92.50
9. Float Valve, furn and Inst.	1	18.50	18.50
10. Concrete Thrust Block, Furn. & Inst.	2	100.13	200.26
11. 4" Gate Valves, furn. & inst.	2	57.50	115.00
SUBTOTAL, SCHEDULE NO. 1, CAMPGROUND AREA			15,751.75

154

Region Three
Santa Fe, New Mexico

January 7, 1958

Memorandum

To: Director
From: Regional Chief of Lands
Subject: Additional Data, Water System Expansion, Organ Pipe
Cactus National Monument

Attached is a copy of Superintendent Eden's memorandum of December 21 to Chief, WODC, reporting the status of the water system expansion project at Organ Pipe Cactus.

We have previously reported the results of the pump test and we believe Mr. Dunn will be interested in the additional information.

JOHN E. KELL

John E. Kell
Regional Chief of Lands

In duplicate

Attachment

Copy to: Supt., Organ Pipe Cactus
WODC

WESTERN OFFICE DESIGN & CONSTRUCTION	
JAN 10 858A.M.	
CHIEF	
ADMIN. ASSIST.	
PERSONNEL	
PLANS & PROG.	
SAFETY	
ARCHITECT	
ENGINEER	1/10 11:4
LAND. ARCH.	
ACTION TAKEN—DATE	
None	

L54-1

December 5, 1957

Memorandum

To: Regional Director, Region Three

From: Chief, Water Resources Section

Subject: Well No. 4, Docket 5, Headquarters Area, Organ Pipe Cactus

We have received the memoranda of November 19 and 25 from Mr. Canfield. Attached to the first were two copies of "Record of Well" (No. 4) on a copy of the form prepared some years ago by the Geological Survey. Attached to the second were two copies of the "Report of Well Driller".

With copies of this memorandum to the Superintendent and WODC, we are distributing six dividers for Organ Pipe Cactus Docket 5. The first should be placed just above the sketch map now at bottom of the assembly, and the divider "Part II", for Well No. 1 should be placed on top of that. We have no significant records for Well No. 1 at this time, although it is reported to be the one now in use. Parts III and IV should then be inserted over the records of Wells 2 and 3, respectively, above Part II.

We assume that you and the Superintendent have good copies of the "Record of Well (4)" and Well Driller's Report, of which Mr. Canfield forwarded copies on November 19 and 25, which should be placed above divider for Part IV, with the attached divider "Part V-Well 4" above. Part VI should be placed above the divider for Part V, with no intervening contents. I am leaving the old "Index" above divider for Part VI until we obtain more records.

We are sending copies of the Record of Well and Well Driller's Report to WODC for inclusion in its assembly of Docket 5.

On the folder for Docket 5, we are lettering in "Well No. 4" and "Priority November 1, 1957", under the similar data for Well No. 3.

As explained to Mr. Kell, while in Washington, sheet 1 of Drawing NM-OPC-2025C should be revised and prints should be supplied to replace the sketch in Part I of the four assemblies of Docket 5, and for the Geological Survey, as follows:

1. The dry well, No. 2, should be shown.

WESTERN DESIGN & CON.	
DEC 9 15	
CHIEF	
ADMIN. & GEN.	
PERSONNEL	
PLANS & SPEC.	
SAFETY	
ARCHITECT	
ENGINEERING	
LAND ACQUIS.	
RECORDS	
ACTION TAKEN	
None	

2. The projected section lines should be shown as accurately as possible.

3. Ground elevation should be given at each of the four wells. (Note that driller did not complete his report or answer question 16.)

It is disappointing to note in the "Record of Well (No. 4)" that no adequate pump test was made, particularly since this well has intercepted artesian water. No specification for well drilling should be issued without provision for such a test, with the driller to provide the necessary pump. The cost should ordinarily be included in the contract, whether the well is for "test" or "water supply" purposes. In this case we know the well now yields 30 gpm, and believe it might yield 100 gpm.

