

Collector Well Projects – Two Page Questionnaire

Thank you for taking the time to help us in this effort to educate interested parties about collector well projects throughout the United States. **A copy of this report will be provided to you within a couple months time.** Please include references to reports or other documents regarding your project in Question C.2.

A. General Project Information

1. Name of project?
Ranney Collector Construction

2. _____

4. Project location?
 City/State: Sacramento County, California

5. Project start date?
 mm/dd/yy: 1959

6. When did wells begin operating (or anticipated start)?
 mm/dd/yy: 1959

7. Project objective(s)?
 Municipal water supply
 Agricultural water supply
 Conjunctive groundwater/surface water use
 Others (please list)

8. Status of project?
 Planning
 Small-Scale Testing
 Large-Scale Testing
 Full-scale operation
 Other (please explain)

9. Project funding source(s)?
 Agency/owner out of pocket expense
 Grant funds
 Partnerships
 Other (please list)

10. What was the primary reason for using collector well technology at this site?
 Environmental concerns
 Water demand too great for ordinary production well
 Water rights for a surface supply not available
 Research
 Other: _____

11. Number of collector wells and periods of use (seasonal, year-round)? Check boxes that apply.

Well Name	Well Status		Use		Average Flow Production (gpm)
	Active	Proposed	Seasonal	Year-Round	
Gate RC#1	X			X	
RC#2	X			X	
RC#3	X			X	
RC#4					

12. Describe the characteristics of your collector wells.

Well Name	Depth of Caisson	Diameter of Caisson	Depth of Laterals	Number of Laterals	Diameter of Laterals
RC#1	44'	13'	21'	7	8"
RC#2	37'	13'	16'	5	8"
RC#3	28'	13'	18'	7	8"

13. Have you observed decreased flow from your collector wells over time? If so, what do you think is the cause?
 River migration away from well (please report approximate distance river has migrated: _____ ft)
 Laterals clogging
 Increased pumping from wells nearby (lowered groundwater elevation)
 Other: _____

14. What measures have you taken, if any, to increase yield of your wells?
 Well re-development
 Lateral replacement
 Added new laterals to existing system
 Other: _____

15. Do you have records indicating well yield with time?

No records available

Yes (please fill in the following table)

	Date	Event	Yield (indicate units)
0	Before operation	Designed capacity	6.3 mgd/5.3 mgd/10.8 mgd
1	1959	Well start-up	5.7 mgd/5.5 mgd/12.8 mgd
2	1987	Test	6.3 mgd/4.1 mgd/12.0 mgd
3			
4			
5		Most recent data	

2. Describe aquifer geology.

Cobble

Well Sorted

Gravel

Poorly Sorted

Sand

Silt/Clay

Unknown

Other (please list)

16. What is the cost of your raw water (how much does it cost per unit volume for you to produce untreated water)?

Number provided includes treatment costs

No records available

3. What is the closest distance to the nearest surface water body?

Feet or miles: 100 feet

Unknown

4. What is the number of monitoring wells if any?

 wells

None

Other

Unknown

B. Aquifer Characterization

1. Describe regional aquifer characteristics.

Unconfined

Semi-confined

Confined

Unknown

Other (please list)

5. What is the frequency of groundwater level monitoring?

minutes/days/months: continuously monitor river level

Unknown

C. Additional Questions

1. Do you have records indicating changes in yield upon re-development? How often do you re-develop your wells?

~~NO~~ Change in yield is more has more to do with river conditions (change in river bottom due to flooding) than re-development of the laterals.

2. Are any reports, technical memos, or other documentation available from your project activities? If so, who do we contact for copies?

Contact Don Spiegel of MWH.

Please return completed survey to:

Email: laura.j.wilcox@mwhglobal.com (preferred)

or

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Section 2 - Review of Existing Facilities

Table 2-2
Performance Results for Ranney Collectors 1, 2, and 3 (1986-1987)^a

Collector	American River Flow (cfs)	Approximate River Elevation (MSL-ft)	Elevation Centerline Laterals (MSL-ft)	Minimum Pumping Elevation ^b (MSL-ft)	Available Drawdown (feet)	Approximate Collector Yield (mgd)
No. 1	2,900	53.5	31.4	35.4	18.1	6.3
	1,000	52.0	31.4	35.4	16.6	6.3
	500	51.5	31.4	35.4	16.1	6.3
No. 2	2,900	53.1	36.3	40.3	12.8	5.3
	1,000	51.6	36.3	40.3	11.3	4.1
	500	51.1	36.3	40.3	10.8	3.5
No. 3	2,900	50.8	31.5 & 27.5	35.5	15.3	13.0
	1,000	49.4	31.5 & 27.5	35.5	13.9	12.0
	500	49.0	31.5 & 27.5	35.5	13.5	12.0
TOTAL	2,900	-	-	-	-	24.6
	1,000	-	-	-	-	22.4
	500	-	-	-	-	21.8

a. Tests were conducted by Ranney Method Western Corporation.

b. Set at four (4) feet above the centerline of the laterals.