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NOV 21 2007

Missouri Public
Service Commission

TABLE 1

Quail Valley Wastewater Treatment Plant

1-Year Flow Data

Petitioners Exhibit No. 13
Case No(s). WC-2007-0303
Date 10-29-07 Rptr for

PETITIONER'S
EXHIBIT

13

**Quail Valley Wastewater Treatment Facility
Flow Data**

2006	Date of Sample	Flow (GPD)	Sample Time	Precip (in.)
	3-Oct	5706	1355	0
	4-Oct	5706	1145	0
	5-Oct	11413	1235	0
	6-Oct	7603	1420	0
	7-Oct	7008	1500	0
	9-Oct	22826	930	0
	10-Oct	11404	1115	0
	11-Oct	2851	1210	0
	12-Oct	2851	1255	0
	13-Oct	5702	1115	0
	16-Oct	7603	1130	0.6
	17-Oct	7603	1150	0
	18-Oct	18262	805	0
	19-Oct	15218	820	0
	20-Oct	15218	915	0
	23-Oct	15218	750	0
	24-Oct	15218	810	0
	25-Oct	11413	745	0
	26-Oct	22827	810	0.2
	27-Oct	22827	815	0.7
	30-Oct	15218	745	0
	31-Oct	9131	1000	0
	1-Nov	15218	720	0
	2-Nov	22827	800	0
	3-Nov	7609	745	0
	6-Nov	22827	805	
	7-Nov	22827	735	0
	8-Nov	22827	740	0
	9-Nov	11413	1605	0
	10-Nov	15218	810	0
	13-Nov	22827	730	0.1
	14-Nov	5707	1550	trace
	15-Nov	15218	820	
	16-Nov	11413	815	
	17-Nov	15218	900	0
	20-Nov	11413	1115	0
	21-Nov	2853		0
	22-Nov	22827	1155	0
	23-Nov	7480		0
	24-Nov	5280		0
	27-Nov	11413	815	0
	28-Nov	18262	845	0
	29-Nov	30436	840	trace
	30-Nov	45653	855	yes
	1-Dec	11413	1200	snow
	4-Dec	3804	900	0
	5-Dec	7609	835	0
	6-Dec	22826	845	0
	7-Dec	11413	855	0
	8-Dec	22827	805	0
	11-Dec	45653	955	0
	12-Dec	7609		0
	13-Dec	11413	815	0

	14-Dec	30436	715	0
	15-Dec	30436	800	0
	18-Dec	15218	830	0
	19-Dec	9131	935	0
	20-Dec	15218	955	yes
	21-Dec	22827	845	yes
	22-Dec	15218	845	0
	25-Dec	11413	530	0
	26-Dec	15310	950	
	27-Dec	22827	1200	
	28-Dec	2073	1235	0
	29-Dec	2851	1000	0
2007	1-Jan	5702	810	0
	2-Jan	7609	915	0
	3-Jan		905	trace
	4-Jan	4565	1530	0.3
	5-Jan	15218	950	0
	8-Jan	11413	1555	0
	9-Jan	713	1540	0
	10-Jan	2078	1340	0
	11-Jan	15218	905	0
	12-Jan	15218	1040	trace
	15-Jan	22827	925	yes
	16-Jan	4565	840	trace
	17-Jan	18262	935	0
	18-Jan	15218	905	0
	19-Jan	11413	1010	0
	22-Jan	11413	925	6" snow
	23-Jan	22827	1005	0
	24-Jan	18262	940	0
	25-Jan	7609	920	0
	26-Jan	11413	1000	0
	29-Jan	18262	1000	0
	30-Jan	15218	905	0
	31-Jan	15218	900	0
	1-Mar	11413	1130	0.8
	2-Mar	11413	1035	0
	5-Mar	5707	1145	trace
	6-Mar	7609	1120	0
	7-Mar	9131	1515	0
	8-Mar	11413	1200	0
	9-Mar	15218	1050	0
	12-Mar	19510	1240	0
	13-Mar	11413	1200	0
	14-Mar	11404		0
	16-Mar	2851	1515	0
	19-Mar	11413	1550	0.2
	20-Mar	11413	1105	0
	21-Mar	4565	1015	0.1
	22-Mar	22827	1115	0.3
	23-Mar	22827	1230	0.7
	26-Mar	3804	1130	0.1
	27-Mar	2853	1215	0.1
	28-Mar	13044	1200	0.1
	29-Mar	15218	1120	0
	30-Mar	15218	1545	0.9
	2-Apr	4565	1230	0.4
	3-Apr	11413	1220	0

