Appendix B

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Table 2-1. Proposed Cleanup Criteria for Groundwater Constituents

Constituent	Alluvium	Spoils	Coal-Related	Sub-McKay
Boron (mg/L)	4	4	4	4
Sulfate (mg/L)	3,000	3,045	3,000	3,000
Cobalt (mg/L)	0.02	0.0232	0.006	0.006
Lithium (mg/L)	0.092	0.09	0.072	0.072
Molybdenum (mg/L)	0.1	0.1	0.1	0.1
Selenium (mg/L)	0.05	0.05	0.05	0.05
Manganese (mg/L)	0.6	2.79	0.54	0.43
TDS (mg/L) [1]	4,000	4,930	3,160	3,710

Notes:

Proposed Cleanup Criteria (PCC) values from Canty (2017)

[1] No PCC available; values listed are Background Screening Levels (Neptune 2016)

Table 3-1. Capture Well Average 2016 Pumping Rates

Well	Extraction Rates Based on Average Rates from 2016 (GPM)	Well	Extraction Rates Based on Average Rates from 2016 (GPM)
4S	5.93	51SP	6.03
19SP	0.07	52SP	3.22
26SP	2.52	53SP	3.54
29SP	0.02	54SP	1.09
70SP	2.34	68A	1.50
111SP	5.16	74A	14.51
1D	0.17	75A	8.55
5M	0.67	79A	22.73
5S	0.59	82A	11.02
10M	5.22	98M	9.83
10S	0.85	106A	13.21
55D	0.36	107A	7.11
56D	15.54	108A	13.61
58M	0.18	SRP-1	0.27
59M	0.46	SRP-2	0.27
113M	0.62	SRP-3	5.36
114S	0.40	SRP-4	12.07
115M	1.38	SRP-5	8.52
116M	3.50	SRP-6	0.69
117A	1.39	SRP-7	0.34
118A	1.06	SRP-8	0.64
122A	6.17	B-1	3.59
6M	2.26	B-4	0.48
21S	5.55	B-5	0.00
31M	0.53	9M	10.33
43S	5.70	130M	2.19
78A	13.19	142R	2.79
119A	9.37	147A	5.06

Notes:

GPM = Gallons per Minute

Table 5-1. Initial Model Recharge and Concentration Loading Rates

Recharge Zone	Description	Recharge Rate (feet/day)	Boron Concentration (mg/L)	Sulfate Concentration (mg/L)	Type
1	Background	8.10E-05	0	500	Background
2	Former Units 1 & 2 A Pond	0.002154453	40	10000	Pond Seepage
3	Units 1 & 2 Bottom Ash Ponds	0.000780	13	3280	Pond Seepage
4	South Cooling Tower Blowdown Pond C	0.0038	1.2	5540	Pond Seepage
5	Weco Pond PO-10	0.004	0	500	Pond Seepage
6	Weco Sediment Ponds	0.016	0	500	Pond Seepage
7	Units 3 & 4 Bottom Ash Pond	0.51	2.2	1860	Pond Seepage
8	Former Units 3 & 4 Wash Tray Pond	0.02	15.6 (0.818)[1]	4300 (2061)[1]	Pond Seepage
9	Weco Pond PO-10A	0.044	0.8	2061	Pond Seepage
10	City of Colstrip Sewer Lagoons	0.057	0.8	500	Pond Seepage
11	Leakage Cimmeron/Townsite Stream	0.0045	0	500	Pond Seepage
12	Recharge Clinker Exposures	0.00035	0	500	Clinker Infiltrating Recharge
13	Units 1 & 2 Plant Leak	0.001	0	500	Pond Seepage
14	Units 1 & 2 Plant Leak	0.03	0	500	Pond Seepage
15	North Cooling Tower Blowdown Pond C	0.0001	6.83	4560	Pond Seepage
16	Town Site Lawn Irrigation	0.00061	0	500	Lawn Irrigation Infiltration
17	Units 3 & 4 Bottom Ash Pond	0.09	2.2	1860	Pond Seepage
18	Units 3 & 4 Bottom Ash Pond	0.0055	2.2	3280	Pond Seepage
19	Units 3 & 4 Bottom Ash Pond	0.001	2.2	1860	Pond Seepage
20	Units 3 & 4 Bottom Ash Pond Clear Well	0.0008	2.2	3280	Pond Seepage
21	Units 3 & 4 Bottom Ash Pond	0.003	2.2	3200	Pond Seepage
22	Units 3 & 4 Bottom Ash Pond	0.05	2.2	1860	Pond Seepage
23	Weco Pond PO-10B	0.007	0	500	Pond Seepage
24	Un-vegetated Area of Plant Site	0.000104	0	0	Unvegetated Infiltration Recharge
25	Lined Units: Impervious Surface Area	0	0	0	Impervious
26	Units 3 & 4 Drain Collection Pond	0.001	1.1 (0.818)[1]	2061	Pond Seepage
27	Former Brine Pond Area D4	0.00048	3	5000	Pond Seepage
28	Former Brine Pond Area D4	0.0009	3	5000	Pond Seepage
29	Un-vegetated Area of Plant Site	0.00051	0	500	Unvegetated Infiltration Recharge
30	Former Units 3 & 4 Scrubber Drain Collection Pond	0.0009	1.1 (0.818)[1]	2061	Pond Seepage
31	Units 1 & 2 Bottom Ash Clear Well	0.00092	1.9	7970	Pond Seepage
32	Units 1-4 Sediment Retention Pond	0.0007	5.7 (0.818)[1]	2980 (2061)[1]	Pond Seepage
33	Units 3 & 4 Bottom Ash Pond	0.031	2.2	3280	Pond Seepage
34	Weco Pond	0.0005	0	500	Pond Seepage
35	Weco Pond	0.0005	0	500	Pond Seepage
36	Weco Pond	0.017	0.5	2061	Pond Seepage
37	Weco Pond	0.0005	0	500	Pond Seepage

Table 5-1. Initial Model Recharge and Concentration Loading Rates

Recharge Zone	Description	Recharge Rate (feet/day)	Boron Concentration (mg/L)	Sulfate Concentration (mg/L)	Type
38	Weco Pond	0.0005	0	500	Pond Seepage
39	Former Units 3 & 4 Wash Tray Pond	0.00099	16 (0.818)[1]	3500 (2061)[1]	Pond Seepage
40	Storm water Retention Pond	0.00051	0	500	Pond Seepage
41	Units 1 & 2 B Pond	0.001800	22	5305	Pond Seepage
42	Units 3&4 North Plant Area Drain Pond	0.00051	1.1	1970	Pond Seepage
43	Units 1-4 North Plant Sediment Retention Pond	8.10E-05	0.5	560	Pond Seepage
44	Units 3 & 4 Brine Ponds	0.0009	114	149500	Pond Seepage
45	Former Units 1 & 2 A Pond	0.002154453	71.9	20000	Pond Seepage
46	South Cooling Tower Blowdown Pond C	0.0038	3.74	5060	Pond Seepage
47	Former Units 3 & 4 Wash Tray Pond	0.02	15.6 (0.818)[1]	4300 (2061)[1]	Pond Seepage
48	Units 1 & 2 Bottom Ash Clear Well	0.00092	16	7970	Pond Seepage
49	Southeast Corner of D4 Pond	0.00048	111	15000	Pond Seepage
51	Brine Concentrator Solids Disposal Area (Constructed in 2018) [2]	0	0	0	Pond Seepage
52	New Units 3 & 4 Bottom Ash Dewatering System (Constructed in 2017) [2]	9.91E-09	2.2	3280	Pond Seepage
53	South Side of Units 1 & 2 A Pond	0.002154453	20	5000	Pond Seepage
54	East Side of Units 1-4 Sediment Retention Pond	0.0007	22.5 (0.818)[1]	2980(2061)[1]	Pond Seepage
55	Former Units 3 & 4 Scrubber Drain Collection Pond	0.0009	48 (0.818)[1]	8940 (2061)[1]	Pond Seepage
56	Former D1 - D3 Brine Ponds	0.0009	1.1	2061	Pond Seepage

Note:

