



WATER-RIGHT DOCKET

Muir Woods National Monument

Docket No: 2

WELL

Preliminary Docket Information

11-04-1975: water right/source docket information

WATER RESOURCES/WATER RIGHT

DATE: Nov. 4, 1975

WATER RIGHT/SOURCE DOCKET INFORMATION

REGION Western AREA Muir Woods National Monument
SITE Drilled Well
STATE California COUNTY Marin DOCKET NO WR #2
LOCATION Section 30, T1S, R6W SW¹/₄, SE¹/₄, SW¹/₄
REGIONAL BASIN _____ LOCAL BASIN _____
ACQUIRED BY _____
APPLICATION _____ PERMIT _____ CERTIFICATE _____
ACTION DUE _____ PRIORITY _____ RESERVATION Jan. 9, 1908
QUANTITY _____ USE _____
STATUS Inactive - Standby source SOURCE Redwood Creek

REMARKS

NARRATIVE:

On June 9, 1973, Superintendent Dick Hardin was notified by telephone that Marin Municipal Water District (MMWD) was planning on discontinuing water service to the monument due to a potential water shortage. (See MUWO Water Right Docket #1). The District had been supplying water continuously to the monument since 1931.

On July 25, 1973, Hydrologist Werrell, of the Division of Water Resources, made a field trip to Muir Woods to evaluate the potential of developing a water supply. The trip was in response to memos of June 14, 1973 from Superintendent Hardin and of July 5, 1973, from the Director of the Western Region. The supply was to serve either as a replacement for the municipal supply in case of long term cessations of service or as an emergency back-up system in case of short term cessations.

As a result of the field trip, it was recommended that a well be drilled on the left bank of Redwood Creek within the vicinity of the monument headquarters.

Superintendent Hardin, in a memo dated July 27, 1973, recommended a well be developed in the location proposed by Mr. Werrell. He questioned whether approval had to be obtained from the California Department of Fish and Game. He was also concerned as to the monument's riparian rights in relation to MMWD's diversions on Redwood Creek. On November 9, 1975, the California Department of Fish and Game commented on the proposed diversion of Redwood Creek. The Department recommended the diversion be of the underflow of the stream rather than the surface flow and also the amount diverted be limited both in quantity and time of diversion so as to protect the anadromous fish in the stream.

On November 19, 1973, Superintendent Hardin recommended that the well be drilled as soon as possible.

On May 7, 1974, the well was drilled 40 feet from the left bank of Redwood Creek, to a depth of 21 feet. The static water level was 4.36 feet below land surface datum. Clean sediment free water was produced at the end of the first hour of pumping. An aquifer test conducted by the Division of Water Resources on May 8, 1974, indicated that the

Compiled by M. Ackerman

Approved by W. Werrell

Page 1 of 2

drawdown of the well stabilized quickly and maintained a steady state condition (the well was pumped at rates of 21 gpm to 117 gpm with drawdowns varying from 0.74 feet to 12.4 feet). It was concluded that a satisfactory well was obtained which could meet the needs of the area.

PSW



United States Department of the Interior

NATIONAL PARK SERVICE
MUIR WOODS NATIONAL MONUMENT
MILL VALLEY, CALIFORNIA 94941

IN REPLY REFER TO:

D5039

November 19, 1973

Phone 415-388-2595

RECEIVED	
Director	
Deputy Director	
CEO	
Public Affairs	
Operations Eval.	
Administration	
☒ Park System Mgmt.	
Professional Svc.	
Action taken:	

with file per
Chase

Memorandum

To: Regional Director, Western Region

From: Superintendent, Muir Woods

Subject: Proposed water well, State Dept. of Fish and Game

Enclosed is a copy of a letter received from the California Department of Fish and Game concerning the drilling of a water well adjacent to Redwood Creek.

I recommend that we proceed with the well drilling as soon as is practical.

Richard B. Hardin
Richard B. Hardin

Enc.



National Parks Centennial 1872-1972

STATE OF CALIFORNIA—RESOURCES AGENCY

RONALD REAGAN, Governor

DEPARTMENT OF FISH AND GAME

P. O. Box 47
Yountville, California 94599

16 NOV 1973



November 9, 1973

Mr. Richard B. Hardin, Superintendent
United States Department of the Interior
National Park Service
Muir Woods National Monument
Mill Valley, California 94941

Dear Mr. Hardin:

We are gratified to note your interest in the potential impact your proposed water diversion may have on anadromous fishery resources of Redwood Creek, Marin County. It is our understanding that Muir Woods National Monument must develop its own water supply by June 30, 1974, due to a water moratorium recently declared by Marin Municipal Water District. Upon termination of the moratorium, you would again obtain water from the Water District. Any development of a local water source would be an interim measure.

Whether water is obtained from the underflow of the stream or alternatively from headwater springs or tributary streams, the effect will be some reduction to the flow in Redwood Creek. The proposed diversion of five gallons per minute probably would not have a measurable impact on aquatic habitat during the winter and spring months. In normal years, winter and spring streamflows could accommodate your proposed diversion without detriment to the steelhead trout and silver salmon resources.

As you know, streamflows reach a minimum during the summer and fall months. Nursery habitat for juvenile steelhead and salmon becomes severely limited and a critical stage in their survival occurs. Your proposed diversion could conceivably have a detrimental impact on nursery habitat during this critical time period, particularly in dry years. Any degradation in nursery habitat resulting from the operation of a streamside well diverting at five gallons per minute would be difficult to quantify.

We recommend the following measures to minimize any detrimental impact on fishery resources and habitat caused by the development of your own interim water supply:

1. Water should be obtained from the underflow of Redwood Creek by a streamside well placed at the most practical downstream site. This method of diversion is preferred over the alternative tapping of headwater springs or surface diversion of streams.

Mr. Richard B. Hardin

- 2 -

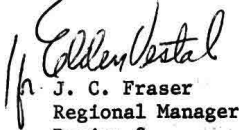
2. The diversion capacity of the well should be limited to a maximum rate of five gallons per minute.
3. During the period of June 1 through November 15 of each year, operation of the diversion should be limited to the night hours when streamflows normally increase. A 12-hour operation period would yield 3,600 gallons daily, an adequate amount as indicated during your recent meeting with Mr. Keith Anderson from our Menlo Park office.

During periods of extreme low-flow or should you be required to maintain an in-Monument water supply on a permanent basis, we may need to examine the impact of your diversion on streamflow and the quality of aquatic habitat.

Steelhead trout and silver salmon are important constituents of the redwood community comprising Muir Woods. We are pleased to note the inclusion of these fishery resources in your interpretive programs. I'm sure we share a common desire to perpetuate the anadromous fishery resources of Redwood Creek.

Thank you for the opportunity to comment on your interim water supply proposal.

Sincerely,


J. C. Fraser
Regional Manager
Region 3

cc: Keith R. Anderson, Menlo Park

Received
Division of Resources
NOV 20 1973

Name	Ant	Info	File	Id.



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE

WESTERN REGION

450 GOLDEN GATE AVENUE, BOX 36063
SAN FRANCISCO, CALIFORNIA 94102

L54 (WR) PSW

MUWO/Gen *(cont. file)*

MUWO/Water Rights #2

General

June 5, 1974

Memorandum

To: Superintendent, Muir Woods National Monument
From: Chief, Division of Water Resources, Western Region
Subject: Drilling of the Water Well at Muir Woods

Enclosed for your information and files is a trip report and
and as-built sketch of the completed well on the above subject.
The information regarding the aquifer test, water quality and
detailed well construction will be distributed when the appropriate
water docket is prepared.

