



Yosemite National Park

Docket Number: 19

EL PORTAL WELL #4

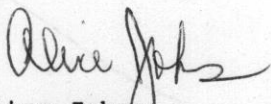
Preliminary Docket Information

NOTES TO THE FILE

YOSE 010: El Portal Well #2
YOSE 012: El Portal Well #1
YOSE 018: El Portal Well #3
YOSE 019: El Portal Well #4
YOSE 020: El Portal Well #5
YOSE 021: El Portal Well #6
YOSE 022: El Portal Well #7

June 26, 1996

The primary water supply for El Portal is from wells 2 through 7. Well 1 is no longer in use. All 7 wells are thought to tap the underflow of the Merced River. For information pertaining to land status and riparian rights common to all the above dockets, please refer to YOSE 012: El Portal Well #1.



Alice Johns
Hydrologist
Water Rights Branch
Water Resources Division

06 DATA

Yosemite National Park

EL PORTAL WELL #4

Supporting Hydrologic Data

. . . R E P O R T O F T E L E P H O N E C O N V E R S A T I O N

DATE: June 26, 1996 TIME: 11:30 a.m.
PROJECT: YOSE - El Portal

NPS PERSON ON CALL: Alice E. Johns

[] I RECEIVED A CALL FROM [x] I CALLED

PERSON: Ed Walls
ORGANIZATION: Chief of Maintenance
ADDRESS: YOSE

TELEPHONE: 209-379-1077

DISCUSSION: I called for clarification on the current water system at El Portal. Ed said that the water system consists of 6 wells--numbers 2-7. Well number 1 is no longer in use. Number 7 has just gone on line.

He also asked about water right issues associated with Tuolumne Meadows. I told him that Steve Stone of DSC had requested a water right analysis, and that it would be next after El Portal and Biledo. If there was a need for it to be placed at a higher priority, I suggested that Ed talk to Mark Butler.

Ed said that he would call back with current information on well production. He called back and said that the current system is capable of producing 307 gpm. In 95, 42 million gallons were withdrawn. Averaged over the year, that is about 80 gpm. Withdrawals are about 100,000 gpd in winter, more 200,000 gpd in summer.

ACTION TO BE TAKEN:

COPIES TO:

Water Demand - El Portal

S. Hart
03-20-86

	1	2	3	4	5	6	7	8	9	10	11	12
1985		Well #2	Well #3	Well #4	Well #5	Totals	Average Day					
Jan		---	1339000	---	1197200	2536200	81810					1
Feb		---	1279000	---	1126500	2405500	85910					2
Mar		---	1249000	---	1396800	2645800	85350					3
Apr		265770	1877600	---	1919000	4062370	135410					4
May		1369380	2356300	253000	2355300	6333980	204320					5
Jun		1534870	2189900	937500	2613300	7875570	262520					6
Jul		1803520	3141000	1113400	3091300	9249220	298360					7
Aug		1745870	3046600	1094700	3114500	9001670	290380					8
Sep		895850	1637500	540900	1586700	4660950	155370					9
Oct		763070	1446500	469500	1367600	4046670	130540					10
Nov		223440	1008600	331200	951000	2514240	83810					11
Dec		---	962500	372800	1060300	2395600	77180					12
Totals		8601770	22233500	5113000	21779500	57727770	158160					13
Peak Day												14
July 11th		66390	116460	40230	113950	337030						15
gph		2766	4853	1676	4748	14043						16
gpm		46.1	809	279	791	2341						17
												18
												19
												20
												21
												22
												23
												24
												25
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NARRATIVE FOR THE DRILLING PROGRAM AT
YOSEMITE NATIONAL PARK -- EL PORTAL, 1980 - 1981

Prior to 1980 two wells existed on El Portal National Park Service lands. These two wells are El Portal #1, 3 S/20 E - 18 K1, a shallow well dug about 1959 and reported to produce 170 gpm at its maximum drawdown, and El Portal #2, 3 S/20 E - 17 E1, a well drilled by the cable tool method in 1973. The results of an aquifer test indicate that a reasonable pumping rate for this well would be about 70 gpm.

In January of 1981 it was reported that El Portal #2 was being pumped at 50 gpm due to complaints by users of too much air in the lines when the well was pumped at a higher rate.

In 1980 the Denver Service Center awarded a contract to develop a supplemental water supply at Yosemite National Park -- El Portal. The contract was for a domestic ground water supply in excess of 220 gpm in order to eliminate the present usage of a surface water supply to better meet the requirements of the Public Health Service. This was to be accomplished by drilling one, two, or three producing wells, as needed.