4-Apr	15218	1210	1.1
5-Apr	2853	1120	0
6-Apr	15218	1130	0
9-Apr	18262	800	0
10-Apr	15218	830	0
11-Apr	22827	1000	0.9
12-Apr	5707	1010	0.5
13-Apr	7609	1050	0
16-Apr	15218	1130	1
17-Apr	11413	1150	0
18-Apr	7609	1140	0
19-Apr	5707	1120	0
20-Apr	2853	1525	0
23-Apr	11413	1100	trace
24-Apr	3804	1030	0
25-Apr	5707	1015	1.2
26-Apr	11413	1550	0.5
27-Apr	7603	1005	0
30-Apr	15218	930	0
1-May	7609	1445	0
2-May	11413	935	1
3-May	7609	1450	1.1
4-May	11413	1115	0
7-May	22827	1000	0.1
8-May	7609	1015	0
9-May	5707	1010	0
10-May	4565	1110	0
11-May	4565	1155	0
14-May	11413	1100	0
15-May	7607	1120	0
16-May	9131	1140	0.2
17-May	3804	1300	0
18-May	15218	1120	0
21-May	2283	1205	0
22-May	5707	1530	0
23-May	7609	1320	trace
24-May	15218	1115	0
25-May	11413	1055	1.2
28-May	15218	835	1
29-May	15218	1130	0
30-May	9131	1330	0.1
31-May	15218	1130	0.1
1-Jun	11212	730	0
4-Jun	5702	1500	0
5-Jun	5101	1000	0
6-Jun	3804	1200	0
7-Jun	5702		0
8-Jun	15713		0
11-Jun	11413	1330	1.7
12-Jun	5707	1415	trace
13-Jun	11413	1105	0
14-Jun	4565	1600	0
15-Jun	9131	1130	0
18-Jun	11413	1300	0
19-Jun	22827	800	1.4
20-Jun	9131	1030	0
21-Jun	5707	1550	trace
22-Jun	15218	1030	0

25-Jun	9131	1200	0
26-Jun	5707	1130	0
27-Jun	11413	1000	1.2
28-Jun	9131	1200	1.6
29-Jun	22827	905	1.3
2-Jul	11404	900	0
3-Jul	11413	1040	0
4-Jul	22827	905	0
5-Jul	22827	1410	0
6-Jul	7609	1115	0
9-Jul	11413	1125	0
10-Jul	7609	1215	0
11-Jul	11413	1230	0.5
12-Jul	15218	1115	0
13-Jul	15218	1135	trace
16-Jul	7609	1040	0
17-Jul	11413	1020	0
18-Jul	11413	1005	0
19-Jul	9131	1330	0
20-Jul	11413	1130	1
23-Jul	11413	1130	0
24-Jul	11413	1230	0
25-Jul	11413	1150	0
26-Jul	15218	1120	0
27-Jul	11413	1010	0
30-Jul	9131	1300	0.1
31-Jul	11413	1100	0
1-Aug	5707	1130	0
2-Aug	11413	1100	0
3-Aug	5707	855	0
6-Aug	9131	1550	0
7-Aug	9131	1140	0
8-Aug	11413	1130	0
9-Aug	11413	1125	0
10-Aug	5707	1450	0
13-Aug	15218	1420	trace
14-Aug	15218	810	0
15-Aug	3804	1105	0
16-Aug	5707	1035	0
17-Aug	7609	1150	trace
20-Aug	18262	1110	0.2
21-Aug	3804	1210	0.7
22-Aug	7609	1235	0
23-Aug	2283	1350	0
24-Aug	11413	1230	0
27-Aug	5707	1330	1.7
28-Aug	3804	1220	0
29-Aug	9131	1140	0
30-Aug	7609	1100	0
31-Aug	9131	1120	0
3-Sep	9131	835	0
4-Sep	9131	1150	0
5-Sep	5707	1110	0
6-Sep	2853	1420	trace
7-Sep	3261	1315	0
10-Sep	7609	1535	1.5
11-Sep	11413	1155	0
12-Sep	7608	1110	0