(SGD) GERARD S. WITUCKI

Gerard S. Witucki

Enclosures



Let's Clean Up America For Our 200th Birthday



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE

WESTERN REGION

450 GOLDEN GATE AVENUE, BOX 36063
SAN FRANCISCO, CALIFORNIA 94102

L54 (WR) PSW
MUWO/Contract File

June 5, 1972

Memorandum

To: Chief, Division of Water Resources, Western Region
From: Hydrologist, Water Resources Division
Subject: Construction of Water Well at Muir Woods National Monument (Contract No. CX 800040013)

Purpose of the trip: To ensure that contractor complied with the specifications of subject contract. To evaluate data collected during well drilling, and to analyze data of aquifer test.

Itinerary: At park on May 7 and 8, 1974.

Companions: None.

Accomplishments and/or Observations: Observed contractor Mr. Ward Thompson of Weeks Drilling Company during drilling of the water well to total depth and during the period of initial well development. Pertinent data collected is as follows:

1. Total drilled depth = 21 feet.
2. Well cased with 8-inch inside diameter steel casing.
Bottom 15 feet of casing is perforated by machine cut slots which are 1/8 inch wide and 3 inches long with a 3 inch spacing.
3. Static water level = 4.36 feet below land surface datum.
4. Well development consisted of pumping and surging for a two hour period with a 50 gpm pump. Clean, sediment free water was produced at the end of the first hour.



Let's Clean Up America For Our 200th Birthday

Conducted aquifer test, filled out USGS well schedule (complete well data sheet) and completed an as-built sketch of the completed well (all of these data are included). A summary of the aquifer test is as follows:

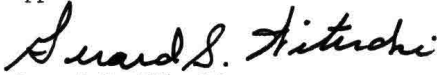
1. Well pumped at 21 gpm, drawdown stabilized at 0.74 feet drawdown after so minutes.
2. After one hour of pumping at 21 gpm, the pumping rate was increased to 34 gpm.
3. Drawdown stabilized at 1.3 feet after 30 minutes.
4. After two hours of pumping at 34 gpm, the pumping rate was increased to 52 gpm.
5. Drawdown stabilized at 2.2 feet after 40 minutes.
6. Pumpage stopped and well allowed to recover to static water level.
7. Well pumped at 117 gpm, drawdown stabilized at 12.4 feet after 120 minutes, pumpage continued for an additional 30 minutes.

Recommendations: In that a satisfactory well was obtained, it is recommended that further necessary steps to place the well into service (pump, pipeline hookup, etc.) be taken as appropriate.

Conclusion: Aquifer test indicates that drawdown of the well stabilizes quickly and maintains a steady state condition. This well will meet the needs of the area.

William W. Werrell

Approved:


Gerard S. Witucki
Chief, Division of Water Resources

TRIPPLICATE
Retain this copy

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

Do Not Fill In

N^o 116496

State Well No. _____

Other Well No. _____

(1) OWNER, Contracting Officer, Western Regional

Name National Park Service
Address 450 Golden Gate Ave. Box 36063
Santa Rosa, Calif. 95402

(2) LOCATION OF WELL:

County Marin Owner's number, if any _____
Township, Range, and Section Dir Woods National Monument
Distance from cities, roads, railroads, etc. _____

(3) TYPE OF WORK (check):

New Well ☐ Deepening ☐ Reconditioning ☐ Destroying ☐

If destruction, describe material and procedure in Item 11.

(4) PROPOSED USE (check):

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

(5) EQUIPMENT:

Rotary ☐
Cable ☐
Other Bucket

(6) CASING INSTALLED:

STEEL: ☒ OTHER: _____
SINGLE ☒ DOUBLE ☐

If gravel packed

From ft.	To ft.	Diam. ft.	Gage or Wall	Diameter of Bore	From ft.	To ft.
0	22'	8 5/8"	.203	30"	0	14
				24"	14	22

Size of shoe or well ring: _____

Size of gravel: 20Describe joint: Welded

(7) PERFORATIONS OR SCREEN:

Type of perforation or name of screen: Machine

From ft.	To ft.	Perf. per row	Rows per ft.	Size in. x in.
7'	22'	2	8	1/8 x 3

(8) CONSTRUCTION:

Was a surface sanitary seal provided? Yes ☒ No ☐ To what depth 5' ft.Were any strata sealed against pollution? Yes ☐ No ☐ If yes, note depth of strata _____

From _____ ft. to _____ ft.

From _____ ft. to _____ ft.

Method of sealing: concrete on pack

(9) WATER LEVELS:

Depth at which water was first found, if known _____ ft.

Standing level before perforating, if known _____ ft.

Standing level after perforating and developing 5' ft.

(10) WELL TESTS:

Was pump test made? Yes ☒ No ☐ If yes, by whom? WeeksField: 117 gal./min. with 12.3 ft. drawdown after _____ hrs.Temperature of water cool Was a chemical analysis made? Yes ☐ No ☒Was electric log made of well? Yes ☐ No ☒ If yes, attach copy _____

(1) WELL LOG:

Total depth 22 ft. Depth of completed well 22' ft.

Formation: Describe by color, character, size of material, and structure

ft. to _____ ft.
0 - 1 2" topsoil & roots
1 - 4 Brown hard clay & roots
4 - 12 Brown sand, gravel & cobbles
12 - 18 Cemented gravels & cobbles
18 - 22 Hard cemented gravels & boulders
22' - Boulders

Work started 5/6/ 19 74, Completed 5/16/ 19 74

WELL DRILLER'S STATEMENT:

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

NAME Weeks Drilling & Pump Co.

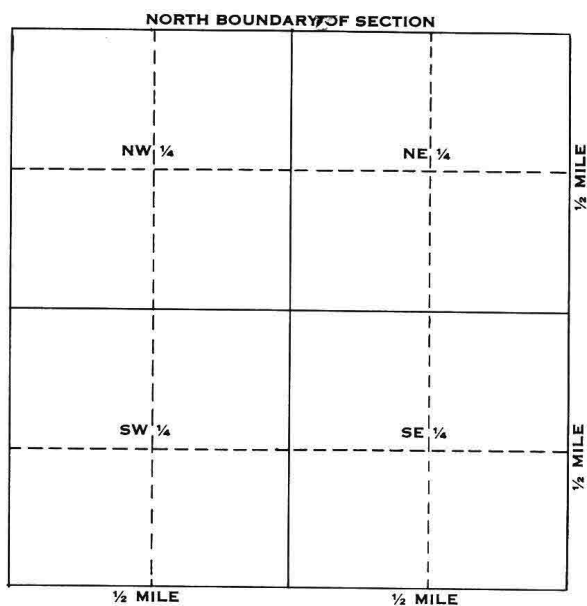
(Person, firm, or corporation) (Typed or printed)

Address 6100 Sebastopol Rd.Sebastopol, Calif. 95672[SIGNED] Gerald O. ThompsonBy Gary B. Thompson (Well Driller)License No. 177681