After drilling wells, El Portal #3 - 5, a supply of 225 gpm had been obtained: El Portal #3 capable of producing about 100 gpm for 24 hours, El Portal #4 capable of producing about 30 gpm for 24 hours, and El Portal #5 capable of producing about 95 gpm for 24 hours. The corresponding site numbers for these wells are:

El Portal #3 -- 3 S/20 E - 17 L1
El Portal #4 -- 3 S/20 E - 18 J1
El Portal #5 -- 3 S/20 E - 18 Q1

At this point it was decided since two (El Portal #4 and #5) of the above three wells were across the Merced River (south) from the existing water supply lines (the supply lines of El Portal #1 and #2) it would be to the advantage of the Service to have a fourth well on the same side of the Merced River as El Portal #1, #2, and #3. It was also agreed that a member of the Region's Division of Water Resources would choose the site for this well (El Portal #6) under the above constraint, i.e., ruling out a possible site near El Portal #5. A site was chosen approximately 500 feet southeast of El Portal #2 and 550 feet west-southwest of El Portal #3. This site was chosen for two reasons: 1) it was hoped that a well drilled at this site would encounter a buried incised channel before bedrock, and 2) to allow for the maximum possible distances from El Portal #2 and #3 (to avoid these wells influencing the capacity of the new well when all wells are pumping simultaneously).

El Portal #6, 3 S/20 E - 17 M1, was drilled at the above site but no buried incised channel was encountered before bedrock. The well is capable of producing about 45 gallons per minute for 24 hours.

To aid in any future selection of well sites, the following parameters were compared between the present existing wells (El Portal #1 - #6) to see if a correlation between parameters and pumping capacity could be established: upstream area as opposed to downstream area, distance from Merced River, artesian head, average slot size of screen, and local thickness of aquifer. No correlations were determined.

El Portal #3 and #5 are the best producing wells of those drilled in 1980-1981. The fact that these wells encountered a basal gravel above the bedrock is believed to be the major factor in contributing to their high yield.

The strongest well in the area, El Portal #1, is constructed such that water from this well is essentially pumped directly from the Merced River. This construction is not in accordance with present State Public Health requirements.

El Portal #3, #4, and #6 experience turbulent flow conditions when pumped at capacity. These wells exhibit a large well loss component of drawdown under turbulent flow conditions and the magnitude of this influence increases rapidly with the pumping rate as the flow velocities in the immediate vicinity of the wells become sufficiently large. Therefore, if future wells are drilled with sufficiently large well diameters to reduce the flow velocities in the immediate vicinity of the wells, the production capacity of the future wells can be expected to surpass the capacity of present wells.

W. Reed
W. Werrell
3/6/81

MORSE LABORATORIES, INC.

CHEMICAL ANALYSIS AND RESEARCH

1525 FULTON AVENUE
SACRAMENTO, CALIFORNIA 95825
481-3141

October 24, 1980

Yosemite National Park
P. O. Box 135
El Portal, California 95318

Attn: Dan Schrantz

Laboratory No. 16102
Date Received 8/4/80
Sample 1 Water for General Mineral Analysis, Inorganic Chemical
Analysis, Gross Alpha & Beta Radioactivity (P.O. #PX 880001308)

NPS WELL NO 4
Identification: Well #2 El Portal

Bicarbonates as CaCO_3 , mg/L	53
Carbonates as CaCO_3 , mg/L	Nil
Hydroxide as CaCO_3 , mg/L	Nil
Alkalinity as CaCO_3 , mg/L	53
Calcium (Ca), mg/L	15
Chloride (Cl), mg/L	7
Copper (Cu), mg/L	< 0.05
LTAS, mg/L	< 0.05
Iron (Fe), mg/L	0.04
Magnesium (Mg), mg/L	1
Manganese (Mn), mg/L	0.03
pH	7.3
Sodium (Na), mg/L	9
Sulfates (SO_4), mg/L	4
Electrical Conductivity, micromhos/cm	137
total Dissolved Solids, mg/L	11
Hardness as CaCO_3 , mg/L	25
Zinc (Zn), mg/L	0.04
Potassium (K), mg/L	1
Silica (SiO_2), mg/L	15
Nitrate-Nitrogen ($\text{NO}_3\text{-N}$), mg/L	0.12
Fluoride (F), mg/L	0.1
Arsenic (As), mg/L	< 0.005
Barium (Ba), mg/L	< 0.05

Yosemite National Park
Laboratory No. 16102
Page 2

Cadmium (Cd), mg/L	< 0.005
Chromium (Cr), mg/L	< 0.02
Lead (Pb), mg/L	< 0.01
Mercury (Hg), mg/L	0.001
Selenium (Se), mg/L	< 0.002
Silver (Ag), mg/L	< 0.01
Gross Alpha Radioactivity, pCi/L	< 1.9 ± 1.1
Gross Beta Radioactivity, pCi/L	3.4 ± 6.6

MORSE LABORATORIES, INC.