Recharge zones correspond to those shown in Figure 5-1

Shaded cells denote areas identified as source areas

(1) Value in parenthesis was used as source concentration in Alternatives 1-4 to simulate pond operational changes

(2) Pond did not exist in the calibrated model

Table 5-2. Estimated Retardation

Unit	Model Porosity (n)	Dry Bulk Density (ρb) gm/cm^3	Distribution coefficient K_d	Retardation R
Tongue River Formation (SubMcKay and Interburden)	0.15	1.63	0.40	5.30
Coarse Grained Alluvium	0.20	1.36	0.40	3.72
Fine Grained Alluvium	0.15	1.36	0.40	4.63
Coal (Rosebud and McKay)	0.09	0.673	0.40	3.99

gm = grams

cm^3 = centimeters cubed

Table 6-1. Stress Period Setup

Stress Period	Stress Period Length in Years	Stress Period Length in Days	Total Elapsed Years	Total Elapsed Days	Beginning Year	Ending Year
1	1	61	0	61	Nov - 2016	2016
2	1	365	1	426	2017	2017
3	1	365	2	791	2018	2018
4	1	365	3	1156	2019	2019
5	1	366	4	1522	2020	2020
6	1	365	5	1887	2021	2021
7	1	365	6	2252	2022	2022
8	1	365	7	2617	2023	2023
9	1	366	8	2983	2024	2024
10	1	365	9	3348	2025	2025
11	1	365	10	3713	2026	2026
12	1	365	11	4078	2027	2027
13	1	366	12	4444	2028	2028
14	1	365	13	4809	2029	2029
15	5	1826	18	6635	2030	2034
16	5	1826	23	8461	2035	2039
17	5	1827	28	10288	2040	2044
18	5	1826	33	12114	2045	2049
19	10	3652	43	15766	2050	2059
20	10	3653	53	19419	2060	2069
21	10	3652	63	23071	2070	2079
22	10	3653	73	26724	2080	2089
23	10	3652	83	30376	2090	2099
24	10	3652	93	34028	2100	2109
25	10	3652	103	37680	2110	2119
26	10	3653	113	41333	2120	2129
27	10	3652	123	44985	2130	2139
28	10	3653	133	48638	2140	2149

Table 6-2. Projected and Simulated Pond Seepage from Existing Source Areas

		Former Units 1 & 2 Fly Ash Pond A				Units 1 & 2 Fly Ash Pond B		Units 1 & 2 Bottom Ash Ponds		Units 1 & 2 Bottom Ash Ponds Clear Well		North Cooling Tower Blowdown Pond C		South Cooling Tower Blowdown Pond C	
Year	Stress Period	ALT 1-3 Estimated Seepage Rate [1]	ALT 1-3 Model Seepage Rate	ALT 4 Estimated Seepage Rate [1]	ALT 4 Model Seepage Rate	Estimated Seepage Rate [1]	Model Seepage Rate	Estimated Seepage Rate [1]	Model Seepage Rate	Estimated Seepage Rate [1]	Model Seepage Rate	Estimated Seepage Rate [1]	Model Seepage Rate	Estimated Seepage Rate [1]	Model Seepage Rate
		GPM	GPM	GPM	GPM	GPM	GPM	GPM	GPM	GPM	GPM	GPM	GPM	GPM	GPM
2014	----	27	29 [2]	27	29 [2]	3.6	4 [2]	2.0	0.7 [2]	0.4	0.4 [2]	8.25	0.24 [2]	10.95	9.37 [2]
2015	----	6.6	7.1	6.6	7.1	3.6	4	2.0	0.7	0.4	0.4	8.25	0.24	10.95	9.37
2016	**1**	6.4	6.9	6.4	6.9	3.6	4	2.0	0.7	0.4	0.4	8.25	0.24	10.95	9.37
2017	**2**	6.2	6.8	6.2	6.8	3.6	4	1.9	0.7	0.4	0.4	8.25	0.24	10.95	9.37
2018	**3**	6.1	6.6	6.1	6.6	3.6	4	1.8	0.7	0.4	0.4	8.25	0.24	10.95	9.37
2019	**4**	5.6	6.0	5.2	5.6	3.6	4	1.8	0.6	0.4	0.4	8.25	0.24	10.95	9.37
2020	**5**	4.7	5.1	3.9	4.3	3.6	4	1.7	0.6	0.4	0.4	8.25	0.24	10.95	9.37
2021	**6**	3.9	4.2	3.1	3.3	3.6	4	1.7	0.6	0.4	0.4	8.25	0.24	10.95	9.37
2022	**7**	3.3	3.6	2.5	2.7	3.6	4	0.9	0.3	0.4	0.4	8.25	0.24	10.95	9.37
2023	**8**	2.8	3.0	2.0	2.2	3.6	4	0.8	0.3	0.4	0.4	7.43	0.22	9.85	8.43
2024	**9**	2.3	2.5	1.7	1.8	0	0	0	0	0.4	0.4	5.78	0.19	7.66	6.56
2025	**10**	1.9	2.1	1.4	1.5	0	0	0	0	0.4	0.4	4.13	0.19	5.47	4.68
2026	**11**	1.6	1.8	0.7	0.8	0	0	0	0	0.4	0.4	2.48	0.19	3.28	2.81
2027	**12**	1.4	1.5	0.0	0.0	0	0	0	0	0	0.0	0.83	0.19	1.09	0.93
2028	**13**	0.6	0.6	0	0	0	0	0	0	0	0	0.19 [3]	0.19 [3]	0.2 [3]	0.2 [3]
2029	**14** [4]	0	0	0	0	0	0	0	0	0	0	0.19 [3]	0.19 [3]	0.2 [3]	0.2 [3]

Notes:

(1) 2014-2029 seepage presented in Liquid Seepage Rate Update at the Plant Site (Geosyntec, 2017b).

(2) 2014 Plant Site Model calibrated seepage rate (NewFields, 2015).

(3) North and South Pond C seepage is assumed to become equivalent to recharge in background areas in 2028.

(4) The stress period 14 rates are maintained through all remaining stress periods.

gpm - gallons per minute

Table 6-3. Projected and Simulated Pond Seepage for Units 3 & 4 Bottom Ash Ponds with Clear Well

Units 3 & 4 Bottom Ash Ponds with Clear Well										
Year	Stress Period	Projected and Simulated Seepage Rate - Group 1 (GPM)[1]				Projected and Simulated Seepage Rate - Group 2 (GPM) [1]				Total Seepage Rate
		Recharge Zone 20 (Clearwell)	Recharge Zone 19	Recharge Zone 21	Recharge Zone 18	Recharge Zone 7	Recharge Zone 33	Recharge Zone 22	Recharge Zone 17	
2014	**----**	0.34 [2]	0.23 [2]	1.79 [2]	0.29 [2]	39.78 [2]	16.52 [2]	8.45 [2]	17.55 [2]	84.96
2015	**----**	0.34	0.23	1.79	0.29	39.78	16.52	8.45	17.55	84.96
2016	**1**	0.34	0.23	1.79	0.29	39.78	16.52	8.45	17.55	84.96
2017	**2**	0.34	0.23	1.79	0.29	2.86	9.53	5.02	3.04	23.11
2018	**3**	0.34	0.23	1.79	0.29	0.57	1.92	1.01	0.61	6.77
2019	**4**	0.34	0.23	1.79	0.29	0.57	1.92	1.01	0.61	6.77
2020	**5**	0.34	0.23	1.57	0.15	0.57	1.92	1.01	0.61	6.41
2021	**6**	0.34	0.23	0	0	0	0	0	0	0.58
2022	**7**	0.34	0.16	0	0	0	0	0	0	0.51
2023	**8**	0.34	0	0	0	0	0	0	0	0.34
2024	**9**	0	0	0	0	0	0	0	0	0
2025	**10**	0	0	0	0	0	0	0	0	0
2026	**11**	0	0	0	0	0	0	0	0	0
2027	**12**	0	0	0	0	0	0	0	0	0
2028	**13**	0	0	0	0	0	0	0	0	0
2029	**14**	0	0	0	0	0	0	0	0	0

Notes:

New Units 3 & 4 Bottom Ash Dewatering System will replace Units 3 & 4 Bottom Ash Ponds w/ Clear Well.