Dated _____, 19____

SKETCH LOCATION OF WELL ON REVERSE SIDE

WELL LOCATION SKETCH

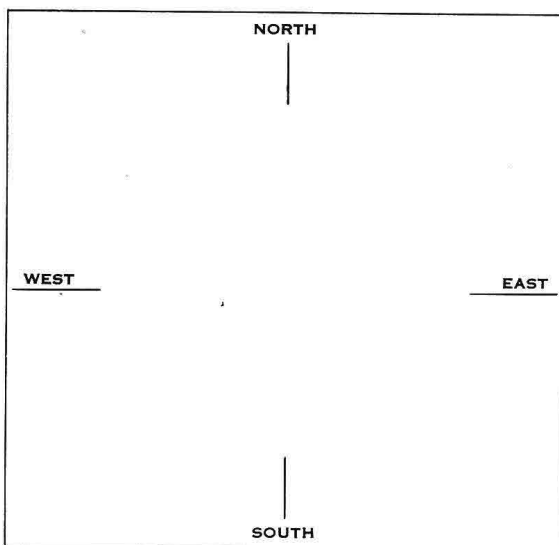


Township _____ N/S

Range _____ E/W

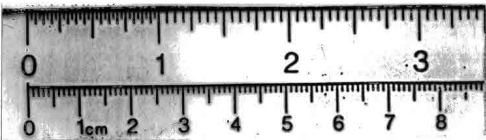
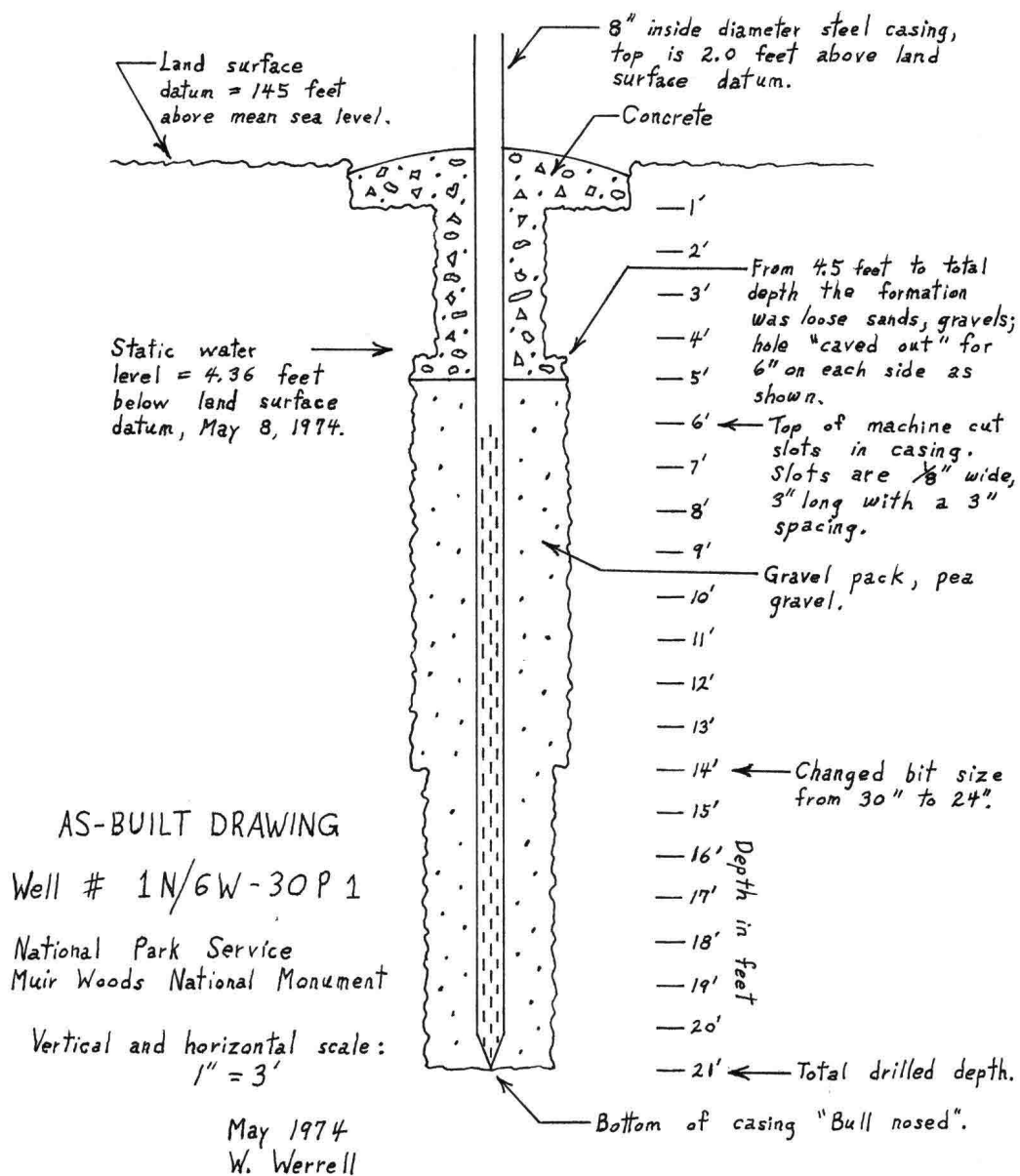
Section No. _____

- A. Location of well in sectionized areas.
Sketch roads, railroads, streams, or other features as necessary.



- B. Location of well in areas not sectionized.
Sketch roads, railroads, streams, or other features as necessary.
Indicate distances.





Well No. 1 N/6 W - 30 P 1

Well is located 40' from left bank of Redwood Creek.
Well drilled by auger or "bucket" rig. Drilling ceased due
to increased size and number of cobbles - the
bucket was unable to catch samples. GPO: 1972 G-475-840

Aquifer test conducted on May 8, 1974 - see additional sheets.

**NATIONAL PARK SERVICE
AQUIFER TEST DATA SHEET**

Pumped Well / Observation Well

Page 1 of 5Well Number 1 N/6 W-30 P1 ; Muir Woods N.M. #1
(If observation well, give pumping well number also - last)Location Muir Woods National Monument
(If observation well, give distance and direction from pumped well)Total number of observation wells 0Owner of well National Park ServiceMeasuring point is top of well casing
which is 1.9 feet above land surface datum.
belowPump intakes at 17 feet below land surface datum during aquifer test.Static water level is 4.36 feet above land surface datum.
belowDischarge determined by 4 inch Parshall flume
(flow meter / Parshall flume / constant head tank)Water level determined by electric probe
(electric probe / steel tape / air line)Well open to aquifer by machine cut slots 1/8" wide, 3" long, 3" spacing
(open hole / manufactured screen / machine slots / torch slots / ripped casing)
from 6 feet to 21 feet below land surface datum.Observers: William WerrellDate of beginning of aquifer test May 8 1974
month day year

Notes: Drawdown determined by lowering electric probe to static water level, the zero point of a steel tape was then taped to the probe line at the measuring point elevation. Drawdowns during the test were read directly from the steel tape held at the measuring point.

The first three steps of the test were conducted with a submersible pump. The last step of the test was run with the submersible pump and a suction pump. The hose of the suction pump was about 17 feet below land surface datum.