Marjorie L. Dewey
Marjorie L. Dewey
Director

MLD:db

LS4
YOSE/GEN
(WR)RW

August 18, 1980

Werrell *W*
Wittski *W*
Kilgore *BK 8/20*
Davis *8/21*
Reg. Dir. *8/21*

Memorandum

To: Superintendent, Yosemite
From: Regional Director, Western Region
Subject: NPS #4 Well at El Portal, Yosemite National Park, California

Enclosed for your review and files is a copy of the data and analysis of the aquifer test for the new well (NPS #4) at El Portal. As agreed with the Denver Service Center, this aquifer test was conducted by the Division of Water Resources.

This well is capable of producing 30 gallons per minute for 24 hours or 39 gallons per minute for about 10 hours, see Figure 5. The well has a very fast recovery rate and will recover to static water level in about 30 minutes, see Figures 3 and 4.

Field specific conductivity measurements were taken during the test to provide an index of water quality. The specific conductance was 120 micromhos, indicating about 78 parts per million dissolved solids by use of a conversion factor of 0.65. This is excellent water quality. The water temperature ranged from 13.5° C (56.3° F) to 15.5° C (59.9° F). At the end of the test a water sample was collected for a full chemical analysis by a professional laboratory.

(Sgd) HOWARD H. CHAPMAN

Enclosures

cc: DSC, Pacific Northwest/Western Team
Attn: John Ballard w/encl

(WR)RW:Werrell:ms 8/14/80

*See docket for well # 3 S/20 E 18 J
(El Portal #4) for enclosure
W. Werrell
Aug 1980*

NPS-YOS-Well #4

Pkg. 220, on 000-00002, P. 1 of 1
 # 104/41,113, Sht. # 1
 Date 8/13/80

TRIPlicate
 Owner's Copy

STATE OF CALIFORNIA
 THE RESOURCES AGENCY
 DEPARTMENT OF WATER RESOURCES
 WATER WELL DRILLERS REPORT

No. 075899

Notice of Intent No. #175662
 Local Permit No. or Date

State Well No.
 Other Well No.

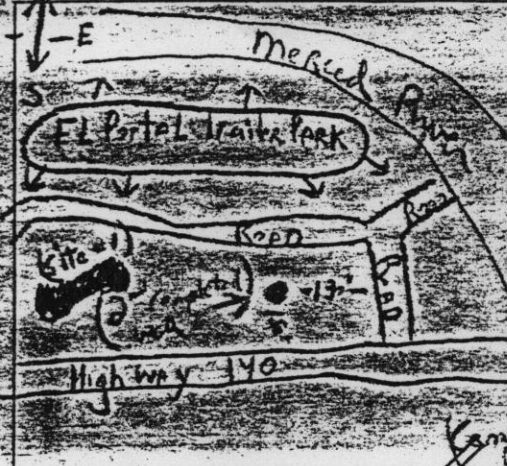
(1) OWNER: Name Yosemite National Park
United States Dept. of Interior
 Address 755 Park Street
 City Denver Colorado Zip 80225

(12) WELL LOG: Total depth 77' ft. Depth of completed well 68'9"
 from ft. to ft. Formation (Describe by color, character, size of material)

(2) LOCATION OF WELL (See instructions):
 County MARIPOSA Owner's Well Number #2 (S.T. = 1)
 Well address if different from above FL Portal CALIF.

0-4 Top Soil
4-14 Boulders
14-22 packed gravel
22-24 loose gravel (1/2 water to)
24-46 Dry Boulders and
46-52 Pack & GRAVEL
52-55 1/2 Dry Gravel Boulders
55 1/2-63 Blue Granite Bedrock
63-69 Medium Sand (1/2 water to)
69-72 Brown Granite
72-74 Blue Granite
74-77 Quartz (HARD)

Township _____ Range _____ Section _____
 Distance from cities, roads, railroads, fences, etc. New to well (2nd completed)
Well Site #1, approx 130' West of Road Entering FL Portal
Trail Park, and approx 150' North of Highway 140



(3) TYPE OF WORK:
 New Well ☒ Deepening ☐
 Reconstruction ☐ (Describe site)
 Reconditioning ☐
 Horizontal Well ☐
 Destruction ☐ (Describe destruction materials and procedures in Item 12)
 (4) PROPOSED USE:
 Domestic ☐
 Irrigation ☐
 Industrial ☐
 Test well ☐
 Stock ☐
 Municipal ☐
 Other ☐

WELL LOCATION SKETCH

(5) EQUIPMENT:
 Rotary ☐ Reverse ☐
 Cable ☒ Air ☐
 Other ☐ Bucket ☐

(6) GRAVEL PACK:
 Yes ☐ No ☐ Size _____
 Diameter of bore _____
 Packed from _____ to _____

(7) CASING INSTALLED:
 Steel ☒ Plastic ☐ Concrete ☐
 From _____ ft. To _____ ft. Dia. _____ in. Gauge or Wall _____
 (0 3/4" casing 1 ft. to 2' above ground)