(1) Revised rates based on model seepage rate and pond volume estimates.

(2) 2014 Revised Plant Site Model calibrated seepage rate (NewFields, 2015).

Table 6-4. Projected and Simulated Pond Seepage from New Source Area

New 3 & 4 Dewatering System		
Year	Stress Period	Estimated Seepage Rate
		GPM
2014	----	N/A
2015	----	N/A
2016	1	N/A
2017	2	0.1
2018	3	0.1
2019	4	0.1
2020	5	0.1
2021	6	0.1
2022	7	0.1
2023	8	0.1
2024	9	0.1
2025	10	0.1
2026	11	0.1
2027	12	0.1
2028	13	0.1
2029	14	0.1

Note:

2017-2029 leakage rate through concrete container (Geosyntec, 2017b).

gpm - gallons per minute

N/A - not applicable. Pond or container does not exist at this date.

The seepage rate is maintained through all remaining stress periods.

Table 6-5. Capture Wells and Initial Pumping Rates for Predictive Model Simulations

Well ID	Unit	Intial Pumping Rates for Predictive Model Based on Average Rates from 2016 GPM	Alternative 3 Pumping Rates Adjusted in 2019 GPM	Alternative 4 Pumping Rates Adjusted in 2019 GPM	Sub-Area	Comment
111SP	Spoils	5.16	5.63	Pumping rate same as Alternate 1 and 2	Central Source Area	Pumping rate adjusted because early pumping records show pumping rates were higher than the 2016 average pumping rate
19SP	Spoils	0.06	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	Central Source Area	Not adjusted because the pumping rate lowered during baseline model simulation with average 2016 pumping rates
26SP	Spoils	2.52	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	Central Source Area	Not adjusted because the pumping rate lowered during baseline model simulation with average 2016 pumping rates
29SP	Spoils	0.02	1.13	Pumping rate same as Alternate 1 and 2	Central Source Area	Pumping rate adjusted because early pumping records show pumping rates were higher than the 2016 average pumping rate
4S	Spoils	5.93	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	Central Source Area	Not adjusted because the pumping rate lowered during baseline model simulation with average 2016 pumping rates
70SP	Spoils	2.34	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	Central Source Area	Not adjusted because the pumping rate lowered during baseline model simulation with average 2016 pumping rates
B-1	Spoils	3.59	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	Central Source Area	Not adjusted because the pumping rate lowered during baseline model simulation with average 2016 pumping rates
21S	Mckay - Overburden	5.55	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	East Source Area	Early pumping records show pumping rates were not higher than the 2016 average pumping rate
51SP	Spoils	6.03	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	East Source Area	Well is an area that does not need increased pumping
52SP	Spoils	3.22	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	East Source Area	Early pumping records show pumping rates were not higher than the 2016 average pumping rate
53SP	Spoils - Rosebud	3.54	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	East Source Area	Well is an area that does not need increased pumping
54SP	Spoils - Rosebud	1.09	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	East Source Area	Well is an area that does not need increased pumping
WECO Well	Spoils	54.98 [(2)]	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	East Source Area	Not adjusted because the pumping rate lowered during baseline model simulation with average 2016 pumping rates
74A	Alluvium	14.51	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	North Distal Area	Early pumping records show pumping rates were not higher than the 2016 average pumping rate
75A	Alluvium	8.55	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	North Distal Area	Well is an area that does not need increased pumping
79A	Alluvium	22.73	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	North Distal Area	Well is an area that does not need increased pumping
82A	Alluvium	11.02	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	North Distal Area	Early pumping records show pumping rates were not higher than the 2016 average pumping rate
106A	Alluvium	13.21	14.24	Pumping rate same as Alternate 1 and 2	Off-site West Area	Pumping rate adjusted because early pumping records show pumping rates were higher than the 2016 average pumping rate
107A	Alluvium	7.11	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	Off-site West Area	Early pumping records show pumping rates were not higher than the 2016 average pumping rate
108A	Alluvium	13.61	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	Off-site West Area	Early pumping records show pumping rates were not higher than the 2016 average pumping rate

Table 6-5. Capture Wells and Initial Pumping Rates for Predictive Model Simulations

Well ID	Unit	Intial Pumping Rates for Predictive Model Based on Average Rates from 2016 GPM	Alternative 3 Pumping Rates Adjusted in 2019 GPM	Alternative 4 Pumping Rates Adjusted in 2019 GPM	Sub-Area	Comment
10M	Mckay	5.22	6.75	Pumping rate same as Alternate 1 and 2	Off-site West Area	Pumping rate adjusted because early pumping records show pumping rates were higher than the 2016 average pumping rate
10S	Interburden	0.85	8.18	Pumping rate same as Alternate 1 and 2	Off-site West Area	Pumping rate adjusted because early pumping records show pumping rates were higher than the 2016 average pumping rate
113M	Mckay	0.62	1.50	1.50	Off-site West Area	Pumping rate adjusted because early pumping records show pumping rates were higher than the 2016 average pumping rate
114S	Alluvium	0.05	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	Off-site West Area	Not adjusted because the pumping rate lowered during baseline model simulation with average 2016 pumping rates
59M	Mcaky	0.46	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	Off-site West Area	Early pumping records show pumping rates were not higher than the 2016 average pumping rate
98M	Mckay	5.42	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	Off-site West Area	Not adjusted because the pumping rate lowered during baseline model simulation with average 2016 pumping rates
SRP-8	Alluvium	0.08	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	Off-site West Area	Not adjusted because the pumping rate lowered during baseline model simulation with average 2016 pumping rates
130M	Mckay	2.19[(1)]	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	South Source Area	Wells began pumping in June 2016
142R	Rosebud	2.79[(1)]	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	South Source Area	Wells began pumping in June 2016
147A	Alluvium	5.0[(1)]	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	South Source Area	Wells began pumping in June 2016
6M	Rosebud	2.26	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	South Source Area	Well is an area that does not need increased pumping
9M	Rosebud	10.33[(1)]	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	South Source Area	Wells began pumping in June 2016
68A	Alluvium	1.50	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	Soutwest Distal Area	Well is an area that does not need increased pumping
115M	Mckay	1.38	3.00	3.00	West Source Area	Pumping rate adjusted because early pumping records show pumping rates were higher than the 2016 average pumping rate
116M	Mckay	3.50	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	West Source Area	Early pumping records show pumping rates were not higher than the 2016 average pumping rate
117A	Alluvium	1.39	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	West Source Area	Not adjusted because the pumping rate lowered slightly during baseline model simulation with average 2016 pumping rates
118A	Alluvium	0.13	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	West Source Area	Not adjusted because the pumping rate lowered during baseline model simulation with average 2016 pumping rates
119A	Alluvium	9.37	10.58	Pumping rate same as Alternate 1 and 2	West Source Area	Pumping rate adjusted because early pumping records show pumping rates were higher than the 2016 average pumping rate
122A	Alluvium	6.17	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	West Source Area	Not adjusted because the pumping rate lowered slightly during baseline model simulation with average 2016 pumping rates
1D	Sub-Mckay	0.17	7.50	7.50	West Source Area	Pumping rate adjusted because early pumping records show pumping rates were higher than the 2016 average pumping rate

Table 6-5. Capture Wells and Initial Pumping Rates for Predictive Model Simulations