NATIONAL PARK SERVICE
AQUIFER TEST DATA SHEET

Pumped Well Observation Well

Page 2 of 5

Well # 1 N / 6 W - 30 P 1 ; Muir Woods N.M. # 1
(If observation well, give pumping well # also - last)

CLOCK TIME	ELAPSED TIME SINCE PUMPING STARTED/STOPPED (minutes)	DEPTH TO WATER BELOW <u>MP</u> LSD (feet)	DRAWDOWN OR RECOVERY (feet)	REMARKS: Discharge, Specific Conductance, Temperature, Taste, Odor, etc.
11:15	0	6.26	.	Static water level.
:		.	.	Pump turned on.
:16	1	.	0.32	Discharge = 21.1 gpm
:20	5	.	0.50	
:25	10	.	0.68	Discharge = 21.1 gpm
:30	15	.	0.70	
:35	20	.	0.70	Discharge = 21.1 gpm
:40	25	.	0.70	
:45	30	.	0.73	
:50	35	.	0.74	Discharge = 21.1 gpm
:55	40	.	0.73	Discharge = 21.1 gpm
12:00	45	.	0.73	Discharge = 21.1 gpm
:05	50	.	0.74	Discharge = 21.1 gpm
:10	55	.	0.74	
:15	60 - 0	.	.	Discharge increased.
:17	62 - 2	.	1.05	Discharge = 31.4 gpm
:18	63 - 3	.	1.13	Discharge = 34.1 gpm
:20	65 - 5	.	1.16	
:25	70 - 10	.	1.20	Discharge = 34.1 gpm
:30	75 - 15	.	1.22	
:35	80 - 20	.	1.23	
:40	85 - 25	.	1.24	Discharge = 34.1 gpm
:45	90 - 30	.	1.27	
:50	95 - 35	.	1.27	
:55	100 - 40	.	1.28	Discharge = 34.1 gpm
13:00	105 - 45	.	1.28	Discharge = 34.1 gpm

**NATIONAL PARK SERVICE
AQUIFER TEST DATA SHEET**

Pumped Well Observation Well

Page 3 of 5

Well # 1 N / 6 W - 30 P 1 ; Muir Woods N.M. # 1
(If observation well, give pumping well # also - last)

CLOCK TIME	ELAPSED TIME SINCE PUMPING STARTED/STOPPED (minutes)	DEPTH TO WATER BELOW MP/ LSD (feet)	DRAWDOWN OR RECOVERY (feet)	REMARKS: Discharge, Specific Conductance, Temperature, Taste, Odor, etc.
13:05	110 - 50	.	1.30	Discharge = 34.1 gpm
:10	115 - 55	.	1.29	Discharge = 34.1 gpm
:15	120 - 0	.	.	Discharge increased.
:17	122 - 2	.	1.83	Discharge = 48.9 gpm
:18	123 - 3	.	1.94	
:19	124 - 4	.	2.00	
:20	125 - 5	.	2.02	Discharge = 48.9 gpm
:25	130 - 10	.	2.05	Discharge = 48.9 gpm
:30	135 - 15	.	2.09	
:35	140 - 20	.	2.10	Discharge = 52.5 gpm
:40	145 - 25	.	2.13	
:45	150 - 30	.	2.13	Discharge = 52.5 gpm
:50	155 - 35	.	2.14	Discharge = 52.5 gpm
:55	160 - 40	.	2.18	
14:00	165 - 45	.	2.18	Discharge = 52.5 gpm
:05	170 - 50	.	2.19	
:10	175 - 55	.	2.20	Discharge = 52.5 gpm
:15	180 - 60	.	2.21	
:25	190 - 70	.	2.22	Discharge = 52.5 gpm
:		.	.	Specific conductance =
:		.	.	200 @ 11°C.
:		.	.	Pump turned off.
:		.	.	Well recovery data.
:27	192 - 2	.	0.98	
:28	193 - 3	.	0.68	
:29	194 - 4	.	0.58	

NATIONAL PARK SERVICE
AQUIFER TEST DATA SHEET

Pumped Well Observation Well

Page 4 of 5Well # 1 N/6 W-30 P 1 ; Muir Woods N.M. # 1

(If observation well, give pumping well # also - last)

CLOCK TIME	ELAPSED TIME SINCE PUMPING STARTED/STOPPED (minutes)	DEPTH TO WATER BELOW MP/LSD (feet)	DRAWDOWN OR RECOVERY (feet)	REMARKS: Discharge, Specific Conductance, Temperature, Taste, Odor, etc.
14:30	195 - 5	.	0.55	
:32	197 - 7	.	0.50	
:34	199 - 9	.	0.46	
:36	201 - 11	.	0.44	
:38	203 - 13	.	0.41	
:40	205 - 15	.	0.40	
:45	210 - 20	.	0.35	
15:10	235 - 45	.	0.25	
:15	240 - 0	.	.	Pump turned on.
:20	245 - 5	.	8.33	Discharge = 138.7 gpm
:22	247 - 7	.	9.65	
:26	251 - 11	.	10.68	Discharge = 134.2 gpm
:28	253 - 13	.	11.55	
:30	255 - 15	.	11.70	Discharge = 134.2 gpm
:		.	.	Discharge is muddy on
:		.	.	this step.
:35	260 - 20	.	12.28	Discharge = 129.7 gpm
:40	265 - 25	.	12.30	Discharge = 129.7 gpm
:45	270 - 30	.	12.30	Discharge = 125.2 gpm
:50	275 - 35	.	12.45	Discharge = 125.2 gpm
:55	280 - 40	.	12.38	Discharge = 125.2 gpm
16:00	285 - 45	.	12.30	Discharge = 120.7 gpm
:05	290 - 50	.	12.28	Discharge less muddy.
:10	295 - 55	.	12.30	Discharge = 120.7 gpm
:15	300 - 60	.	12.32	
:20	305 - 65	.	12.26	Discharge = 120.7 gpm

NATIONAL PARK SERVICE
AQUIFER TEST DATA SHEET

Pumped Well/Observation Well

Page 1 of 6Well # Muir Woods National Monument # 1
(If observation well, give pumping well # also - last)Location T 1 N, R 6 W, Sec 30, SW 1/4 SE 1/4 SW 1/4
(If observation well, give distance and direction to pumped well)Owner National Park Service, Muir Woods N.M.Measuring point (MP) is Top of steel casing
which is 1.9 feet ^{above}_{below} land surface datum (LSD).Static water level is 4.36 feet ^{above}_{below} land surface datum.Date of beginning of test May 8 74
month day yearObservers William KerrellTotal number of observation wells 0Discharge taken by 4" Parshall flume

Clock time - Date	Elapsed time since pumping started/stopped (minutes)	Depth to water below MP/LSD (feet)	Drawdown / Recovery (feet)	Remarks - discharge, specific conductance, temperature, taste, odor, etc.
May 8 11:15	Pump On	6.26		Static water level
:16	1	.	0.32	Q = 21.1 gpm
:20	5	.	0.50	
:25	10	.	0.68	Q = 21.1 gpm
:30	15	.	0.70	
:35	20	.	0.70	Q = 21.1 gpm
:40	25	.	0.70	
:45	30	.	0.73	
:50	35	.	0.74	Q = 21.1 gpm
:55	40	.	0.73	Q = 21.1 gpm
12:00	45	.	0.73	Q = 21.1 gpm
:05	50	.	0.74	Q = 21.1 gpm

NATIONAL PARK SERVICE
AQUIFER TEST DATA SHEET

Pumped Well / Observation Well

Page 2 of 6.

Well # Muir Woods National Monument #1
(If observation well, give pumping well # also - last)

Clock time - Date	Elapsed time since pumping started/stopped (minutes)	Depth to water below MP/LSD (feet)	Drawdown / Recovery (feet)	Remarks - discharge, specific conductance, temperature, taste, odor, etc.
~~May 8~~ 12:10	55	.	0.74	
12:15	60 - 0	.	.	Step up Q
12:17	62 - 2	.	1.05	Q = 31.4
:18	63 - 3	.	1.13	Q = 34.1
:20	65 - 5	.	1.16	
:25	70 - 10	.	1.20	Q = 34.1
:30	75 - 15	.	1.22	
:35	80 - 20	.	1.28	
:40	85 - 25	.	1.24	Q = 34.1
:45	90 - 30	.	1.27	
:50	95 - 35	.	1.27	
:55	100 - 40	.	1.28	Q = 34.1
13:00	105 - 45	.	1.28	Q = 34.1
:05	110 - 50	.	1.30	Q = 34.1
:10	115 - 55	.	1.29	Q = 34.1
:15	120 - 60	.	.	Step up Q
:17	122 - 2	.	1.83	Q = 48.9
:18	123 - 3	.	1.94	
:19	124 - 4	.	2.00	
:20	125 - 5	.	2.02	Q = 48.9
:25	130 - 10	.	2.05	Q = 48.9
:30	135 - 15	.	2.09	
:35	140 - 20	.	2.10	Q = 52.5

NATIONAL PARK SERVICE
AQUIFER TEST DATA SHEET

Pumped Well/Observation Well

Page 3 of 6.