(8) PERFORATIONS:
 Type of perforation or size of screen _____
 From _____ ft. To _____ ft. Slot size _____
 (43' - 44'9" = # 51T)
 (44'9" - 52'9" = # 90 Slot)
 (52'9" - 61'9" = # 51T)
 (61'9" - 65'9" = # 20 Slot)
 (65'9" - 68'9" = # 51T)

(9) WELL SEAL:
 Was surface sanitary seal provided? Yes ☐ No ☐ If yes, to depth _____ ft.
 Were struts sealed against pollution? Yes ☐ No ☐ If yes, to depth _____ ft.
 Method of sealing (Cement)

(Note: 14" 1/4" 4" Absc ground = 45'4" Total length)
 Work started 6/27 19 80 Completed 8/1 19 80

(10) WATER LEVELS:
 Depth of first water, if known 22' ft.
 Standing level after well completion 6' ft.

WELL DRILLER'S STATEMENT
 This well was drilled under my jurisdiction and this record is true to the best of my knowledge and belief.

(11) WELL TESTS:
 Was well test made? Yes ☒ No ☐ If yes, by whom? _____
 Type of test _____ Pump ☒ Bailor ☐ Air lift ☐
 Depth to water at start of test 6 ft. At end of test 6 ft.
 Discharge 45 gal/min after 8 hours Water temperature _____
 Chemical analysis made? Yes ☐ No ☒ If yes, by whom? Morse LAB
 Was electric log made? Yes ☐ No ☐ If yes, attach copy to this report

SIGNED M.E. Seebach Jr. (Well Driller)
 NAME M.E. SEEBACH & Sons
 Address P.O. Box 332
 City CLARKSBURG CALIF. Zip 95612
 License No. 277691 Date of this report 8/13/80

NPS YDS-Well #4

Pkg. 225, of 8000-0-5002, P. 1 of 1
104/41,113, Sht. #
Date 8/13/80

TRIPPLICATE
Owner's Copy

STATE OF CALIFORNIA
THE RESOURCES AGENCY

Do not fill in

DEPARTMENT OF WATER RESOURCES
WATER WELL DRILLERS REPORT

No. 075899

Notice of Intent No. #175 662
Local Permit No. or Date

State Well No.
Other Well No.

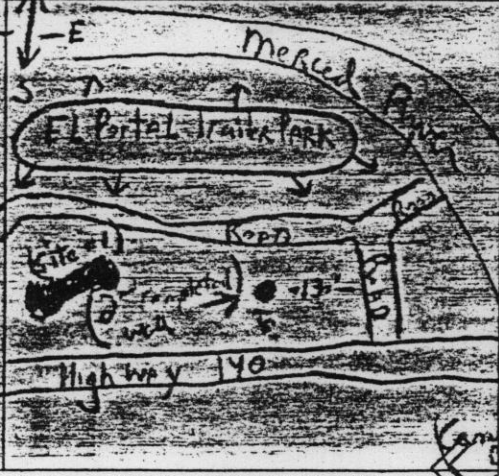
(1) OWNER: Yosemite National Park
Address: 255 Parfet Street
City: Denver Colorado Zip: 80225

(12) WELL LOG: Total depth 22' Depth of completed 68'9"
from ft. to ft. Formation (Describe by color, character, size or material)

(2) LOCATION OF WELL (See instructions):
County: MARIPOSA Owner's Well Number: #2 (completed) (Site #1)
Well address if different from above: EL Portal Calif.
Township: Range: Section:

0-4 Top Soil
4-14 Boulder
14-22 Packed Gravel
22-24 Fine Gravel 1/2 water table
24-46 Dry Boulders and Packed GRAVEL
46-52 Kiese Gravel (1/2 water table)
52-55 1/2 Dry Gravel Boulders
55 1/2-63 Blue Granite Bedrock
63-65 Medium Sand (1/2 water table)
65-67 Brown Granite
67-72 Blue Granite
72-77 Quartz (HARD)

Distance from cities, roads, railroads, fences, etc.
Well Site #1: Approx 130' West of Road Entering EL Portal
Trailer Park and Approx 150' North of Highway 140



(3) TYPE OF WORK:
New Well ☐ Deepening ☐
Reconstruction ☐ (Note: site #1)
Reconditioning ☐
Horizontal Well ☐
Destruction ☐ (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:
Domestic ☐
Irrigation ☐
Industrial ☐
Test Well ☐
Stock ☐
Municipal ☐
Other ☐

WELL LOCATION SKETCH

(5) EQUIPMENT:
Rotary ☐ Cable ☒ Air ☐ Other ☐
Reverse ☐ Bucket ☐
(6) GRAVEL PACK:
Yes ☐ No ☐ Size:
Diameter of bore:
Packed from: to:

(7) CASING INSTALLED:
Steel ☒ Plastic ☐ Concrete ☐
From ft. To ft. Dia. in. Gauge or Wall
0' 45' 6" 363
(3 1/4" heavy 1.6 ft)
(3" heavy 1.6 ft)