Well ID	Unit	Intial Pumping Rates for Predictive Model Based on Average Rates from 2016 GPM	Alternative 3 Pumping Rates Adjusted in 2019 GPM	Alternative 4 Pumping Rates Adjusted in 2019 GPM	Sub-Area	Comment
31M	Mckay	0.53	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	West Source Area	Early pumping records show pumping rates were not higher than the 2016 average pumping rate
43S	Alluvium	5.70	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	West Source Area	Early pumping records show pumping rates were not higher than the 2016 average pumping rate
55D	Sub-Mckay	0.36	0.90	0.90	West Source Area	Pumping rate adjusted because early pumping records show pumping rates were higher than the 2016 average pumping rate
56D	Sub-Mckay	15.54	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	West Source Area	Early pumping records show pumping rates were not higher than the 2016 average pumping rate
58M	Mckay	0.18	0.75	Pumping rate same as Alternate 1 and 2	West Source Area	Pumping rate adjusted because early pumping records show pumping rates were higher than the 2016 average pumping rate
5M	Mckay	0.67	5.33	5.33	West Source Area	Pumping rate adjusted because early pumping records show pumping rates were higher than the 2016 average pumping rate
5S	Interburden	0.59	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	West Source Area	Early pumping records show pumping rates were not higher than the 2016 average pumping rate
78A	Alluvium	13.19	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	West Source Area	Early pumping records show pumping rates were not higher than the 2016 average pumping rate
SRP-1	Alluvium	0.00	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	West Source Area	Not adjusted because the pumping rate lowered during baseline model simulation with average 2016 pumping rates
SRP-2	Alluvium	0.04	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	West Source Area	Not adjusted because the pumping rate lowered during baseline model simulation with average 2016 pumping rates
SRP-3	Alluvium	5.36	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	West Source Area	Early pumping records show pumping rates were not higher than the 2016 average pumping rate
SRP-4	Alluvium	12.07	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	West Source Area	Early pumping records show pumping rates were not higher than the 2016 average pumping rate
SRP-5	Alluvium	8.52	9.35	Pumping rate same as Alternate 1 and 2	West Source Area	Pumping rate adjusted because early pumping records show pumping rates were higher than the 2016 average pumping rate
SRP-6	Alluvium-Rosebud-Interburden	0.69	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	West Source Area	Early pumping records show pumping rates were not higher than the 2016 average pumping rate
SRP-7	Alluvium-Rosebud-Interburden	0.14	Pumping rate same as Alternate 1 and 2	Pumping rate same as Alternate 1 and 2	West Source Area	Not adjusted because the pumping rate lowered during baseline model simulation with average 2016 pumping rates

Note:

(1) Wells began pumping in June 2016.

(2) Well not part of Talen capture well system.

gpm - gallons per minute

N/A - not applicable. Not part of Talen's capture well system.

Table 6-6. Capture Wells Added for Alternative 3

Well ID	Pumping Rate	Unit	Top Model	Bottom Model	Sub-Area	Year Well Begins Pumping	Approximate Easting (Montana State Plane (feet))	Approximate Northing (Montana State Plane (feet))
	GPM		Layer	Layer				
C-1	4	Spoils	2	2	Central Area - Near	2019	2703740	607113
C-2	3.65	Spoils	1	2	Central Area - Near	2019	2703918	607343
C-3	0.4	Alluvium	2	3	West Area-Near	2029	2701766	607043
C-4	0.5	Alluvium	1	2	West Area-Near	2019	2702072	608917
C-5	0.5	Alluvium	1	2	West Area-Near	2019	2702230	609113
C-6	3	McKay	4	4	West Area-Near	2029	2701953	608133
C-7	3	McKay	4	4	West Area-Near	2029	2702189	607921
C-8	3	McKay	4	4	West Area-Near	2029	2702194	607629
C-9	3	McKay	4	4	West Area-Near	2029	2702213	607256
C-10	3	McKay	4	4	West Area-Near	2029	2702236	606903

TABLE 6-7. Injection and Capture Wells Added for Alternative 4

Well ID	Injection/ Pumping Rate *	Unit	Top Model	Bottom Model	Sub-Area	Type	Year Well Begins Injection/ Pumping/ Conversion	Approximate Easting (Montana State Plane (feet))	Approximate Northing (Montana State Plane (feet))
	GPM		Layer	Layer					
IW-1	3	Alluvium	1	2	West Area-Near	Injection	2019	2701766	607595
IW-2	3	Alluvium	1	2	West Area-Near	Injection	2019	2701766	607763
IW-3	3	Alluvium	1	2	West Area-Near	Injection	2019	2701766	607941
IW-4	3	Alluvium	1	2	West Area-Near	Injection	2019	2701766	608119
IW-5	3	Alluvium	1	2	West Area-Near	Injection	2019	2701766	608293
IW-6	1	Alluvium	2	2	West Area-Near	Injection	2019	2702243	606717
IW-7	3	Alluvium	1	2	West Area-Near	Injection	2019	2701775	607408
IW-8	4	Alluvium	1	2	West Area-Near	Injection	2019	2701888	608416
IW-9	4	Alluvium	1	2	West Area-Near	Injection	2019	2702125	609078
IW-10	2	Alluvium	1	1	West Area-Near	Injection	2019	2702333	609068
IW-11	2	Alluvium	1	2	West Area-Near	Injection	2019	2702337	609245
IW-12	1	McKay	4	4	West Area-Near	Injection	2019	2702360	608464
IW-13	1	Alluvium	2	2	West Area-Near	Injection	2019	2702617	608361
IW-14	6	Spoils	1	2	Central Area-Near	Injection	2019	2703491	606374
IW-15	6	Spoils	1	2	Central Area-Near	Injection	2019	2703789	606374
IW-16	4	Spoils	1	2	Central Area-Near	Injection	2019	2703963	607317
IW-17	4	Spoils	1	2	Central Area-Near	Injection	2019	2703966	607514
IW-18	4	Spoils	1	2	Central Area-Near	Injection	2019	2704100	607648
IW-19	4	Spoils	1	2	Central Area-Near	Injection	2019	2704131	607461
IW-20	5	Spoils	1	2	Central Area-Near	Injection	2019	2704250	607814
IW-21	4	Spoils	1	2	Central Area-Near	Injection	2019	2704275	607579
IW-22	4	Spoils	1	2	Central Area-Near	Injection	2019	2704428	607701
IW-23	4	Spoils	1	2	Central Area-Near	Injection	2019	2704472	607923

TABLE 6-7. Injection and Capture Wells Added for Alternative 4

Well ID	Injection/ Pumping Rate *	Unit	Top Model	Bottom Model	Sub-Area	Type	Year Well Begins Injection/ Pumping/ Conversion	Approximate Easting (Montana State Plane (feet))	Approximate Northing (Montana State Plane (feet))
	GPM		Layer	Layer					
IW-24	4	Spoils	1	2	East Area- Near	Injection	2019	2704634	607864
IW-25	3	McKay	4	4	West Area-Near	Injection	2019	2702185	607909
IW-26	3	McKay	4	4	West Area-Near	Injection	2019	2702200	607564
IW-27	3	McKay	4	4	West Area-Near	Injection	2019	2702216	607165
IW-28	2	Alluvium	2	2	West Area-Near	Injection	2019	2702214	607203
IW-29	2	Alluvium	2	2	West Area-Near	Injection	2019	2702196	607668
IW-30	2	McKay	4	4	West Area-Near	Injection	2019	2701787	607763
IW-31	2	Alluvium	2	2	Off-Site West Area- Distal	Injection	2019	2701579	607125
IW-32	1	McKay	4	4	Off-Site West Area- Distal	Injection	2019	2701653	606824
IW-33	2	Alluvium	2	2	Off-Site West Area- Distal	Injection	2019	2701633	607002
IW-34	2	McKay	4	4	Off-Site West Area- Distal	Injection	2019	2701810	606643
IW-35	2	McKay	4	4	West Area-Near	Injection	2019	2701799	607501
IW-36	2	McKay	4	4	West Area-Near	Injection	2019	2701799	608040
IW-37	2	McKay	4	4	West Area-Near	Injection	2019	2701811	607244
IW-38	2	McKay	4	4	West Area-Near	Injection	2019	2701815	606954
IW-39	2	Alluvium	2	2	West Area-Near	Injection	2019	2702161	608314
IW-40	2	Alluvium	2	2	West Area-Near	Injection	2019	2702184	607978
IW-41	2	Alluvium	2	2	West Area-Near	Injection	2019	2702205	607453
IW-42	2	Alluvium	2	2	West Area-Near	Injection	2019	2702224	606970
IW-43	2	Alluvium	2	2	Off-Site West Area- Distal	Injection	2019	2701770	606784
IW-44	1	Alluvium	2	2	West Area-Near	Injection	2019	2702489	608601
IW-45	2	Alluvium	2	2	West Area-Near	Injection	2019	2702229	608860
IW-46	1	Alluvium	2	2	West Area-Near	Injection	2019	2701766	607043