Well #

Muir Woods National Monument #1

(If observation well, give pumping well # also - last)

Clock time - Date	Elapsed time since pumping started/stopped (minutes)	Depth to water below MP/LSD (feet)	Drawdown / Recovery (feet)	Remarks - discharge, specific conductance, temperature, taste, odor, etc.
May 8 13:40	145-25	.	2.13	
:45	150-30	.	2.13	Q = 52.5
:50	155-35	.	2.14	Q = 52.5
:55	160-40	.	2.18	
14:00	165-45	.	2.18	Q = 52.5
:05	170-50	.	2.19	
:10	175-55	.	2.20	Q = 52.5
:15	180-60	.	2.21	
:25	190-70	.	2.22	Q = 52.5 gpm
:		.	.	Sp Cond =
:		.	.	200 @ 11°C
:		.	.	Pump off.
:	Recovery	.	.	
:27	192-2	.	0.98	
:28	193-3	.	0.68	
:29	194-4	.	0.58	
:30	195-5	.	0.55	
:32	197-7	.	0.50	
:34	199-9	.	0.46	
:36	201-11	.	0.44	
:38	203-13	.	0.41	
:40	205-15	.	0.40	
:45	210-20	.	0.35	

NATIONAL PARK SERVICE
AQUIFER TEST DATA SHEET

Pumped Well/Observation Well

Page 4 of 6.Well # Muir Wood National Monument # 1.

(If observation well, give pumping well # also - last)

Clock time - Date	Elapsed time since pumping started/stopped (minutes)	Depth to water below MP/LSD (feet)	Drawdown + Recovery (feet)	Remarks - discharge, specific conductance, temperature, taste, odor, etc.
15:10	235-45	.	0.25	
:		.	.	Well pumped for
:		.	.	a minute or so
:		.	.	to get suction
:		.	.	Pump going
15:15	240-	.	.	Pump on
15:20	245-5	.	8.33	Q = 138.7 gpm
:22	247-7	.	9.65	
:26	251-11	.	10.68	Q = 134.2 gpm
:28	253-13	.	11.55	
:30	255-15	.	11.70	Q = 134.2 gpm
:		.	.	Pumping water is
:		.	.	muddy for
:		.	.	first time.
:35	260-20	.	12.28	Q = 129.7 gpm
:40	265-25	.	12.30	Q = 129.7
:45	270-30	.	12.30	Q = 125.2 gpm
:50	275-35	.	12.45	Q = 125.2
:55	280-40	.	12.38	Q = 125.2
16:00	285-45	.	12.30	Q = 120.7 gpm
:		.	.	Pumped water
:		.	.	clearing up some.
:05	290-50	.	12.28	Q = 120.7 gpm
:10	295-55	.	12.30	Q = 120.7 gpm

NATIONAL PARK SERVICE
AQUIFER TEST DATA SHEET

Pumped Well / Observation Well

Page 5 of 6.

Well # Muir Woods National Monument #1.
(If observation well, give pumping well # also - last)

Clock time - Date	Elapsed time since pumping started/stopped (minutes)	Depth to water below MP/LSD (feet)	Drawdown / Recovery (feet)	Remarks - discharge, specific conductance, temperature, taste, odor, etc.
May 8 16:15	300-60	.	12.32	
:		.	.	Pumped water is
:		.	.	clearing.
:20	305-65	.	12.26	$Q = 920.7$
:25	310-70	.	12.30	$Q = 120.7$
:30	315-75	.	12.25	$Q = 120.7$
:35	320-80	.	12.28	$Q = 120.7$
:40	325-85	.	12.25	$Q = 120.7$
:		.	.	Pumped water is
:		.	.	slightly muddy, clearing.
:45	330-90	.	12.18	$Q = 116.7$
:55	340-100	.	12.15	$Q = 116.7$ gpm
17:05	350-110	.	12.30	$Q = 116.7$
17:15	360-120	.	12.39	$Q = 116.7$
:25	370-130	.	12.35	$Q = 116.7$
:35	390-140	.	12.35	$Q = 116.7$
:45	400-150	.	12.33	$Q = 116.7$
:		.	.	Pump off
:	Water levels taken by tying a hand tape			
:	to electric sounding wire. After static water			
:	level was found. Pumping water is almost			
:	completely clear. Sp. Cond = 180 @ 11 °C			
:	just before shut off. No recovery taken.			

NATIONAL PARK SERVICE
AQUIFER TEST DATA SHEET

Pumped Well/Observation Well

Page 6 of 6.

Well # Muir Woods National Monument #1.
(If observation well, give pumping well # also - last)

Clock time - Date	Elapsed time since pumping started/stopped (minutes)	Depth to water below MP/LSD (feet)	Drawdown / Recovery (feet)	Remarks - discharge, specific conductance, temperature, taste, odor, etc.
:	1st	3		steps of test were run
:				with submersible pump, the intakes
:				were 4 to 4.5. up from bottom of
:				hole. The last portion of the
:				test (with Q. in excess of 100 gpm)
:				were run with the above described
:				submersible plus a suction pump.
:				The hose of the suction pump
:				was about 5 feet from the
:				bottom of the well.
:		.	.	
:				Two minutes after end of test
:				WL = 8.00 feet below MP.
:		.	.	
:		.	.	
:		.	.	
:		.	.	
:		.	.	
:		.	.	
:		.	.	
:		.	.	
:		.	.	
:		.	.	
:		.	.	
:		.	.	

Other Supporting Information



IN REPLY REFER TO:
D5039

United States Department of the Interior

NATIONAL PARK SERVICE
MUIR WOODS NATIONAL MONUMENT
MILL VALLEY, CALIFORNIA 94941

November 12, 1973

Phone 415-388-2595

NOV 13 1973

RECEIVED	
Director	
Deputy Director	
EEO	
Public Affairs	
Operations Eval.	
Administration	
Park System Mgmt.	
Professional Svc.	
Action Taken:	

Memorandum

To: Regional Director, Western Region
From: Superintendent, Muir Woods
Subject: Water

As you are no doubt already aware, the Marin Municipal Water Bond Issue failed to pass by a 2 to 1 margin. Present indications are that the water moratorium will be continued for some time.

Planning for the Muir Woods water system should continue.

Also enclosed is a little information on "California Trout's" application for water rights for fish in Redwood Creek, along with the application's rejection by the State Water Resources Control Board.

It should be noted that their request for three cubic feet per second of water is probably higher than Redwood Creek can produce during a very dry year with no removal whatever of water.

As mentioned to Mr. McDowell, no member of the Muir Woods staff has ever knowingly been contacted by this group which, according to the State Fish and Game personnel is a break-away radical group from "Trout Unlimited." Why they chose Redwood Creek as a test case is a mystery to us.