	5706	1255	0
13-Sep	2853	1055	0
14-Sep	4567	1125	0
17-Sep	7603	1200	0
18-Sep	2851	1340	0
19-Sep	3802	1450	0
20-Sep	3802	1250	0
21-Sep	4502	1430	0
24-Sep	3802	1425	0
25-Sep	3802	1430	0
26-Sep	5702	1330	0
27-Sep	7603	1240	0
28-Sep			

TABLE 2

Quail Valley Wastewater Treatment Plant

1-Year Flow Data

(Sorted by highest flow.)

**Quail Valley Wastewater Treatment Facility
Flow Data**

Date of Sample	Flow (GPD)	Sample Time	Precip (in.)
30-Nov	45653	855	yes
11-Dec	45653	955	0
29-Nov	30436	840	trace
14-Dec	30436	715	0
15-Dec	30436	800	0
26-Oct	22827	810	0.2
27-Oct	22827	815	0.7
2-Nov	22827	800	0
6-Nov	22827	805	
7-Nov	22827	735	0
8-Nov	22827	740	0
13-Nov	22827	730	0.1
22-Nov	22827	1155	0
8-Dec	22827	805	0
21-Dec	22827	845	yes
27-Dec	22827	1200	
15-Jan	22827	925	yes
23-Jan	22827	1005	0
22-Mar	22827	1115	0.3
23-Mar	22827	1230	0.7
11-Apr	22827	1000	0.9
7-May	22827	1000	0.1
19-Jun	22827	800	1.4
29-Jun	22827	905	1.3
4-Jul	22827	905	0
5-Jul	22827	1410	0
9-Oct	22826	930	0
6-Dec	22826	845	0
12-Mar	19510	1240	0
18-Oct	18262	805	0
28-Nov	18262	845	0
17-Jan	18262	935	0
24-Jan	18262	940	0
29-Jan	18262	1000	0
9-Apr	18262	800	0
20-Aug	18262	1110	0.2
8-Jun	15713		0
26-Dec	15310	950	
19-Oct	15218	820	0
20-Oct	15218	915	0
23-Oct	15218	750	0
24-Oct	15218	810	0
30-Oct	15218	745	0
1-Nov	15218	720	0
10-Nov	15218	810	0
15-Nov	15218	820	
17-Nov	15218	900	0
18-Dec	15218	830	0
20-Dec	15218	955	yes
22-Dec	15218	845	0
5-Jan	15218	950	0
11-Jan	15218	905	0

12-Jan	15218	1040	trace
18-Jan	15218	905	0
30-Jan	15218	905	0
31-Jan	15218	900	0
9-Mar	15218	1050	0
29-Mar	15218	1120	0
30-Mar	15218	1545	0.9
4-Apr	15218	1210	1.1
6-Apr	15218	1130	0
10-Apr	15218	830	0
16-Apr	15218	1130	1
30-Apr	15218	930	0
18-May	15218	1120	0
24-May	15218	1115	0
28-May	15218	835	1
29-May	15218	1130	0
31-May	15218	1130	0.1
22-Jun	15218	1030	0
12-Jul	15218	1115	0
13-Jul	15218	1135	trace
26-Jul	15218	1120	0
13-Aug	15218	1420	trace
14-Aug	15218	810	0
28-Mar	13044	1200	0.1
5-Oct	11413	1235	0
25-Oct	11413	745	0
9-Nov	11413	1605	0
16-Nov	11413	815	
20-Nov	11413	1115	0
27-Nov	11413	815	0
1-Dec	11413	1200	snow
7-Dec	11413	855	0
13-Dec	11413	815	0
25-Dec	11413	530	0
8-Jan	11413	1555	0
19-Jan	11413	1010	0
22-Jan	11413	925	6" snow
26-Jan	11413	1000	0
1-Mar	11413	1130	0.8
2-Mar	11413	1035	0
8-Mar	11413	1200	0
13-Mar	11413	1200	0
19-Mar	11413	1550	0.2
20-Mar	11413	1105	0
3-Apr	11413	1220	0
17-Apr	11413	1150	0
23-Apr	11413	1100	trace
26-Apr	11413	1550	0.5
2-May	11413	935	1
4-May	11413	1115	0
14-May	11413	1100	0
25-May	11413	1055	1.2
11-Jun	11413	1330	1.7
13-Jun	11413	1105	0
18-Jun	11413	1300	0
27-Jun	11413	1000	1.2
3-Jul	11413	1040	0