In part for water supply purposes, and in part for the pending appeal of the action of the State Land Commissioner on applications for appropriation of groundwater by the Gray Partnership, it is significant that we now have Well No. 4 under pressure, with water possibly subject to appropriation, that Wells 1 and 3 may also intercept the same underground channel with definable sides and bed, and that Well No. 2 is probably on higher ground and just not deep enough to determine whether the same source extends that far to the west of the center of the wash. There is also some question in my mind as to whether Well No. 1, or unpumped Well No. 2 may not be improperly cased and sealed to prevent seepage of water.

Although the driller's report does not make sense, and the Record of Well is not too clear, I assume that the casing of Well No. 4 was sealed just above the intercepted water, or that the driller is sure there is an impervious stratum thicker than the 20 feet that water rose in the well, and that there is also no chance for seepage in the lower 100 feet of the well. After we get surface elevations and all well locations we may have reason to justify plugging and reperforating several of the wells to preserve the source of supply.

SIGNED

A. van V. Dunn
Chief, Water Resources Section

Attachment

Copy to: Superintendent, Organ Pipe Cactus, with dividers

✓ Chief, WODC, with dividers and copy of Record of Well and Well Driller's report

154-L

AUG 28 1957

Memorandum

To: Regional Director, Region Three
From: Acting Chief, Water Resources Section
Subject: Headquarters Wells, Docket 5, Organ Pipe Cactus

With copies of this memorandum, we are herewith distributing assemblies of the subject docket in accordance with our memorandum of August 1.

You will note that a water system plan is desired which does not have to conform with State Water Right requirements. It should, however, show control point T-2, mentioned in Mr. Eden's memorandum of July 17, the main water using facilities, and section lines. The latter should conform with those on item 1 of the Docket, and be designated as projected in unsurveyed land unless you have the basis for this or another subdivision.

SIGNATURE

Gordon W. Robertson
Acting Chief, Water Resources Section

Attachment

Copy to: Superintendent, Organ Pipe Cactus, w/c attachment
Chief, WODC (2), w/c attachment

WESTERN OFFICE DESIGN & CONSTRUCTION	
AUG 30 1957 A.M.	
CHIEF	
ADMIN. ASSIST.	
PERSONNEL	
PLANS & PROJ.	
SAFETY	
ARCHITECT	
2 ENGINEER	W.R.S.
LAND ACQ.	
1	W.R.S.
3	W.R.S.
ACTION TAKEN - DATE	
none	

D5039-L

August 1, 1957

Memorandum

To: Regional Director, Region Three
From: Chief, Water Resources Section
Subject: Headquarters Well Records, Docket 5, Organ Pipe Cactus

Since writing my memorandum of July 31 concerning the plans and specifications for drilling a new well, and other matters, I have located a memorandum of June 30, 1954, from Mr. Lassiter with records of the two wells (one dry) which were drilled in that year. Accordingly, I have outlined a Docket No. 5 to record all wells and the related water system, which will be assembled as soon as time permits.

The point at this time is the numbering system. Well No. 1 is assumed to be the "existing" well of 1954, which was drilled about 1940 in what was designated as NE $\frac{1}{4}$ Section 17. (A sketch is attached.) The dry well was presumably drilled first in 1954, in SW $\frac{1}{4}$ Section 18, and is now designated as No. 2. Presumably the second 1954 well is what Mr. Eden refers to as Well No. 2, but should be Well No. 3. The water well now being drilled should, therefore, be Well No. 4, instead of Well No. 3 as suggested by Mr. Eden.

It is important to number and record even the dry wells, for reference in groundwater studies. We are sending copies of the two records of well and the sketch to the Geological Survey with the designated numbering.