Richard B. Hardin



National Parks Centennial 1872-1972

JAMES F. BOCCARDO
JEAN M. BLUM
DAVID S. LULL
EDWARD J. NILAND
HERBERT N. TEERLINK
STANLEY J. BELL
ROBERT R. CATALANO
WILLIAM C. GORDON
JAMES D. HENDY
JOHN C. STEIN
HERMAN D. PAPA
ROBERT M. HOLSTEIN
WILLIAM M. BENNETT
HAROLD C. HARRIMAN
JOHN W. McDONALD
NORMAN W. SAUCEGO
ALISTER HEALISTER
HERBERT C. WOODRUFF
VINCENT R. RUCCO
ROBERT M. BORN
STANLEY A. ISLER, JR.
DAVID J. BENNION
RICHARD D. CAPPARELLA
AVERIL D. VALLIER
BRIAN N. LAWYER
GARY R. MOORE
H. ALAN JOHNSON
RAYMOND J. ARATA, JR.
LOUIS S. FRANECKE

BOCCARDO, BLUM, LULL, NILAND, TEERLINK & BELL

ATTORNEYS AT LAW
ONE CALIFORNIA STREET
SAN FRANCISCO, CALIFORNIA 94111

TELEPHONE (415) 391-3700

CABLE "BOCAR"

8 NOV 1973

APR 24 1973

SAN JOSE OFFICE
COMMUNITY BANK BUILDING
111 WEST ST. JOHN STREET
95113
TELEPHONE (408) 294-3676

SAN PEDRO OFFICE
255 WEST FIFTH STREET
90731
TELEPHONE (213) 547-4495
L.A. EXCHANGE 775-7373

PLEASE REPLY TO
SAN FRANCISCO

April 23, 1973.

Department of Fish & Game, Region III
P.O. BOX 47
Veteran's Home
Yountville, Calif. 94599

Attn: Frank Goodman

Dear Mr. Goodman:

Enclosed is a copy of California Trout's application to appropriate water for Redwood Creek which you requested from Dick May.

I am sorry for the delay in forwarding this matter to you, but I was awaiting the enclosed letter from the State Water Resources Control Board rejecting California Trout's application. I received the rejection letter in today's mail.

I intend to file a complaint in Sacramento Superior Court this week. California Trout will ask the Court for a declaration that physical control, akin to possession, is not an essential element of an appropriative right under California Law. I will forward the complaint to you as soon as it is ready for filing.

I have enclosed my card with my home phone number on the reverse side. Please feel free to call at my office or home if you have any questions regarding this matter.

Yours very truly,


STEVE CAVELLINI

STATE WATER RESOURCES CONTROL BOARD

ROOM 1015, RESOURCES BUILDING
1416 NINTH STREET • SACRAMENTO 95814



Mr. Stephen Cavellini
Boccardo, Blum, Lull, Niland,
Teerlink & Bell
Attorneys at Law
One California Street
San Francisco, California 94111

Dear Mr. Cavellini:

Proposed Application

This will acknowledge your letter of March 28 addressed to Ronald Robie, Esq., transmitting a proposed application to appropriate water from Redwood Creek and a check in the amount of \$10. Your \$10 filing fee will be returned as the application is unacceptable for the following reasons: Your proposed application is deficient in that paragraph 4 does not specify any place of diversion; paragraph 5 does not show the location of the terminal of the main conduit; paragraph 6 does not describe any intake or headworks; and paragraphs 8 and 9 do not describe any conduit system. Water Code Sections 1260(d) and (e) are the statutory references for these requirements. See also 23 Cal. Adm. Code 670.

The reason for failure to include these items is obviously that the application does not propose that the applicant exercise any physical control of the water to be appropriated, such as by removing the water from the stream channel or regulating the flow of water within the stream channel. It has been the Board's view, as expressed in Decision 1030 at page 30, that "An essential element of a valid appropriation of water is physical control, akin to possession". This view is supported by several California court decisions.

Until there is a clarification of the law as interpreted by the courts in regard to the need for taking water under control, the application cannot be accepted.

Sincerely,

Bill B. Dendy

Bill B. Dendy
Executive Officer

Enclosures

STATE OF CALIFORNIA
THE RESOURCES AGENCY

STATE WATER RESOURCES CONTROL BOARD

APPLICATION TO APPROPRIATE WATER

Application No. _____ Filed _____ at _____ M.

(Applicant must not fill in the above blanks.)
(This application must be typewritten or legibly written in ink.)

I, CALIFORNIA TROUT, INC.

Name of applicant

P.O. BOX 2046 SAN FRANCISCO, CA 94126

Address

City or Town

State

Zip Code

do hereby make application for a permit to appropriate the following described unappropriated waters of the State of California, SUBJECT TO VESTED RIGHTS:

1. The name of the source at the point of diversion is REDWOOD CREEK

If named, state nature of source and that it is named.

tributary to Pacific Ocean

2. The amount of water which applicant desires to appropriate under this application is as follows:

applied cubic feet per second
(a) To be diverted ~~anyway~~ to beneficial use THREE (3)
16,000 gallons per day is approximately 0.017 cubic feet per second. Use gallons per day if less than 0.017 c.f.s.
applied
to be diverted from JANUARY 1st. to DECEMBER 31st. of each year.

(b) To be stored and later applied to beneficial use _____ acre-feet per annum, to be collected

between _____ and _____ of each season.

Beginning date

Closing date

If offstream storage is proposed, maximum rate of diversion to storage will be _____ c.f.s.

Note.—Neither the amount nor the season may be increased after the application is filed. If underground storage is proposed, a special supplemental form will be supplied by the State Water Resources Control Board upon request.

3. The use to which the water is to be applied is _____

Domestic, irrigation, power, municipal, mining, industrial, recreational, stockwatering, fish culture, etc. Describe more fully in paragraphs 11, 14, 15, 16 and/or 17.

4. The points of diversion or redirection are to be located as follows:

List all points giving coordinate distances or bearing and distance from section corner or quarter section corner	40-acre subdivision of public land survey or projection thereof	Section	Township	Range	Base and Meridian
	$\frac{1}{4}$ of $\frac{1}{4}$				
	$\frac{1}{4}$ of $\frac{1}{4}$				
	$\frac{1}{4}$ of $\frac{1}{4}$				

The points of diversion application are located in MARIN County.

5. The main-conduit will terminate in _____ of Sec. _____, T. _____, R. _____ B. & M.

State 40-acre subdivision of public land survey or projection thereof.

Description of Diversion Works

Note.—An application cannot be approved for an amount grossly in excess of the estimated capacity of the diversion works.

6. Intake or headworks (complete only those blanks which apply)

Complete (a) and/or (b) for direct diversion or diversion to offstream storage.

(a) Diversion will be made by pumping from _____

Sump, open well, unobstructed channel, etc.

(b) Diversion will be by gravity, the diverting dam being _____ feet in height (stream bed to level of overflow), _____ feet long on top, and constructed of _____

Concrete, earth, brush, etc.

(c) Complete for storage reservoirs only

Height of dam, ft. (streambed to spillway level)	Crest length of dam, ft.	Freeboard above spillway level, ft.	Material of construction

NAME, if any	40-acre subdivisions unless shown on map	Surface area, acres	Capacity, acre-feet

For any reservoir having a capacity of 25 acre-feet or more, complete the following:

Diameter of outlet pipe, inches	Length of outlet pipe, feet	Difference in elevation, spillway level to top of outlet pipe in reservoir, feet	Fall in outlet pipe, feet

8. Conduit system (describe diversion conduits and main distribution conduits only)

(a) Open channel _____; ditch _____; flume _____; canal _____ (check type to be used)

Width of top at water line, feet	Width at bottom, feet	Depth of water, feet	Length, feet	Grade, feet per 1,000 feet	Construction Materials: earth, rock, concrete, plastic, etc.