9-Jul	11413	1125	0
11-Jul	11413	1230	0.5
17-Jul	11413	1020	0
18-Jul	11413	1005	0
20-Jul	11413	1130	1
23-Jul	11413	1130	0
24-Jul	11413	1230	0
25-Jul	11413	1150	0
27-Jul	11413	1010	0
31-Jul	11413	1100	0
2-Aug	11413	1100	0
8-Aug	11413	1130	0
9-Aug	11413	1125	0
24-Aug	11413	1230	0
11-Sep	11413	1155	0
10-Oct	11404	1115	0
14-Mar	11404		0
2-Jul	11404	900	0
1-Jun	11212	730	0
31-Oct	9131	1000	0
19-Dec	9131	935	0
7-Mar	9131	1515	0
16-May	9131	1140	0.2
30-May	9131	1330	0.1
15-Jun	9131	1130	0
20-Jun	9131	1030	0
25-Jun	9131	1200	0
28-Jun	9131	1200	1.6
19-Jul	9131	1330	0
30-Jul	9131	1300	0.1
6-Aug	9131	1550	0
7-Aug	9131	1140	0
29-Aug	9131	1140	0
31-Aug	9131	1120	0
3-Sep	9131	835	0
4-Sep	9131	1150	0
3-Nov	7609	745	0
5-Dec	7609	835	0
12-Dec	7609		0
2-Jan	7609	915	0
25-Jan	7609	920	0
6-Mar	7609	1120	0
13-Apr	7609	1050	0
18-Apr	7609	1140	0
1-May	7609	1445	0
3-May	7609	1450	1.1
8-May	7609	1015	0
23-May	7609	1320	trace
6-Jul	7609	1115	0
10-Jul	7609	1215	0
16-Jul	7609	1040	0
17-Aug	7609	1150	trace
22-Aug	7609	1235	0
30-Aug	7609	1100	0
10-Sep	7609	1535	1.5
12-Sep	7608	1110	0
15-May	7607	1120	0

6-Oct	7603	1420	0
16-Oct	7603	1130	0.6
17-Oct	7603	1150	0
27-Apr	7603	1005	0
18-Sep	7603	1200	0
28-Sep	7603	1240	0
23-Nov	7480		0
7-Oct	7008	1500	0
14-Nov	5707	1550	trace
5-Mar	5707	1145	trace
12-Apr	5707	1010	0.5
19-Apr	5707	1120	0
25-Apr	5707	1015	1.2
9-May	5707	1010	0
22-May	5707	1530	0
12-Jun	5707	1415	trace
21-Jun	5707	1550	trace
26-Jun	5707	1130	0
1-Aug	5707	1130	0
3-Aug	5707	855	0
10-Aug	5707	1450	0
16-Aug	5707	1035	0
27-Aug	5707	1330	1.7
5-Sep	5707	1110	0
3-Oct	5706	1355	0
4-Oct	5706	1145	0
13-Sep	5706	1255	0
13-Oct	5702	1115	0
1-Jan	5702	810	0
4-Jun	5702	1500	0
7-Jun	5702		0
27-Sep	5702	1330	0
24-Nov	5280		0
5-Jun	5101	1000	0
17-Sep	4567	1125	0
4-Jan	4565	1530	0.3
16-Jan	4565	840	trace
21-Mar	4565	1015	0.1
2-Apr	4565	1230	0.4
10-May	4565	1110	0
11-May	4565	1155	0
14-Jun	4565	1600	0
24-Sep	4502	1430	0
4-Dec	3804	900	0
26-Mar	3804	1130	0.1
24-Apr	3804	1030	0
17-May	3804	1300	0
6-Jun	3804	1200	0
15-Aug	3804	1105	0
21-Aug	3804	1210	0.7
28-Aug	3804	1220	0
20-Sep	3802	1450	0
21-Sep	3802	1250	0
25-Sep	3802	1425	0
26-Sep	3802	1430	0
7-Sep	3261	1315	0
21-Nov	2853		0