(Signed)
A. van V. Dunn
Chief, Water Resources Section

Attachment

Copy to: Superintendent, Organ Pipe, w/c attachment
Chief, WODC, w/c attachment

L-5h
COPY (x) D-5039

Region Three
Santa Fe, New Mexico

JUL 23 1957

Memorandum

To: Director
From: Regional Chief of Operations
Subject: Plans and Specifications, Drilling of Water Well, Organ
Pipe Cactus

In reply to Mr. Dunn's memorandum of July 11, there is attached a copy of Superintendent Eden's memorandum of July 17, which largely answers the questions raised in Mr. Dunn's memorandum of July 11.

Mr. Eden will be in the Regional Office the week of July 29 and the matter will be discussed with him during that time. Supplemental information will be supplied after the discussion, if it seems advisable.

(SIGNED)

David H. Canfield
Regional Chief of Operations

In duplicate

Attachment

Copy to: Supt., Organ Pipe Cactus
WODC, w/c Supt. Eden's memo ✓

WESTERN OFFICE DESIGN & CONSTRUCTION	
JUL 25 1957 A.M.	
CHIEF	
ADMIN. ASSIST.	
PERSONNEL	
PLANS & PROG.	
SAFETY	
ARCHITECT	
ENGINEER	1274
LAND. ARCH.	
ACTION TAKEN - DATE	
None	



UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Organ Pipe Cactus National Monument

In Reply, Refer to
07030-1

July 17, 1967

Memorandum

To: Regional Director, Region Three
From: Superintendent, Organ Pipe Cactus
Subject: Drilling of Water Well, Organ Pipe Cactus

STC

Kell

We have received a copy of Mr. Dunn's memorandum of July 11 to you. The following will perhaps answer some of Mr. Dunn's questions:

1. Drilling of the new well does not entirely eliminate the possible need for test wells with M&P funds under Account 0140 (145.2). At least not until it has been completed and the yield determined. It is quite possible that Well No. 2 could be deepened as a test well.

2. Well No. 1, drilled about 1940, and for which there is no log, is located within a few feet of Bench Mark and control point T-2 as shown on Sheet No. 1, Drawing No. MI-CPC 2024, Topography, Headquarters Area, Organ Pipe Cactus National Monument. Well No. 2, drilled in 1955-56, on which a detailed log is available, is situated approximately 2,000 feet south of T-2. Well No. 3, on which bids are now being taken, will be located approximately 500 feet south of Well No. 1.

3. Whether Well No. 3 will be a supplemental well or a replacement well is a distinction that will be established by the success of the venture. At this point I prefer to think of it as a supplemental well.

4. We will see that copies of all pertinent documents relating to the drilling operation and test pumping are furnished to Mr. Dunn. We have copies of the Record of Well forms and will see that they are executed in addition to those required by the State.

James M. Elen
Superintendent

In duplicate

WESTERN OFFICE DESIGN & CONSTRUCTION		JUN 4 1956 A.M.	
CHIEF	ADMIN. ASST.	PERSONNEL	PLANS & PROG.
SAFETY	ARCHITECT	ENGINEER	LAND. ARCH.
ACTION TAKEN - DATE			

154-L

Comp.

May 29, 1956

Memorandum

To: Regional Director, Region Three

From: Chief, Water Resources Section

Subject: Proposed Investigation of Groundwater Resources, Headquarters Area, Under M&P Account 140.3 (143.2), Organ Pipe Cactus

The memorandum of May 23 from Mr. Bill suggests that the existing well is inadequate, another well might be drilled immediately adjacent, and that a groundwater study should probably be made at a cost which Area Supervisor L. A. Heindel estimates at \$1200, if funds are available.

We have deferred release of budget estimates for 1957 and 1958 pending a conference to be held in this office during the next week. For this reason, we cannot promise any funds for the suggested investigation in 1957 for a few days. Furthermore, you seem to have need for water resources studies during 1957 at both Organ Pipe Cactus and Bryce Canyon, which are not included in the present budgets, and which would probably cost more than the monetary reserve we now have for the year.