TABLE 6-7. Injection and Capture Wells Added for Alternative 4

Well ID	Injection/ Pumping Rate *	Unit	Top Model	Bottom Model	Sub-Area	Type	Year Well Begins Injection/ Pumping/ Conversion	Approximate Easting (Montana State Plane (feet))	Approximate Northing (Montana State Plane (feet))
	GPM		Layer	Layer					
IW-47	1.8	Spoils	2	2	Central Area-Near	Injection	2019	2703902	607105
IW-48	2	Alluvium	2	2	West Area-Near	Injection	2019	2702187	608490
IW-49	2	Alluvium	2	2	West Area-Near	Injection	2019	2702168	608608
IW-50	2	Alluvium	2	2	West Area-Near	Injection	2019	2702172	608152
C-11	0.65	Alluvium	1	2	West Area-Near	New Capture	2019	2702029	609090
C-12	0.65	Alluvium	1	2	West Area-Near	New Capture	2019	2702007	609267
C-4	0.5	Alluvium	1	2	West Area-Near	New Capture	2019	2702072	608917
Horizontal Capture Well 2 - Brine Ponds	67	Spoils	2	2	Central Area-Near	New Horizontal Capture	2019	----	----
Horizontal Capture Well 1 - A Pond	23	Alluvium	2	2	West Area-Near	New Horizontal Capture	2019	----	----
118A	1	Alluvium	2	3	West Area-Near	Converted to Capture	2019	2701718	607590
59M	1	McKay	4	4	Off-Site West Area- Distal	Converted to Capture	2019	2701740	606716
SRP-6	1	Alluvium	2	3	West Area-Near	Converted to Capture	2019	2701710	607681
SRP-7	1	Alluvium	2	3	West Area-Near	Converted to Capture	2019	2701720	607276

Note - * Rate based on average simulated flow rate into well between 2019 and 2028

Table 6-8. Alternative 2 Transient Pumping Rate Results

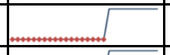
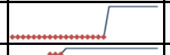
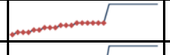
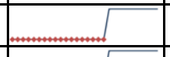
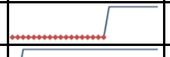
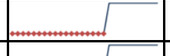
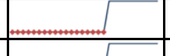
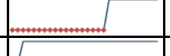
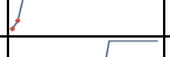
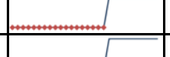
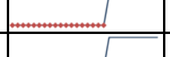
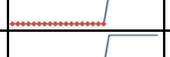
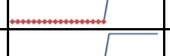
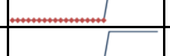
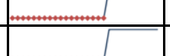
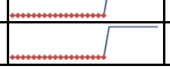
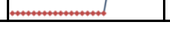
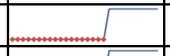
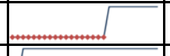
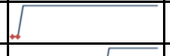
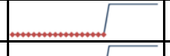
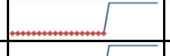
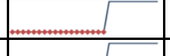
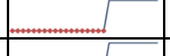
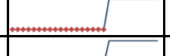
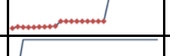
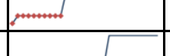
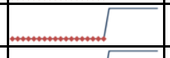
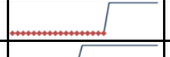
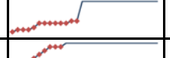
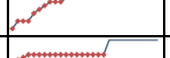
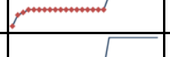
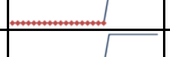
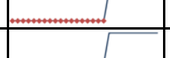
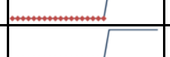
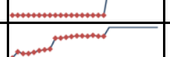
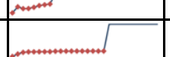
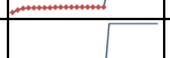
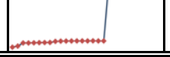
Well ID	Trend Line	Pumping Rate (GPM)																											
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030-2034	2035-2039	2040-2044	2045-2049	2050-2059	2060-2069	2070-2079	2080-2089	2090-2099	2100-2109	2110-2119	2120-2129	2130-2139	2140-2149
106A		-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	0	0	0	0	0	0	0	0	0	0
107A		-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	0	0	0	0	0	0	0	0	0	0
108A		-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	0	0	0	0	0	0	0	0	0	0
10M		-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	0	0	0	0	0	0	0	0	0	0
10S		-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	0	0	0	0	0	0	0	0	0	0
111sp		-5.16	-5.16	-5.16	-5.16	-5.16	-5.16	-5.16	-5.16	-5.16	-5.16	-5.16	-5.16	-5.16	-5.16	-5.16	-5.16	-5.16	-5.16	0	0	0	0	0	0	0	0	0	0
113M		-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	0	0	0	0	0	0	0	0	0	0
114S		-0.05	-0.04	-0.05	-0.04	-0.03	-0.02	-0.02	-0.01	-0.01	-0.01	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115M		-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	0	0	0	0	0	0	0	0	0	0
116M		-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	0	0	0	0	0	0	0	0	0	0
117A		-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	0	0	0	0	0	0	0	0	0	0
118A		-0.13	-0.12	-0.12	-0.12	-0.11	-0.11	-0.10	-0.1	-0.1	-0.09	-0.09	-0.09	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	0	0	0	0	0	0	0	0	0	0
119A		-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	0	0	0	0	0	0	0	0	0	0
122A		-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	0	0	0	0	0	0	0	0	0	0
19SP		-0.06	-0.01	-0.04	-0.04	-0.04	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	0	0	0	0	0	0	0	0	0	0
1D		-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	0	0	0	0	0	0	0	0	0	0
21s		-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	0	0	0	0	0	0	0	0	0	0
26SP		-2.52	-2.52	0	0	0	0	0.00	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29SP		-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	0	0	0	0	0	0	0	0	0	0
31M		-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	0	0	0	0	0	0	0	0	0	0
43s		-5.70	-5.7	-5.7	-5.7	-5.7	-5.7	-5.70	-5.7	-5.7	-5.7	-5.7	-5.7	-5.70	-5.7	-5.7	-5.7	-5.7	-5.7	0	0	0	0	0	0	0	0	0	0
4S		-5.93	-4.33	0	0	0	0	0.00	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51sp		-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	0	0	0	0	0	0	0	0	0	0
52sp		-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	0	0	0	0	0	0	0	0	0	0
53sp		-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	0	0	0	0	0	0	0	0	0	0
54sp		-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	0	0	0	0	0	0	0	0	0	0
55D		-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	0	0	0	0	0	0	0	0	0	0
56D		-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	0	0	0	0	0	0	0	0	0	0
58M		-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	0	0	0	0	0	0	0	0	0	0
59M		-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	0	0	0	0	0	0	0	0	0	0
5M		-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	0	0	0	0	0	0	0	0	0	0