27-Mar	2853	1215	0.1
5-Apr	2853	1120	0
20-Apr	2853	1525	0
6-Sep	2853	1420	trace
14-Sep	2853	1055	0
11-Oct	2851	1210	0
12-Oct	2851	1255	0
29-Dec	2851	1000	0
16-Mar	2851	1515	0
19-Sep	2851	1340	0
21-May	2283	1205	0
23-Aug	2283	1350	0
10-Jan	2078	1340	0
28-Dec	2073	1235	0
9-Jan	713	1540	0
3-Jan		905	trace

TABLE 3

Quail Valley Wastewater Treatment Plant

**Flows > 20,000 GPD
Compared to Precipitation**

**Note: 13 days with precipitation
15 days without precipitation**

**Quail Valley Wastewater Treatment Facility
Flow Data**

Date of Sample	Flow (GPD)	Sample Time	Precip (in.)
30-Nov	45653	855	yes
11-Dec	45653	955	0
29-Nov	30436	840	trace
14-Dec	30436	715	0
15-Dec	30436	800	0
26-Oct	22827	810	0.2
27-Oct	22827	815	0.7
2-Nov	22827	800	0
6-Nov	22827	805	0
7-Nov	22827	735	0
8-Nov	22827	740	0
13-Nov	22827	730	0.1
22-Nov	22827	1155	0
8-Dec	22827	805	0
21-Dec	22827	845	yes
27-Dec	22827	1200	0
15-Jan	22827	925	yes
23-Jan	22827	1005	0
22-Mar	22827	1115	0.3
23-Mar	22827	1230	0.7
11-Apr	22827	1000	0.9
7-May	22827	1000	0.1
19-Jun	22827	800	1.4
29-Jun	22827	905	1.3
4-Jul	22827	905	0
5-Jul	22827	1410	0
9-Oct	22826	930	0
6-Dec	22826	845	0

TABLE 4

Quail Valley Wastewater Treatment Plant

Flow vs. Precipitation

Note: No apparent pattern of higher flows during higher precipitation events. See chart.)

Quail Valley Wastewater Treatment Facility
Flow Data

Date of Sample	Flow (GPD)	Sample Time	Precip (in.)
19-Jun	22827	800	1.4
29-Jun	22827	905	1.3
11-Apr	22827	1000	0.9
27-Oct	22827	815	0.7
23-Mar	22827	1230	0.7
22-Mar	22827	1115	0.3
26-Oct	22827	810	0.2
13-Nov	22827	730	0.1
7-May	22827	1000	0.1
20-Aug	18262	1110	0.2
4-Apr	15218	1210	1.1
16-Apr	15218	1130	1
28-May	15218	835	1
30-Mar	15218	1545	0.9
31-May	15218	1130	0.1
28-Mar	13044	1200	0.1
11-Jun	11413	1330	1.7
25-May	11413	1055	1.2
27-Jun	11413	1000	1.2
2-May	11413	935	1
20-Jul	11413	1130	1
1-Mar	11413	1130	0.8
26-Apr	11413	1550	0.5
11-Jul	11413	1230	0.5
19-Mar	11413	1550	0.2
28-Jun	9131	1200	1.6
16-May	9131	1140	0.2
30-May	9131	1330	0.1
30-Jul	9131	1300	0.1
10-Sep	7609	1535	1.5
3-May	7609	1450	1.1
16-Oct	7603	1130	0.6
27-Aug	5707	1330	1.7
25-Apr	5707	1015	1.2
12-Apr	5707	1010	0.5
2-Apr	4565	1230	0.4
4-Jan	4565	1530	0.3
21-Mar	4565	1015	0.1
21-Aug	3804	1210	0.7
26-Mar	3804	1130	0.1
27-Mar	2853	1215	0.1