(8) PERFORATIONS:
Type of perforation or size of screen
From ft. To ft. Slot size
43' 68' 9" 1/2
(43' - 44' 9" = 8 Slot
44' 9" - 52' 9" = #90 Slot
52' 9" - 61' 9" = 8 Slot
61' 9" - 65' 9" = #20 Slot
65' 9" - 68' 9" = 8 Slot)

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 45' ft.
Were strata sealed against pollution? Yes ☐ No ☐ Internal ft.
Method of sealing: (Cement)

(Note: 14' left 4" Above ground = 45' 4" total length)
Work started 6/27 19 80 Completed 8/1 19 80

(10) WATER LEVELS:
Depth of first water, if known 22' ft.
Standing level after well completion 6' ft.

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this record is true to the best of my knowledge and belief.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? Pump ☒ Bailor ☐ Air lift ☐
Type of test: Depth to water at start of test 6 ft. At end of test 6 ft.
Discharge 45 gal/min after 8 hours. Water temperature:
Chemical analysis made? Yes ☒ No ☐ If yes, by whom? Moise LAB
Was electric log made? Yes ☐ No ☐ If yes, attach copy to this report

SIGNED: M.E. Seebeck Jr. (Well Driller)
NAME: M.E. SEEBECK & Sons
(Person, firm, or corporation) (Typed or printed)
Address: P.O. Box 332
City: CLARKSBURG, CALIF. Zip: 95612
License No: 227691 Date of this report: 8/13/80

N.S. 105-Well #4

CUSTOMER NATIONAL PARK SERVICE

ADDRESS SITE #1 #2 WELL

DATE NOTIFIED: _____

WORK TO BE DONE: _____

WELL LOG

FT.	LABOR & MATERIALS
0-4	TAP SOIL
4-14	BOULDERS
14-22	PACKED GRAVEL (Below LSD)
22-24	GRAVEL LOOSE (WATER LEVEL 5 1/2')
24-46	BOULDERS PACKED DRY (Below LSD)
46-52	GRAVEL TO 1/2" WATER LEVEL 14'
52-55'6"	BOULDERS CEMENTED
55'6"-63	BLUE GRANITE (Below LSD)
63-65	SAND MED WATER LEVEL 10'
65-69	BROWN ROCK (HARD)
69-72	BLUE GRANITE
72-77	QUARTZ ? WHITE

M.E. Seebeck 7/15/80

N.S. 105-Well #4

CUSTOMER

NATIONAL PARK SERVICE

ADDRESS

SITE #1 #2 WELL

DATE NOTIFIED: _____

WORK TO BE DONE: _____

WELL LOG

FT.	LABOR & MATERIALS
0-4	TAP SOIL
4-14	BOULDERS
14-22	PACKED GRAVEL (Below LSD)
22-24	GRAVEL LOOSE (WATER LEVEL 5½')
24-46	BOULDERS PACKED DRY (Below LSD)
46-52	GRAVEL TO 1½" WATER LEVEL 14'
52-55'6"	BOULDERS CEMENTED
55'6"-63	BLUE GRANITE (Below LSD)
63-65	SAND MED WATER LEVEL 10'
65-69	BROWN ROCK (HARD)
69-72	BLUE GRANITE
72-77	QUARTZ ? WHITE

M.E. Seebeck 7/15/80

ANALYSIS OF AQUIFER TEST

On the afternoon of July 30 the driller set the pump for the aquifer test. The pump intakes were set opposite the blank casing, between the well screens. In order to clean out the well a little more, and to test the pump, the well was surged for about 20 minutes at a rate of about 40 gpm. This effort ceased as a result of the pump burning out. Because the motor is water cooled and is situated below the intake, it appears that the lower aquifer must be contributing a small amount of water.

Our arrival on the site at about 1800 was about 1½ hours after the pump had burned up. The pump had been removed from the well shortly after it burned out.

Three water level measurements, in conjunction with altimeter readings were taken on July 30. From these measurements it is concluded that no correlation between atmospheric pressure and water levels exist for this well and thus no further altimeter reading were made.

This test consisted of three pumpage periods as follows:

During the first pumpage period we attempted to obtain drawdown data for pumpage of about 40 gpm. In attempting to establish and maintain this discharge, the discharge pipe valve was first over corrected and then under corrected. Due to the variation in discharge rate, these data are not plotted or analyzed. No recovery data was collected.

Pumpage of the second period began at 1721. The average pumpage rate was 45.87 gpm. After 28½ minutes of pumpage the well was drawdown to the pump intakes, 39.8 feet of drawdown -- see Figure 1. Recovery data was taken until static water level was achieved, only 44 minutes -- see Figure 3.