Table 6-8. Alternative 2 Transient Pumping Rate Results

Well ID	Trend Line	Pumping Rate (GPM)																											
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030-2034	2035-2039	2040-2044	2045-2049	2050-2059	2060-2069	2070-2079	2080-2089	2090-2099	2100-2109	2110-2119	2120-2129	2130-2139	2140-2149
5s		-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	0	0	0	0	0	0	0	0	0	0
68A		-1.50	-1.5	-1.5	-1.5	-1.5	-1.5	-1.50	-1.5	-1.5	-1.5	-1.5	-1.5	-1.50	-1.5	-1.5	-1.5	-1.5	-1.5	0	0	0	0	0	0	0	0	0	0
6m		-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	0	0	0	0	0	0	0	0	0	0
70SP		-2.34	-2.34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74A		-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	0	0	0	0	0	0	0	0	0	0
75a		-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	0	0	0	0	0	0	0	0	0	0
78A		-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	0	0	0	0	0	0	0	0	0	0
79A		-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	0	0	0	0	0	0	0	0	0	0
82A		-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	0	0	0	0	0	0	0	0	0	0
98M		-5.40	-5.13	-5.21	-5.23	-5.22	-5.16	-5.15	-5.1	-5.01	-4.16	-4.16	-4.16	-4.16	-4.16	-4.16	-4.16	-4.16	-4.16	0	0	0	0	0	0	0	0	0	0
B-1		-3.59	-3.59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SRP-1		0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SRP-2		-0.04	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SRP-3		-5.36	-5.36	-5.36	-5.36	-5.36	-5.36	-5.36	-5.36	-5.36	-5.36	-5.36	-5.36	-5.36	-5.36	-5.36	-5.36	-5.36	-5.36	0	0	0	0	0	0	0	0	0	0
SRP-4		-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	0	0	0	0	0	0	0	0	0	0
SRP-5		-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	0	0	0	0	0	0	0	0	0	0
SRP-6		-0.69	-0.69	-0.69	-0.69	-0.69	-0.69	-0.69	-0.69	-0.69	-0.69	-0.69	-0.69	-0.69	-0.69	-0.69	-0.69	-0.69	-0.69	0	0	0	0	0	0	0	0	0	0
SRP-7		-0.14	-0.13	-0.13	-0.13	-0.12	-0.1	-0.10	-0.1	-0.1	-0.1	-0.1	-0.09	-0.09	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SRP-8		-0.08	-0.06	-0.06	-0.06	-0.04	-0.03	-0.02	-0.01	-0.01	-0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WECO Well		-54.98	-35.1	-30.7	-26	-26	-26	-26.00	-26	-26	-26	-26	-26	-26.00	-26	-26	-26	-26	-26	0	0	0	0	0	0	0	0	0	0
130M		-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	0	0	0	0	0	0	0	0	0	0
9M		-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	0	0	0	0	0	0	0	0	0	0
142R		-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	0	0	0	0	0	0	0	0	0	0
147A		-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	0	0	0	0	0	0	0	0	0	0
B Pond Underdrain		-11.45	-9.16	-9.84	-9.8	-9.35	-8.7	-8.38	-8.1	-4.12	-4.07	-3.79	-3.52	-3.25	-3.26	-3.38	-3.04	-3.38	-3.42	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL		**-319**	**-295**	**-278**	**-273**	**-273**	**-272**	**-272**	**-271**	**-267**	**-267**	**-266**	**-266**	**-266**	**-266**	**-266**	**-265**	**-266**	**-266**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
GRAND TOTAL of Capture System		**-264**	**-259**	**-247**	**-247**	**-247**	**-246**	**-246**	**-245**	**-241**	**-241**	**-240**	**-240**	**-240**	**-240**	**-240**	**-239**	**-240**	**-240**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes:

Negative value indicates pumping rate.

Red points on trend line indicates pumping; static line indicates no pumping

GPM = Gallons per Minute

Table 6-9. Year Sulfate Concentration Drops Below the PCC in Each Sub Area

	Layer 1		Layer 2		Layer 3		Layer 4		Layer 5	
	Alternative 1 (1)	Alternative 2	Alternative 1 (1)	Alternative 2	Alternative 1 (1)	Alternative 2	Alternative 1 (1)	Alternative 2	Alternative 1 (1)	Alternative 2
North Area Distal	2018	2018	2017	2017	2017	2017	2017	2017	2016	2016
North Area Near	2016	2016	2016	2017	2016	2016	2016	2016	2016	2016
West Area-Distal	2017	2017	2018	2018	2018	2018	2018	2018	2016	2016
Off-Site West Area- Distal		2020		2034		2034		2034	2034	2034
West Area-Near		2034		2034		2039		2039	2034	2034
West Area-Near Under Ponds		2044		2044		2044		2039	2016	2016
Central Area Distal	2034	2039	2024	2027	2023	2026	2023	2025	2016	2016
Central Area Near	2027	2034	2027	2027	2023	2029	2016	2016	2016	2016
Central Area-Near Under Ponds		2034		2044		2049		2034	2016	2016
East Area-Distal	2019	2018	2018	2019	2016	2016	2016	2016	2016	2016
East Area- Near		2028		2023		2016	2016	2016	2016	2016
South Area-Distal	2021	2021	2028	2034	2016	2019	2017	2017	2016	2016
South Area- Near		2028		2034		2039		2034	2016	2016

(1) No post pumping period simulated with Alternative 1

Remains above PCC throughout simulation (2049)

Table 6-10. Year Boron Concentration Drops Below the PCC in Each Sub Area

	Layer 1				Layer 2				Layer 3				Layer 4				Layer 5			
	Alternative 1 [1]	Alternative 2	Alternative 3	Alternative 4	Alternative 1 [1]	Alternative 2	Alternative 3	Alternative 4	Alternative 1 [1]	Alternative 2	Alternative 3	Alternative 4	Alternative 1 [1]	Alternative 2	Alternative 3	Alternative 4	Alternative 1 [1]	Alternative 2	Alternative 3	Alternative 4
North Area Distal	2034	2034 & 2109	2039 & 2109	2034	2022	2022 & 2109	2022 & 2109	2022	2019	2019 & 2099	2019 & 2099	2019	2019	2019 & 2099	2018 & 2099	2019	2016	2016	2016	2016
North Area Near	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
West Area-Distal	2034	2034 & 2109	2039 & 2119	2034	2025	2026 & 2119	2026 & 2119	2024	2023	2024 & 2109	2023 & 2109	2023	2023	2024 & 2109	2023 & 2119	2023	2016	2016	2016	2016
Off-Site West Area- Distal		2025 & 2129	2025 & 2129	2049		2109	2034 & 2109	2044		2109	2109	2039		2109	2049 & 2109	2039	2016	2016	2016	2016
West Area-Near		2149	2149	2049		2129	2139	2044		2139	2139	2049		2119	2119	2039		2059	2039	2049
West Area-Near Under Ponds		2149	2149	2069		2139	2119	2069		2119	2119	2089		2109	2119	2059	2016	2016	2016	2016
Central Area Distal				2039	2044	2021 & 2149	2020 & 2149	2039	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Central Area Near				2049 [2]				2049 [2]				2039	2016	2016	2016	2016	2016	2016	2016	2016
Central Area-Near Under Ponds				2069 [2]				2059				2099	2016	2016	2016	2016	2016	2016	2016	2016
East Area-Distal	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
East Area- Near				2034	2049			2034	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
South Area-Distal	2016	2016	2016	2016	2017	2017	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
South Area- Near	2016	2016	2016	2016	2017	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016

(1) No post pumping period simulated with Alternative 1

(2) A few model cells remain above the PCC in a very low conductivity zone

Remains above PCC throughout simulation (2049)

Remains above PCC throughout simulation (2149)

20XX & 20XX Fist and second time concentration drops below the PCC since plume reappears after pumping shuts off