QUAIL VALLEY Flow vs. Precipitation

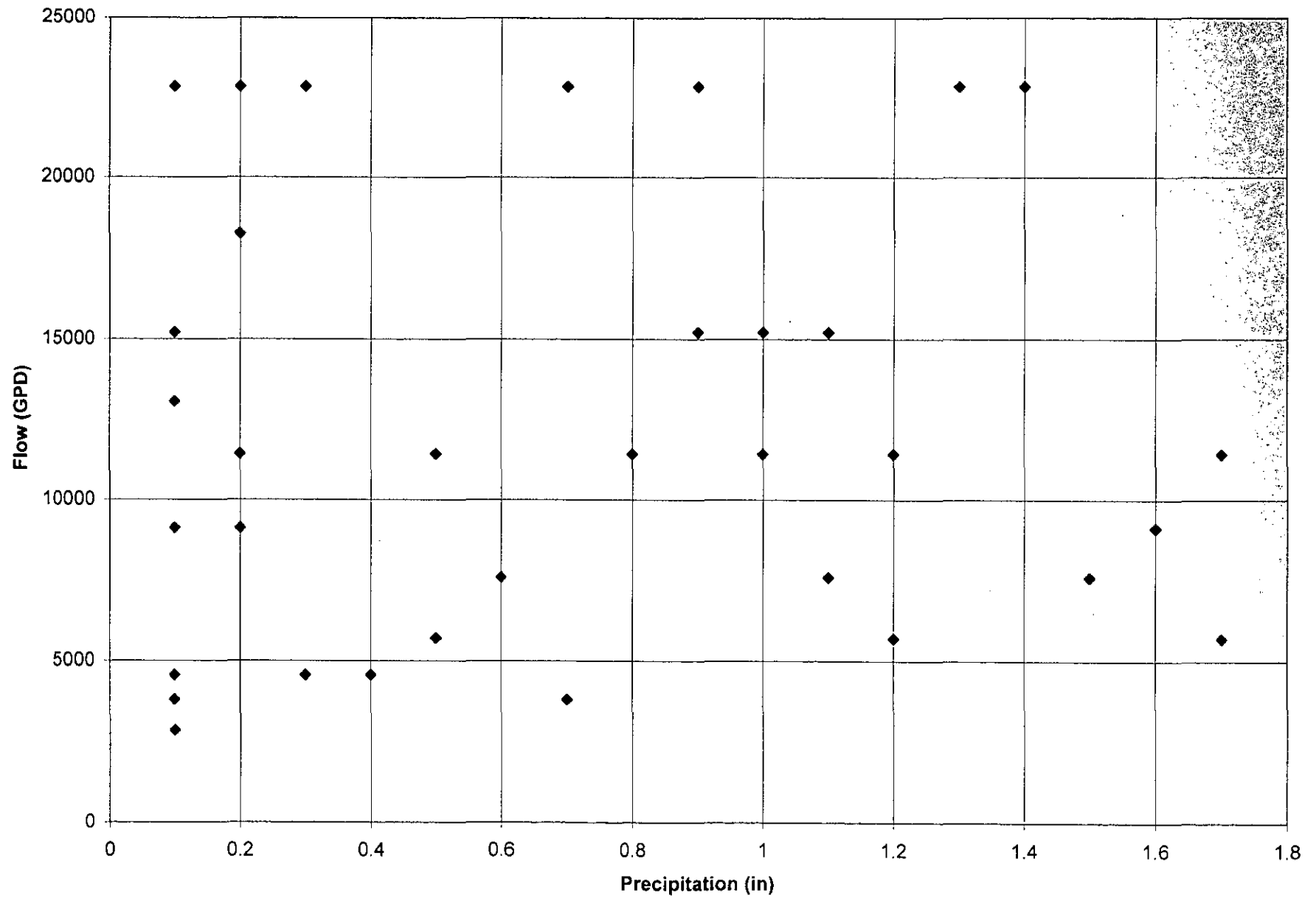


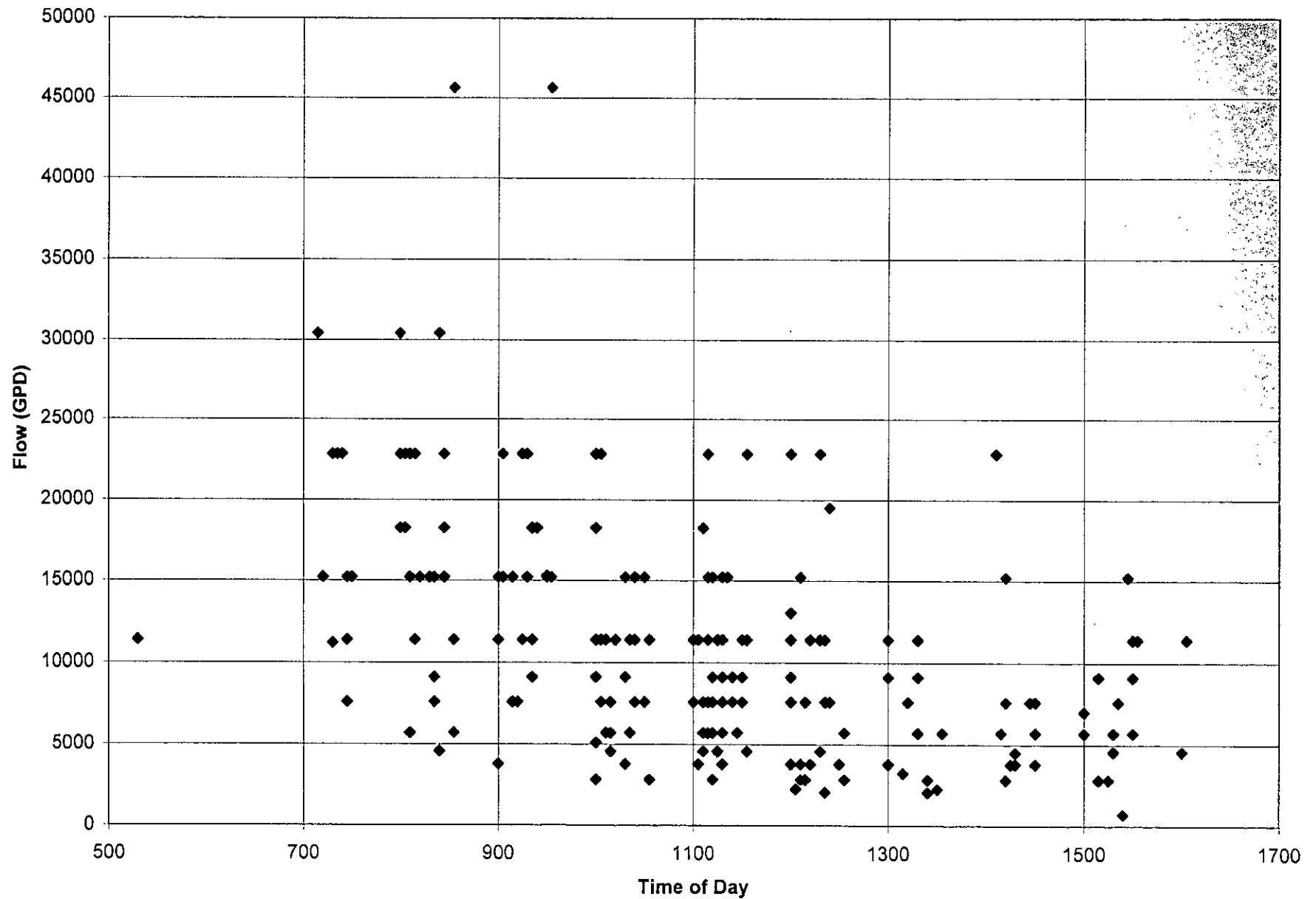
TABLE 5

Quail Valley Wastewater Treatment Plant

Flow vs. Time of Day (See charts.)

Note: Flows trend higher in morning & lower in afternoon with high variability.