The third pumpage period consisted of pumping the well a total of 985 minutes during which the pumpage was increased (stepped up) six times -- see Figure 2. At the beginning of the first four steps the discharge valve was initially opened too far for the desired discharge rate. The valve was adjusted, slightly closed, during the next few minutes to achieve the desired rate. This initial setting of the valve accounts for the slight "upswing" of data points at the beginning of these steps (new pumpage rates). Recovery data was collected for 31 minutes, the well had recovered to static water level -- see Figure 4.

During the aquifer test, field water quality data was collected on the pumped water in order to provide some quick evaluation. Throughout the test, field specific conductance readings remained within 10 units of 120 micromhos per centimeter at 25° C. The temperature of the water ranged from 13.5° C (56.3° F) to 15.5° C (59.9° F). These data indicate that the water produced from the well is of the same source regardless of the pumpage rate and that the water is of excellent chemical quality (considering the total amount of dissolved solids -- calculated from the data to be 78 parts per million using a conversion factor of 0.65). A water sample was collected during the last minutes of pumpage -- this sample will be fully analyzed by a professional laboratory.

This well was drilled in an alluvial valley and drilling is believed to have ceased upon contact with bedrock. The closest distance to the Merced River is due north about 580 feet. This may represent a positive boundary as the cone of depression would extend in that direction. However, the amount of the effect and time at which it would become significant cannot be determined from this aquifer test. The presence of consolidated igneous rocks to the south of the highway indicates that a negative boundary is present in that direction. This boundary cannot be positively identified in the field, but is believed to be at a distance of about 100 feet from the well.

The pump used during the aquifer test is the drilling contractor's property and was removed on August 1, 1980. At the time of conducting this aquifer test, the well was fully completed in construction except for placement of the concrete for the sanitary seal. This concrete will be poured from two feet above the screen to the surface.

Analysis of the test data to derive aquifer coefficients of transmissivity (T) and storage coefficient (S) of the aquifers is not possible because the data reflects a large well loss factor. This is evidenced by the fact that the well has an exceptionally rapid recovery -- even after hours of pumpage. Thus, the recovery data of Figures 3 and 4 cannot be properly used to determine T because the recovery of the well loss factor masks the recovery of the water level resulting from the aquifer coefficients. This is shown by the unrealistic transmissivities of 63 and 54 as determined by attempting to use the recovery curves.

Figure 5 was constructed from field data to provide evaluation of the well drawdown vs. time for various pumpage rates. This figure indicates that the well may be pumped at a rate of at least 30 gallons per minute for 24 hours. However, pumpage at a rate of about 39 gallons per minute results in a time-drawdown curve which has a rather definite "break." This break occurs at about 150 minutes or at the 31 foot drawdown level. Neither the drillers log nor anything regarding well construction indicates that a change in production would occur at a drawdown of 31 feet and we therefore believe that this break is time dependent. A plausible explanation for this break is that one of the two aquifers is essentially failing at this point. This explanation has further credence after discounting the possibility that the break is caused by a change in flow regime within the well. This was done by analyzing the drawdown data according to the method of Lennox*. This analysis indicates that laminary flow exists within the well for pumpage rates through 17.8 gpm. Turbulent flow conditions exist for pumpage rates 25.4 gpm or higher.

No hydrologic significance is attributed to the slight variation in water temperature during the test. Specific conductance and temperature data was collected at the end of the plastic discharge pipe which was 105 feet S 40° W of the well. The variation in water temperature is believed due to changes in temperature of the plastic pipe due to changes in air temperature from day to night, to day.

W. Werrell
W. Reed

August 1980

* Lennox, D.H., 1966, Analysis and application of step-drawdown test: American Society of Civil Engineers Proceedings, v. 92, Separate 4967, 19 p.

2nd completed well
 DUPLICATE
 Driller's Copy

STATE OF CALIFORNIA
 THE RESOURCES AGENCY
 DEPARTMENT OF WATER RESOURCES
 WATER WELL DRILLERS REPORT

Do not fill in
 No. 075899

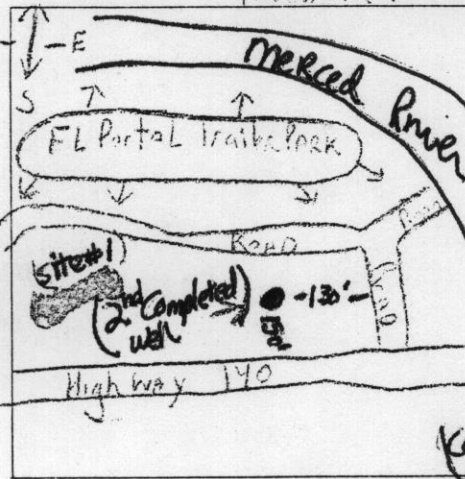
Notice of Intent No. #175662
 Local Permit No. or Date -

State Well No. _____
 Other Well No. _____

(1) OWNER: Yosemite National Park
United States Dept. of Interior
 Address 255 Parfet Street
 City Denver Colorado Zip 80225