Table 6-11. Alternative 3 Transient Pumping Rate Results

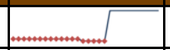
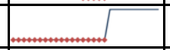
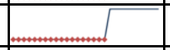
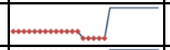
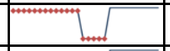
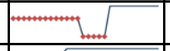
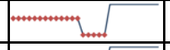
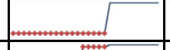
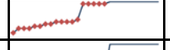
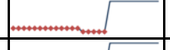
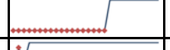
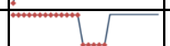
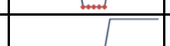
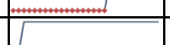
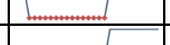
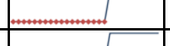
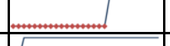
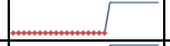
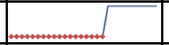
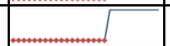
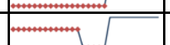
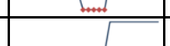
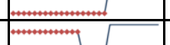
Well ID	Trend Line	Pumping Rate (GPM)																										
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030-2034	2035-2039	2040-2044	2045-2049	2050-2059	2060-2069	2070-2079	2080-2089	2090-2099	2100-2109	2110-2119	2120-2129	2130-2139	2140-2149
106A		-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-13.21	-14.24	-14.24	-14.24	-14.24	-14.24	0	0	0	0	0	0	0	0	0	0
107A		-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	0	0	0	0	0	0	0	0	0	0
108A		-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	0	0	0	0	0	0	0	0	0	0
10M		-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-6.75	-6.75	-6.75	-6.75	-6.75	0	0	0	0	0	0	0	0	0	0
10S		-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-8.18	-8.18	-8.18	-8.18	-8.18	0	0	0	0	0	0	0	0	0	0
111sp		-5.16	-5.16	-5.16	-5.63	-5.63	-5.63	-5.63	-5.63	-5.63	-5.63	-5.63	-5.63	-5.63	-5.63	-5.63	-5.63	-5.63	-5.63	0	0	0	0	0	0	0	0	0	0
113M		-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-1.5	-1.5	-1.5	-1.5	-1.5	0	0	0	0	0	0	0	0	0	0
114S		-0.05	-0.04	-0.05	-0.04	-0.03	-0.02	-0.02	-0.01	-0.01	-0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115M		-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-3	-3	-3	-3	-3	0	0	0	0	0	0	0	0	0	0
116M		-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	0	0	0	0	0	0	0	0	0	0
117A		-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	0	0	0	0	0	0	0	0	0	0
118A		-0.14	-0.12	-0.12	-0.12	-0.11	-0.11	-0.10	-0.1	-0.09	-0.09	-0.09	-0.09	-0.08	-0.01	-0.01	-0.01	-0.01	-0.01	0	0	0	0	0	0	0	0	0	0
119A		-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-10.58	-10.58	-10.58	-10.58	-10.58	0	0	0	0	0	0	0	0	0	0
122A		-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	0	0	0	0	0	0	0	0	0	0
19SP		-0.06	-0.01	-0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1D		-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-7.5	-7.5	-7.5	-7.5	-7.5	0	0	0	0	0	0	0	0	0	0
21s		-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	-5.55	0	0	0	0	0	0	0	0	0	0
26SP		-2.52	-2.52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29SP		-0.02	-0.02	-0.02	-1.13	-1.13	-1.13	-1.13	-1.13	-1.13	-1.13	-1.13	-1.13	-1.13	-1.13	-1.13	-1.13	-1.13	-1.13	0	0	0	0	0	0	0	0	0	0
31M		-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	0	0	0	0	0	0	0	0	0	0
43s		-5.70	-5.7	-5.7	-5.7	-5.7	-5.7	-5.70	-5.7	-5.7	-5.7	-5.7	-5.7	-5.70	-5.7	-5.7	-5.7	-5.7	-5.7	0	0	0	0	0	0	0	0	0	0
4S		-5.93	-4.34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51sp		-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	-6.03	0	0	0	0	0	0	0	0	0	0
52sp		-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	-3.22	0	0	0	0	0	0	0	0	0	0
53sp		-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	-3.54	0	0	0	0	0	0	0	0	0	0
54sp		-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	-1.09	0	0	0	0	0	0	0	0	0	0
55D		-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.9	-0.9	-0.9	-0.9	-0.9	0	0	0	0	0	0	0	0	0	0
56D		-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	0	0	0	0	0	0	0	0	0	0
58M		-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.75	-0.75	-0.75	-0.75	-0.75	0	0	0	0	0	0	0	0	0	0
59M		-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46	0	0	0	0	0	0	0	0	0	0

Table 6-11. Alternative 3 Transient Pumping Rate Results

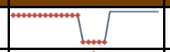
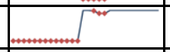
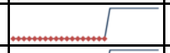
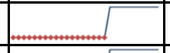
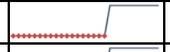
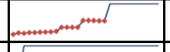
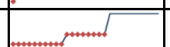
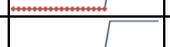
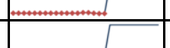
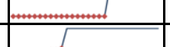
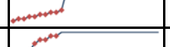
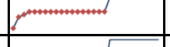
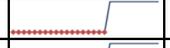
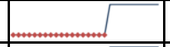
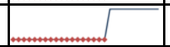
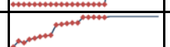
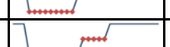
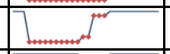
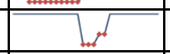
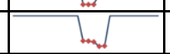
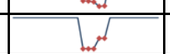
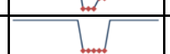
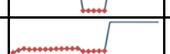
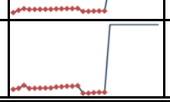
Well ID	Trend Line	Pumping Rate (GPM)																										
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030-2034	2035-2039	2040-2044	2045-2049	2050-2059	2060-2069	2070-2079	2080-2089	2090-2099	2100-2109	2110-2119	2120-2129	2130-2139	2140-2149
5M		-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-5.32	-5.32	-5.32	-5.32	-5.32	0	0	0	0	0	0	0	0	0	0
5s		-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	-0.59	0	0	-0.01	-0.06	-0.06	0	0	0	0	0	0	0	0	0	0
68A		-1.50	-1.5	-1.5	-1.5	-1.5	-1.5	-1.50	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	0	0	0	0	0	0	0	0	0	0
6m		-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	0	0	0	0	0	0	0	0	0	0
70SP		-2.34	-2.34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74A		-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	0	0	0	0	0	0	0	0	0	0
75a		-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	-8.55	0	0	0	0	0	0	0	0	0	0
78A		-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	0	0	0	0	0	0	0	0	0	0
79A		-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	-22.73	0	0	0	0	0	0	0	0	0	0
82A		-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	-11.02	0	0	0	0	0	0	0	0	0	0
98M		-5.41	-5.14	-5.22	-5.09	-5.08	-5.02	-5.00	-4.96	-4.87	-4.16	-4.16	-4.16	-4.16	-2.96	-2.96	-2.97	-3.02	-3.02	0	0	0	0	0	0	0	0	0	0
B-1		-3.59	-3.59	0	0	0	0	0.00	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SRP-1		0.00	0	0	0	0	0	0.00	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SRP-2		-0.04	-0.03	-0.03	-0.03	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SRP-3		-5.36	-5.36	-5.36	-5.36	-5.36	-5.36	-5.36	-5.36	-5.36	-5.36	-3.64	-3.64	-3.64	-3.64	-3.64	-3.64	-3.64	-3.64	0	0	0	0	0	0	0	0	0	0
SRP-4		-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	0	0	0	0	0	0	0	0	0	0
SRP-5		-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	-8.36	-8.36	-8.54	-8.64	-8.64	0	0	0	0	0	0	0	0	0	0
SRP-6		-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	0	0	0	0	0	0	0	0	0	0
SRP-7		-0.14	-0.13	-0.13	-0.12	-0.12	-0.11	-0.11	-0.1	-0.1	-0.09	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SRP-8		-0.08	-0.06	-0.06	-0.05	-0.03	-0.02	-0.02	-0.01	-0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WECO Well		-54.98	-35.12	-30.71	-26	-26	-26	-26.00	-26	-26	-26	-26	-26	-26.00	-25.91	-25.91	-25.73	-25.84	-25.84	0	0	0	0	0	0	0	0	0	0
130M		-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	0	0	0	0	0	0	0	0	0	0
9M		-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	0	0	0	0	0	0	0	0	0	0
142R		-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	0	0	0	0	0	0	0	0	0	0
147A		-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	0	0	0	0	0	0	0	0	0	0
B Pond Underdrain		-11.46	-9.18	-9.85	-8.6	-8.15	-7.56	-7.24	-6.99	-3.2	-2.98	-2.69	-2.46	-2.46	-0.34	-0.34	-0.3	-0.38	-0.4	0	0	0	0	0	0	0	0	0	0
New Capture Well 1		0.00	0	0	-4	-4	-4	-4	-4	-4	-4	-4	-4	-2	-2	-2	-2	-2	-2	0	0	0	0	0	0	0	0	0	0
New Capture Well 2		0.00	0	0	-3.64	-3.64	-3.64	-3.64	-3.64	-3.64	-3.64	-3.64	-3.64	-3.64	-1.82	-1.82	-1.82	-1.82	-1.82	0	0	0	0	0	0	0	0	0	0
New Capture Well 3		0	0	0	0	0	0	0	0	0	0	0	0	0	-0.39	-0.39	-0.39	-0.39	-0.39	0	0	0	0	0	0	0	0	0	0
New Capture Well 4		0.00	0	0	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	0	0	0	0	0	0	0	0	0	0