I also question the justification for a \$1200 investigation at Organ Pipe Cactus at this time. From old studies and reports I gather that there is a relatively large area of groundwater under the headquarters area, and about all that the Geological Survey could do would be to define the limits a little more definitely, and possibly suggest the approximate center, or maximum depth of the water if it is confined in a basin. We should determine from the Geological Survey just what type of study is practical to obtain that information, and more specifically whether it would not be possible to obtain it for about \$300 to \$500 worth of reconnaissance. While Mr. Heindel may be able to supply some information as the local representative, our information should come through J. W. Harshbarger, District Geologist, P. O. Box 2270, 136 North Park Avenue, Tucson.

I am also concerned with the proposal to drill a larger well "immediately adjacent" to the existing well. One such replacement well might be adequate, but I believe that the ultimate solution may be a battery of two or more wells spaced far enough apart to prevent interference.

The questions, in that case, would be how far away the second well should be, and in what direction. This seems to be the most important question for the Geological Survey to try to answer. The idea would then be to drill the new well, possibly with larger diameter and greater depth, and buy a new pump to fit the yield which is determined in the pump test. You would then have two wells which could be used separately or together, to the extent of safe withdrawals from the source.

Until we supply more information on budget limitations, we suggest that you refer one copy of this memorandum to the District Geologist with a request for more specific suggestions and cost estimate.

A. V. DUNN
A. V. Dunn
Chief, Water Resources Section

In duplicate

Copy to: Dr. John C. Reed, Staff Coordinator, Geological Survey
Superintendent, Organ Pipe Cactus
✓ Western Office of Design and Construction
Mr. P. Miller
Mr. Dunn

AvVDunn:let

WESTERN OFFICE	
DESIGN & CONSTRUCTION	
MAY 28 1956 A.M.	
CHIEF	
ADMIN. ASSIST.	
PERSONNEL	
PLANS & PROG.	
SAFETY	
ARCHITECT	
ENG. - EER	<i>Kell</i>
LAND. ARCH.	
MEMORANDUM	
TO: <i>Director</i>	
ACTION TAKEN - DATE	
<i>None</i>	

In reply refer to:
L54

Region Three
Santa Fe, New Mexico

May 23, 1956

Director

From: Assistant Regional Director

Subject: Water Resources and Water Right Funds for Investigations,
Account 347, Organ Pipe Cactus National Monument

The last time Superintendent Eden was in the Regional Office he discussed his diminishing water supply and the need for either deepening the present well or finding a new source of water for the headquarters area. It is our understanding that the present well is a 6" casing and the depth is 345 feet, with a 2½ or 3" column pipe to the Peerless Pump. Mr. Eden reports that the Peerless Pump representatives recommend that the pump should be set in not less than 100 feet of water. Because of the small size of the original well it is impractical or impossible to deepen the well by drilling inside the present casing and going deeper.

We have attached a copy of Mr. Eden's memorandum of May 18 and would like your advice regarding assistance from Mr. Heindel of the Groundwater Branch, U. S. Geological Survey in Tucson. The actual drilling or new construction should, of course, come from regular B. & U. Construction funds. However, the investigation studies for a proper source of supply could, we think, properly be charged to Account 347 if there are any funds available. Mr. Kell is in the process of revising the Region Three program based on allotments made to us to date and adjusting priorities of work to be accomplished before June 30. We may be able to furnish some of the estimated \$1,200 from 347 funds already allotted to this office but will be unable to finance the entire \$1,200. Please advise if you can furnish an additional amount to assist us in this work.