QUAIL VALLEY
Flow vs. Time



QUAIL VALLEY
Flow vs. Time

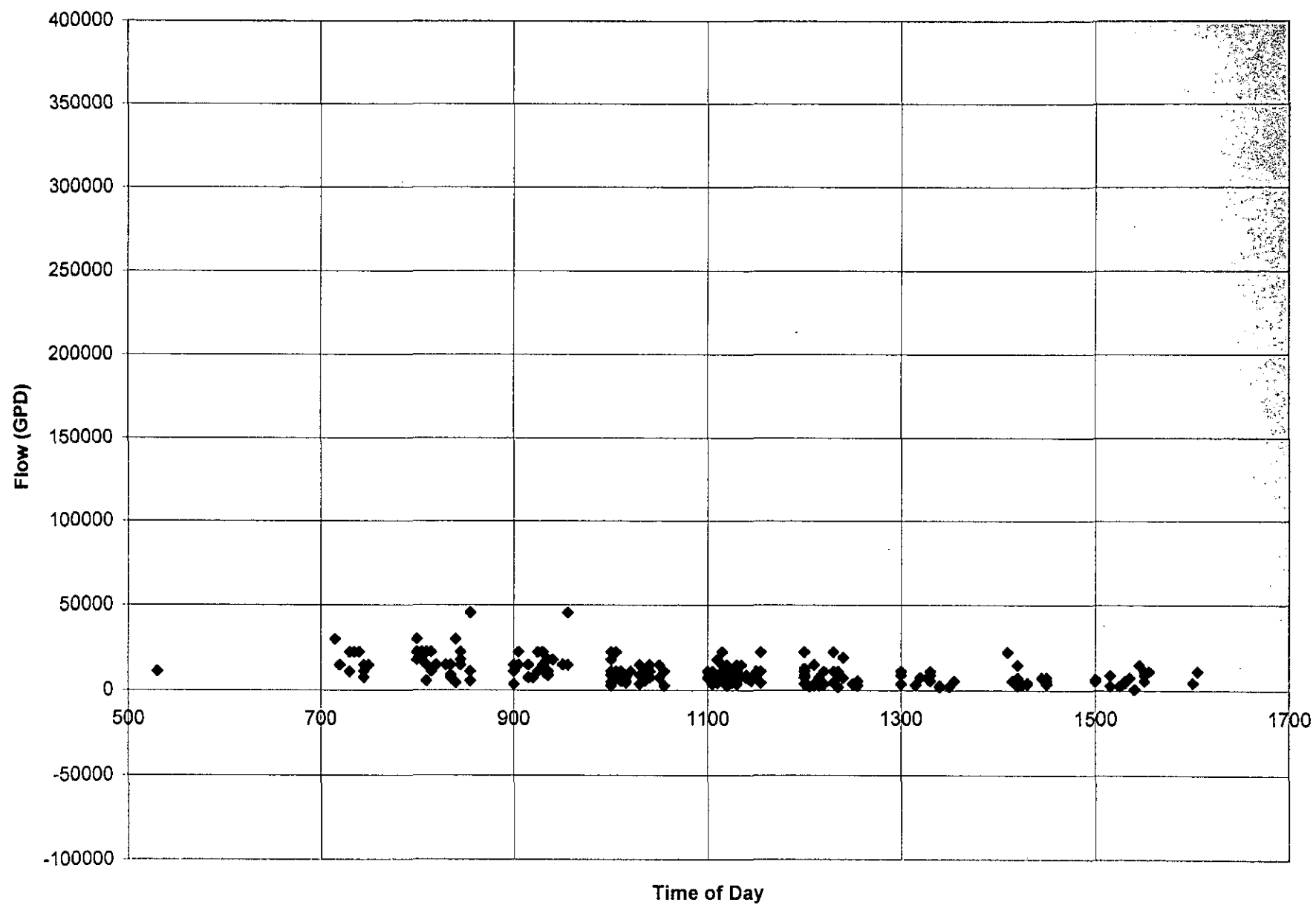


TABLE 6

**Quail Valley Wastewater Treatment Plant
Collection System Capacity Calculations**