(b) Pipeline _____; sprinkler system _____; tunnel _____ (check type to be used)

Diameter, inches	Length, feet	Pump lift, feet	Gravity fall intake to outlet, feet	Construction Materials: steel, concrete, wood, etc.

9. (a) Estimated capacities of the pumping plants are _____;
 (b) Estimated capacities of the diversion conduits are _____;
 (c) Estimated total cost of the diversion works proposed is _____
Give only cost of intake, or headworks, pumps, storage reservoirs, and main conduits.

Completion Schedule

10. (a) Construction work will begin on or before NO CONSTRUCTION NEEDED
 (b) Construction work will be completed on or before _____
 (c) Water will be completely applied to the proposed use on ~~or before~~ DATE PERMIT ISSUED
 (d) If complete, state year of completion _____

Description of Proposed Use

11. Place of use _____
 Does applicant own the land where the water will be used? NO Jointly? _____

All joint owners should include their names as applicants and sign the application at bottom of page 4.

If applicant does not own land where the water will be used, give name and address of owner and state what arrangement have been made with him.

LANDOWNER APPROVAL IS UNNECESSARY BECAUSE REDWOOD CREEK IS A

NAVIGABLE RIVER. SEE PEOPLE V. MACK, 19 C.A. 3d, 1040

If area is unsurveyed, state the location as if lines of the public land survey were projected. If space does not permit listing all 40-acre tracts, state sections, townships, and ranges and show detail on map.

40-acre tract	Section	Township	Range	Base and Meridian	If irrigation, state number of acres
	<u>29, 30 & 31</u>	<u>1N</u>	<u>6W</u>	<u>Mt. Diablo</u>	
	<u>6 & 7</u>	<u>1S</u>	<u>6W</u>	<u>Mt. Diablo</u>	
	<u>1 & 12</u>	<u>1S</u>	<u>7W</u>	<u>Mt. Diablo</u>	

Richardson, etc.)				

13. Irrigation use. The total area to be irrigated is _____ acres. Acreage of crops is as follows:
Net acreage
 Rice _____ acres; alfalfa _____ acres; orchard _____ acres; general crops _____ acres; pasture _____ acres.
 Care should be taken that the various statements of acreage are consistent with each other, with the statement in paragraph 11, and with the map.
 The irrigation season will begin about _____ and end about _____.
Beginning date Closing date
 14. Power use. The total fall to be utilized is _____ feet. The maximum amount of water to be used through the penstock is _____ cubic feet per second. The maximum theoretical horsepower capable of being generated by the works is _____.
Head feet $\times$ fall $\div$ 5.5 The use to which the power is to be applied is _____
For distribution and sale or power use, etc.
 The nature of the works by means of which power is to be developed is _____ The size of the nozzle to be used is _____ inches.
Turbine, Pelton wheel, etc.
 After use, the water will be discharged into _____ in _____ of
Name of stream State 40-acre subdivision
 Sec. _____, T. _____, R. _____, B. & M. _____
 15. Municipal use. The name of the city or town to be served is _____ having a present population of _____. The estimated water requirement per capita per day during the month of maximum use is _____. The estimated average daily consumption during the month of maximum use at the end of each five-year period until the full amount applied for is put to beneficial use is as follows:

16. Mining use. The name of the mining property to be served is _____
Name of claim
 and the nature of the mine is _____ Mineral to be extracted is _____. The method of utilizing the water is _____
Panner, lode, etc.
 The estimated ultimate water requirement for this project is _____
Cubic feet per second, gallons per minute. State basis of estimate.
 will _____
 The water will not be polluted by chemicals or otherwise. _____
Explain nature of pollution, if any.
 After use the water will be discharged into _____ in _____ of
Name of stream State 40-acre subdivision
 Sec. _____, T. _____, R. _____, B. & M. _____

17. Uses other than those described in paragraphs 13 through 16. The nature of the use proposed is _____
PRESERVATION AND ENHANCEMENT OF FISH AND WILDLIFE
Industrial, recreational, domestic, stockwatering, etc.
 State basis of determination of amount needed THREE (3) CUBIC PER SECOND IS THE MINIMUM
Number of persons, residences, area of domestic lawns and gardens.
FLOW NEEDED TO MAINTAIN SUITABLE FISHERIES HABITAT SO
number and kind of stock, type of industrial use, and water requirements.
THAT JUVENILE ANADROMOUS FISH CAN SURVIVE AND MIGRATE TO SEA.

19. Does the applicant own the land at the proposed point of diversion? NO. If not, give name and address of owner and state what steps have been taken to secure right of access. THE WATER IS NOT BEING DIVERTED
20. What is the name of the post office most used by those living near the proposed point of diversion? SAUSALITO, CALIFORNIA
21. What are the names and addresses of diverters of water from the source of supply downstream from the proposed point of diversion? NOT KNOWN

Environmental Effects

22. Water Quality. After use, the water will be disposed of by (1) discharging into stream ☐, (2) land disposal ☐, or (3) other means ☒ THE WATER WILL BE ALLOWED TO FLOW NATURALLY IN THE STREAM. THERE IS NO DISPOSAL OF WASTE WATER

~~XXX~~
The water quality will not be altered by this use. Explain nature of water quality effects (including pollution).

23. Fish and Wildlife. (a) Have you consulted the California Department of Fish and Game concerning this proposed appropriation? YES

(b) Will this proposed appropriation be beneficial or adverse to fish and wildlife? BENEFICIAL DUE TO PRESERVATION OF STREAM FLOWS NECESSARY FOR SURVIVAL OF FISHERIES.

(c) State all data and information reasonably available to you or that can be obtained from the California Department of Fish and Game concerning the extent, if any, to which fish and wildlife may be affected by the appropriation.

STATUS QUO AS TO FISH AND WILDLIFE WILL BE MAINTAINED

24. Waste Water Reclamation. Describe what steps have been or can be taken to reclaim or reuse the water sought to be appropriated. WATER MAY BE DIVERTED AT MOUTH BEFORE IT FLOWS INTO THE SEA

Name of person filing application if other than applicant: _____

Correspondence about this application should be sent to:

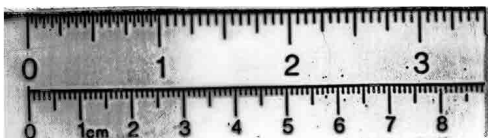
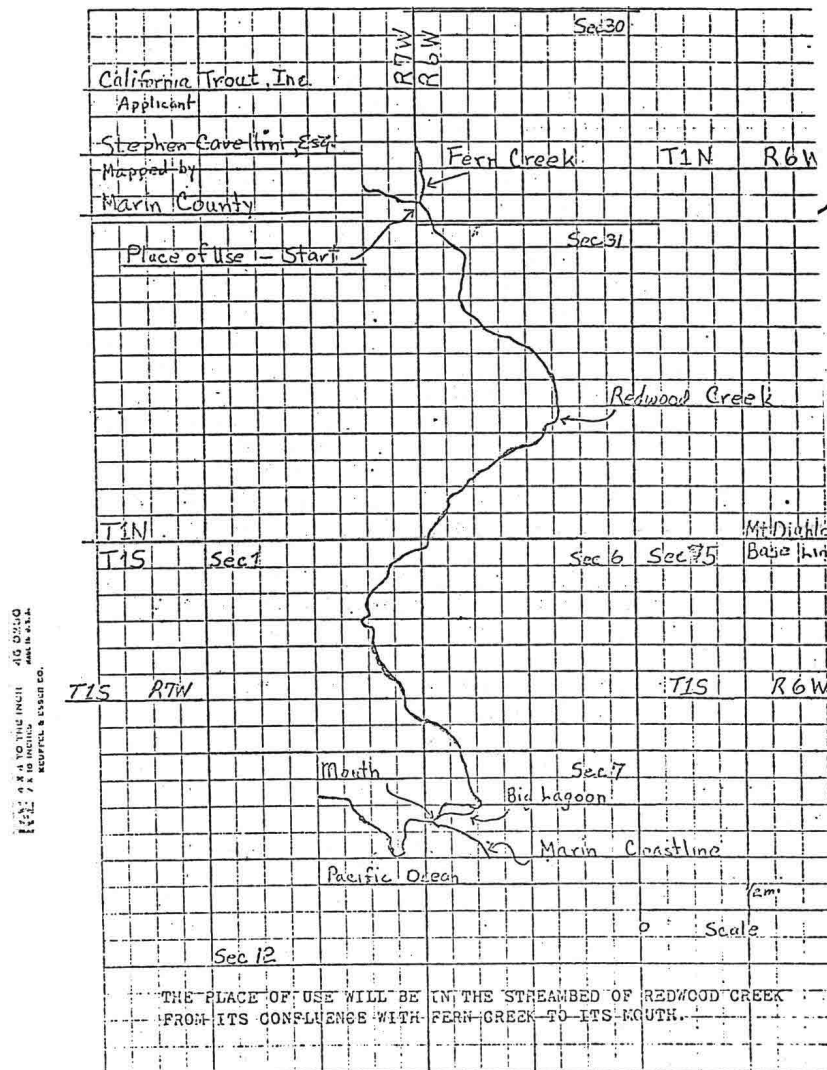
Name BOCCARDO, BLUM, LULL, NILAND, TEERLINK AND BELL -- ATTN: S.CAVELLIN