(SGD) HARTON L. BILL

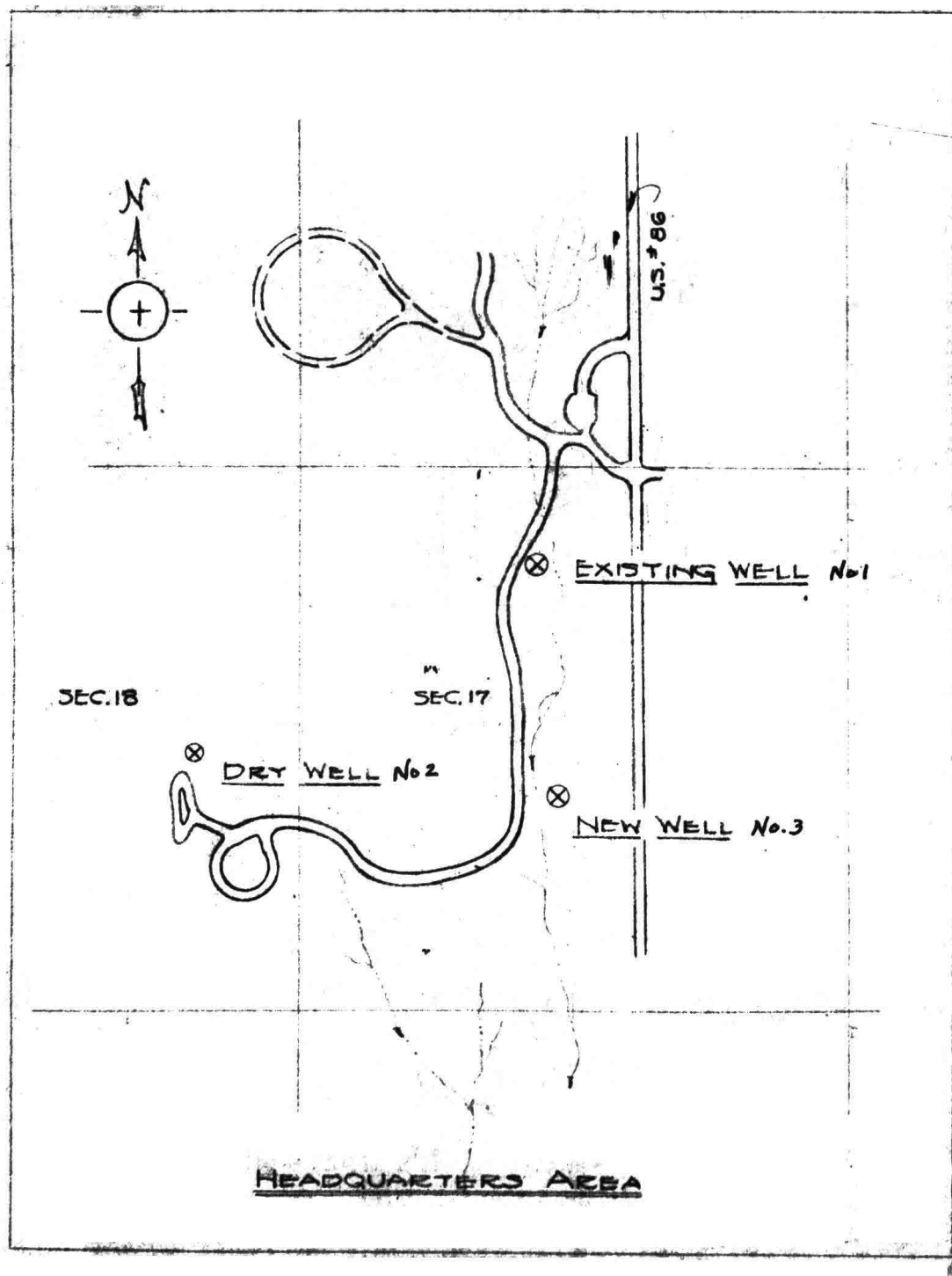
Harton L. Bill
Assistant Regional Director

In duplicate

Attachment

Copy to: Chief, Western Office of Design and Construction
Supt., Organ Pipe Cactus

Maps and Miscellaneous Information



Docket Information

Number of Documents in Docket 26

Documents Dated from 7/1/1941 to 1/26/1977

Docket Compiled: 6/3/2011