(2) LOCATION OF WELL (See instructions):
 County INAR, pssa Owner's Well Number 2 (Kamab)
 Well address if different from above FL Portal, Calif.
 Township _____ Range _____ Section _____

Distance from cities, roads, railroads, fences, etc. new 10" well (2nd completed well) Site #1, Approx 130' west of Road Entering EL Portal Trailen Park, and Approx 150' North of Highway 140



(3) TYPE OF WORK:

New Well ☒ Deepening ☐
 Reconstruction ☒ note site #2
 Reconditioning ☐
 Horizontal Well ☐
 Destruction ☐ (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:

Domestic ☒
 Irrigation ☐
 Industrial ☐
 Test Well ☐
 Stock ☐
 Other ☐

(12) WELL LOG: Total depth 27' ft. Depth of completed 68'9" ft.
 from ft. to ft. Formation (Describe by color, character, size or material)

0 = 4 Top Soil
4 = 14 Boulders
14 = 22 packed gravel
22 = 24 loose gravel (5 1/2' WATER TABLE)
24 = 46 Dry Boulders and Packed Gravel
46 = 52 loose gravel (14' WATER TABLE)
52 = 55 1/2 Dry Combed Boulders
55 1/2 = 63 Blue granite - Bedrock (brownish)
63 = 65 medium sand (10' WATER TABLE)
65 = 69 Brown granite
69 = 72 Blue Granite
72 = 77 Quartz (HARD)

WELL LOCATION SKETCH

(5) EQUIPMENT:

Rotary ☐ Reverse ☐
 Cable ☒ Air ☐
 Other ☐ Bucket ☐

(6) GRAVEL PACK:

Yes ☐ No ☒ Size _____
 Diameter of bore _____
 Packed from _____ to _____ ft.

(7) CASING INSTALLED:

Steel ☒ Plastic ☐ Concrete ☐

(8) PERFORATIONS:

Type of perforation or size of screen Johann Screen

From ft.	To ft.	Dia. in.	Gage or Wall	From ft.	To ft.	Slot size
0'	45'6"	10 3/4"	.365	43'	68'9"	(25'9" long)

(9) WELL SEAL: 0' → 45' 14" x .375 WALL, 45' (Cement)
 Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth _____ ft.
 Were strata sealed against pollution? Yes ☐ No ☒ (Cement) _____ ft.
 Method of sealing _____

(10) WATER LEVELS:
 Depth of first water, if known 22' ft.
 Standing level after well completion 6' ft.

(11) WELL TESTS:
 Was well test made? Yes ☒ No ☐ If yes, by whom? _____
 Type of test Pump ☒ Bailer ☐ Air lift ☐
 Depth to water at start of test 6' ft. At end of test 6' ft.
 Discharge 45 gal/min after 8 hours Water temperature _____
 Chemical analysis made? Yes ☒ No ☐ If yes, by whom? Morse LAB
 Was electric log made? Yes ☐ No ☐ If yes, attach copy to this report

Work started 6/27 1980 Completed 8/1 1980

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

SIGNED M.E. Seelbeck Jr.

NAME M.E. SEEBECK & Sons
 (Person, firm, or corporation) (Typed or printed)

Address P.O. Box 552

City Clarksburg CALIF Zip 95612

License No. 277691 Date of this report 8/13/80

El Portal #4
 35/30 E-18J

07 OTHER

Yosemite National Park

EL PORTAL WELL #4

Other Supporting Information

. . . R E P O R T O F T E L E P H O N E C O N V E R S A T I O N

DATE: June 26, 1996 TIME: 11:10 a.m.
PROJECT: YOSE - El Portal

NPS PERSON ON CALL: Alice E. Johns

[] I RECEIVED A CALL FROM [x] I CALLED

PERSON: William Werrell
ORGANIZATION: DEVA
ADDRESS:

TELEPHONE: 619-786-3255

DISCUSSION: Bill's previous position was hydrologist with the Water Operations Branch of the Water Resources Division. In that capacity, Bill had provided technical assistance to Yosemite National Park, to find well locations, develop specs for drilling, conducting aquifer tests, and organizing information for wells. I asked Bill if he concurred with the conclusion that all the wells numbered 1-7 at El Portal tapped the underflow of the river. He said yes he did and that I could reference this telephone conversation in the water rights report. He said there is the possibility of a pretty good sized crevice that would bring in something in from the side. Its pretty subjective as to what it would produce relative to the Merced, but it is probably small relative to the Merced. The Merced is so large with a large supply of water, it is the dominant supply. Glacial four has been sealing up the permeabilities, and there are problems drilling wells. Bill has recommended to DSC that the dig a deep ditch, fill it with sand, breach it, put well screen in and some casing, then get filtration from the river, and its permeable enough to let water in.