Address 1 CALIFORNIA ST SAN FRANCISCO, CA 94111 Telephone 415-391-3700

Signature of applicant(s)
(Refer to Section 671 of
the Board's regulations)

Mr. RH May
~~XXX~~ RICHARD MAY, PRESIDENT
CALIFORNIA TROUT, INC.
Mrs. _____
Miss _____

The complete information needed for preparation of this application may be found in the Regulations and Information Pertaining to Appropriation of Water. If there is insufficient space for answers in the form, attach extra sheets at top of page 3 and cross reference. Send application in duplicate to the State Water Resources Control Board, Room 1015, Resources Building, 1416 Ninth Street, Sacramento, California 95814, and retain one copy for your files.





IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE

WESTERN REGION

450 GOLDEN GATE AVENUE, BOX 36063
SAN FRANCISCO, CALIFORNIA 94102

L54 (WR) ASW
MUWO/GEN

July 27, 1973

Memorandum

To: Chief, Division of Water Resources, Western Region

From: Hydrologist, Division of Water Resources

Subject: Field Trip to Muir Woods National Monument, July 25

Purpose of the Trip: In accordance with our discussions and in response to the memorandum of July 5 to Superintendents, Golden Gate and Muir Woods from Director, Western Region a preliminary field trip to the Park was made to evaluate the potential of developing a water supply.

Itinerary: I, spent the major portion of the day (July 25) on duty in Park.

Companions: None

Accomplishments: Met jointly with Superintendent Dick Hardin; Art Volz, Park Ranger; and Marvin Hershey, Supervisory Park Ranger. Reviewed history of water supply at Park and present legal position with Marin Municipal Water District. Discussed future plans of Park in regards to possible attendance, expansion of Park by acquiring additional land, and also discussed the proposed water saving plumbing soon to be installed. Accompanied by Mr. Hardin and Mr. Volz on tour of Park, special emphasis placed on location of Park leach fields and streamflow through the Park.

Observations: Water use for the FY-72 and 73 for the heaviest 60-day use period (latter July to latter September) indicate that the peak Park demand is 5-6 gpm with the present plumbing system. The proposed plumbing modification will reduce this demand 50%-90%.

One or more diversions operated by Marin Municipal Water District are situated upstream of the Park on Redwood Creek or tributaries thereto. These diversions are used to divert water for use outside the Redwood Creek Drainage. It is believed that these diversions were constructed after the creation of the Park. Mr. Hershey is checking further on this matter and will forward information to us.

Two wells are known to exist on property now owned by Mrs. Mary J. Libra, this land is nearing condemnation by the Park Service. In view of

the pending condemnation, it was decided not to visit these wells. The potential yield of the wells is unknown, but another individual who owns a well downslope of the Libra property reports insufficient yield during the fall months to supply his residence.

The leach field for the Park is situated downstream, south, of the Park parking lot. This area is adjacent to Redwood Creek (on left bank) at southern end of Park.

Redwood Creek was given a cursory examination for its full length in the Park and several hundred yards upstream of the Park boundary. Fern Creek, the main tributary to Redwood Creek which joins Redwood Creek just within the northern boundary of the Park, was also examined for some distance north of the Park boundary.

Discharge estimates made are:

Redwood Creek at South Park boundary	-- 50 gpm
Fern Creek at mouth	-- 50 gpm
Redwood Creek above Fern Creek	-- 40 gpm

Thus it appears that Redwood Creek within the Park is losing flow, i.e., an influent stream. No noticeable change in discharge was observed in either creek upstream of the Park boundary. Mr. Art Volz has been stationed at MUWO for the past 15 years. He reports that during this period Redwood Creek has gone dry three times. The most likely time for flow to cease is late September or early October.

Redwood Creek, and its tributaries, are considered a valuable fish habitat. During the spring the Creek is used by Salmon for spawning-- a unique Park experience for the visitor and an important fact to California State Game and Fish Commission. Young salmon live within the Creek reach for approximately one year before swimming downstream to begin their life at sea. Thus, the Creek is constantly occupied by thousands of young salmon. These facts must be carefully considered before development of a water system which would adversely effect the Creek flow.

Within the vicinity of the Park, but outside the Park boundary, two springs exist. The first spring is located to the east of the Park and was used for Park water supply prior to 1931, at which time the flow diminished to insufficient yield - thus leading to the park's contract with Marin Municipal Water District. The second spring is located west of the Park boundary and is used for stock watering. No data exists as to minimum discharge over a period of time on either spring. However, the failure of the first spring to supply the park with water in 1931 (with far less park attendance than now) indicates that this source alone would be inadequate.

It is understood that The Marin Municipal Water District is calling for a public vote on the issuance of bonds. These bonds would supply money to construct a pipeline which would augment the District's supply and thus allow removal of the present water hook-up moratorium. The public vote on the issue is scheduled for next November, but may be postponed until next June (1974). It is highly questionable if the bond issue will pass by public vote due to the attitude of the Marin County populace to future building and/or land development. If the bond issue is voted in, the expected completion date for the additional water supply is 1975; at that time it may be possible for the Park to again buy water from the Water District.

Proposal: The water needs of the Park probably could be obtained from a dug well situated on the left bank of Redwood Creek within the vicinity of the Park Headquarters. The exact location to be determined at a later time after examination of the present Park water line locations, storage tanks, etc. This source would be both the least expensive to develop and also the most reliable source available.

Other water sources (springs, and wells soon to be acquired) can be evaluated at a later time both as to reliability and the cost of utilizing these sources (which would required pipelines of 1/4 - 1/2 mile).

SIGNED

William L. Werrell

Concur:

(SGD) GERARD S. WITUCKI

Gerard S. Witucki
Chief, Division of Water Resources

cc:

Supt. Muir Woods NM
Supt. Golden Gate
PNW (WASO)
(WR) MO (Mr. McDowell)

Docket Information

Number of Documents in Docket 35
Documents Dated from 6/5/1972 to 11/4/1975
Docket Compiled: 5/27/2011