ACTION TO BE TAKEN:

COPIES TO:



United States Department of the Interior

NATIONAL PARK SERVICE

P.O. BOX 577

YOSEMITE NATIONAL PARK, CALIFORNIA 95389

IN REPLY REFER TO:

L54(WR-RNW)

OCT 31 1984

RECEIVED Western Regional Office	
NOV 01 '84	
Regional Director	
Operations	
Res. Mgmt. Plan	
Information	
Ins Eval.	
Affairs	
GET	
Action taken	

Memorandum

To: Regional Director, Western Region

From: Superintendent, Yosemite

Subject: Information and Recommendations on El Portal Water Systems

The El Portal Administrative Site (Site) was purchased by the Government in 1958. Today 650 people live there and 40 employees work there as well. The GMP calls for El Portal to become the administrative headquarters of the park and the primary residence area for park and concession employees working in Yosemite Valley. Accordingly, the area is now being developed, and by the year 1990 should house between 1200 to 1500 people. In addition, approximately 150 permanent employees are expected to work there at that time. Projections indicate that water demand for domestic irrigation, fire and maintenance uses might be increased from 46 to 57 percent by that time.

Prior to 1958 Mr. William Brantley, who owned the El Portal store, hotel and motel had a well immediately adjacent to the Merced River. That well became contaminated and thereafter he pumped water directly out of the river to meet his needs. Mr. Brantley had two 10,000 gallon water storage tanks and his holdings were bought by the Government in or around 1958.

The National Lead Mining Company is believed to have had water rights on Crane Creek within what is today the El Portal Administrative Site. Crane Creek's flows invariably got so low in summer and fall that the company was forced to draw the water it needed directly from the Merced River. National Lead sold out and the El Portal Water Company appears to have bought National Lead's rights to Crane Creek. When the Government bought the Site in 1958 it apparently acquired these rights.

Due to its low flow and upstream contamination, Crane Creek has not been used since the park purchased the property in 1958. In 1962, shortly after the Government acquisition, Moss Creek was developed and connected to the El Portal system. It then became the primary water source until wells were developed in 1980 and 1981. Since that time, the park has tried to retire Moss Creek, a surface source subject to contamination. However, the well system is barely able to keep up with current demand when Wells No. 2, 3, 4 and 5 are functioning properly. Several times in the past three years mechanical or other problems in that system have required the park to reactivate the Moss Creek source. In the future, should Moss Creek be dry at such times--a common occurrence in

late summer and fall--the only practical recourse would be to turn again to the Merced River source.

In all, six wells have been developed by the Park in the Site. Well No. 1, a very shallow, hand-dug well was developed in the 1960's or before. In 1974 this well was contaminated during construction of the El Portal Wastewater Treatment Plant. Following decontamination it was again put into service where it remained until the present well system was developed. At that time it was taken out of service because it was too shallow--22 feet deep--to meet public health standards. Well No. 2 was developed in 1972 and Wells 3, 4 and 5 were developed in 1980 and 1981 and collectively comprise the main water source for the El Portal system today. Well No. 6 was drilled during the latter period but because of its very low yield has not been connected to the system.

Mr. John Bantias, Park plumbing foreman, has worked in the El Portal area since 1953. He recalls one or two occasions in the 1960's when water sources in El Portal got so depleted that the Park was forced to draw water directly from the Merced River. On these occasions water was pumped 24 hours per day for several months to meet demands.

In 1974 during construction of the El Portal Wastewater Treatment Plant, Well No. 1, one of two operational wells in the Site, was contaminated and temporarily taken out of use. Demand soon exceeded the supply from Moss Creek, then the Site's main water source, and the park was forced to pump from the Merced River for approximately four months. Again, during the two year drought of 1976 and 1977 the park found it necessary to pump out of the river for four full months. Mr. Bantias remembers that the Park plumbing branch pumped water out of the Merced River and into the water system at a rate of 70 GPM for 24 hours each day from July 1 through October 31 on both years. Demand still exceeded supply and the Park had to ration water to residents during this period. Please see enclosed record of such use in 1977 labeled Exhibit No. 1.

Currently, summer and fall water demand at El Portal exceeds 200,000 gallons per day (GPD). This year, 1984, demand ranged from an average low of 78,821 GPD or 2,443,460 gallons per month in March to an average high of 298,000 GPD or 9,255,350 gallons per month in July. Please see attached table for monthly use during 1984.

In view of the historic difficulty of meeting water demands at El Portal and the greatly increased demand that will accompany planned development of the Administrative Site, we feel that the Service should attempt to perfect a water right on the Merced River without delay. Ideally, this action should be completed before FERC can come to a decision on Mr. Joseph M. Keating's Application 27981, which involves the affected reach of the river.

A handwritten signature in black ink, appearing to be "J. M. Keating", with a long horizontal line extending to the right.

Enclosures

08 MAPMISC

Yosemite National Park

EL PORTAL WELL #4

Maps and Miscellaneous Information



Docket Information

Number of Documents in Docket : 21

Documents Dated from : 00-00-1947 to 08-28-2025

Docket Compiled: 1/29/2026