Table 6-11. Alternative 3 Transient Pumping Rate Results

Well ID	Trend Line	Pumping Rate (GPM)																										
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030-2034	2035-2039	2040-2044	2045-2049	2050-2059	2060-2069	2070-2079	2080-2089	2090-2099	2100-2109	2110-2119	2120-2129	2130-2139	2140-2149
New Capture Well 5		0.00	0	0	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	0	0	0	0	0	0	0	0	0	0
New Capture Well 6		0	0	0	-3.64	-3.64	-3.64	-3.64	-3.64	-3.64	-3.64	-3.64	-3.64	-3.64	-3.03	-3.03	-0.52	-0.52	-0.52	0	0	0	0	0	0	0	0	0	0
New Capture Well 7		0.00	0	0	0	0	0	0	0	0	0	0	0	0	-3.03	-3.03	-3.03	-2	-2	0	0	0	0	0	0	0	0	0	0
New Capture Well 8		0.00	0	0	0	0	0	0	0	0	0	0	0	0	-1.22	-1.23	-1.27	-1.49	-1.47	0	0	0	0	0	0	0	0	0	0
New Capture Well 9		0	0	0	0	0	0	0	0	0	0	0	0	0	-3.03	-3.03	-3.03	-2	-2	0	0	0	0	0	0	0	0	0	0
New Capture Well 10		0.00	0	0	0	0	0	0	0	0	0	0	0	0	-3.03	-3.03	-3.03	-3.03	-3.03	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL		**-318**	**-294**	**-278**	**-286**	**-285**	**-284**	**-284**	**-284**	**-280**	**-279**	**-277**	**-277**	**-275**	**-305**	**-305**	**-303**	**-301**	**-301**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
GRAND TOTAL of Capture System		**-263**	**-259**	**-247**	**-260**	**-259**	**-258**	**-258**	**-258**	**-254**	**-253**	**-251**	**-251**	**-249**	**-279**	**-279**	**-277**	**-276**	**-276**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes:

Negative value indicates pumping rate.

Red points on trend line indicates pumping; static line indicates no pumping

GPM = Gallons per Minute

Table 6-12. Alternative 4 Transient Pumping Rate Results

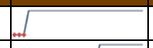
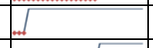
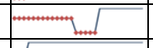
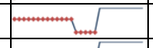
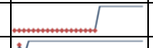
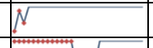
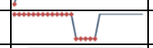
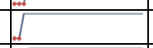
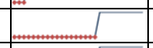
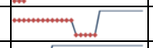
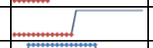
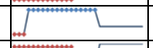
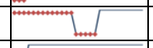
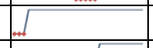
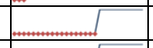
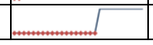
Well ID	Trend Line	Pumping Rate (GPM)																											
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030-2034	2035-2039	2040-2044	2045-2049	2050-2059	2060-2069	2070-2079	2080-2089	2090-2099	2100-2109	2110-2119	2120-2129	2130-2139	2140-2149
106A		-13.21	-13.21	-13.21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107A		-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	-7.11	0	0	0	0	0	0	0	0	0	0
108A		-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	-13.61	0	0	0	0	0	0	0	0	0	0
10M		-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	-5.22	0	0	0	0	0	0	0	0	0	0
10S		-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	0	0	0	0	0	0	0	0	0	0
111sp		-5.16	-5.16	-5.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113M		-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-1.5	-1.5	-1.5	-1.5	-1.5	0	0	0	0	0	0	0	0	0	0
114S		-0.06	-0.04	-0.05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115M		-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-1.38	-3	-3	-3	-3	-3	0	0	0	0	0	0	0	0	0	0
116M		-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	0	0	0	0	0	0	0	0	0	0
117A		-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118A		-0.14	-0.12	-0.12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
119A		-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	-9.37	0	0	0	0	0	0	0	0	0	0
122A		-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	0	0	0	0	0	0	0	0	0	0
19SP		-0.06	-0.01	-0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1D		-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-7.5	-7.5	-7.5	-7.5	-7.5	0	0	0	0	0	0	0	0	0	0
21s		-5.55	-5.55	-5.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26SP		-2.52	-2.52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29SP		-0.02	-0.02	-0.02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31M		-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	-0.53	0	0	0	0	0	0	0	0	0	0
43s		-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	0	0	0	0	0	0	0	0	0	0
4S		-5.93	-4.34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51sp		-6.03	-6.03	-6.03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52sp		-3.22	-3.22	-3.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53sp		-3.54	-3.54	-3.54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54sp		-1.09	-1.09	-1.09	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55D		-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.9	-0.9	-0.9	-0.9	-0.9	0	0	0	0	0	0	0	0	0	0
56D		-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	-15.54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58M		-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59M		-0.46	-0.46	-0.46	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
5M		-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-0.67	-5.32	-5.32	-5.32	-5.32	-5.32	0	0	0	0	0	0	0	0	0	0
5s		-0.59	-0.59	-0.59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68A		-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	0	0	0	0	0	0	0	0	0	0
6m		-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	0	0	0	0	0	0	0	0	0	0
70SP		-2.34	-2.34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74A		-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	-14.51	0	0	0	0	0	0	0	0	0	0

Table 6-12. Alternative 4 Transient Pumping Rate Results

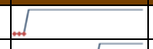
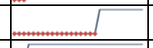
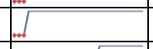
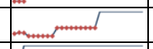
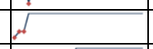
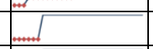
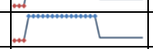
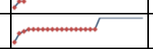
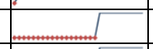
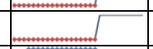
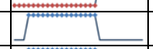
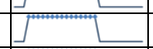
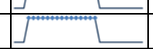
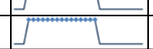
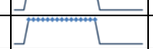
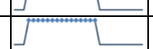
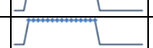
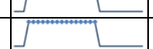
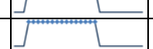
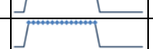
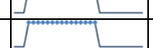
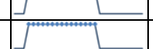
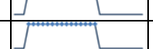
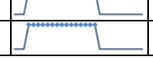
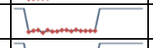
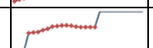
Well ID	Trend Line	Pumping Rate (GPM)																										
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030-2034	2035-2039	2040-2044	2045-2049	2050-2059	2060-2069	2070-2079	2080-2089	2090-2099	2100-2109	2110-2119	2120-2129	2130-2139	2140-2149
75a		-8.55	-8.55	-8.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78A		-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	-13.19	0	0	0	0	0	0	0	0	0	0
79A		-22.73	-22.73	-22.73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
82A		-11.02	-11.02	-11.02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98M		-5.63	-5.34	-5.43	-6.24	-6.24	-6.24	-6.24	-6.24	-6.24	-4.16	-4.16	-4.16	-4.16	-4.16	-4.16	-4.16	-4.16	-4.16	0	0	0	0	0	0	0	0	0	0
B-1		-3.59	-3.59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SRP-1		0	0	0	-0.27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SRP-2		-0.04	-0.03	-0.03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SRP-3		-5.36	-5.36	-5.36	-3.64	-3.64	-3.64	-3.64	-3.64	-3.64	-3.64	-3.64	-3.64	-3.64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SRP-4		-12.07	-12.07	-12.07	-12.07	-12.07	-12.07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SRP-5		-8.52	-8.52	-8.52	-8.52	-8.52	-8.52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SRP-6		-0.38	-0.38	-0.38	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
SRP-7		-0.14	-0.13	-0.13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
SRP-8		-0.08	-0.06	-0.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WECO Well		-54.98	-35.12	-30.71	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	0	0	0	0	0	0	0	0	0	0
130M		-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	-2.19	0	0	0	0	0	0	0	0	0	0
9M		-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	-10.33	0	0	0	0	0	0	0	0	0	0
142R		-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	0	0	0	0	0	0	0	0	0	0
147A		-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	-5.06	0	0	0	0	0	0	0	0	0	0
Injectoin Well 1		0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0
Injectoin Well 2		0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0
Injectoin Well 3		0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0
Injectoin Well 4		0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0
Injection Well 5		0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0
Injection Well 6		0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
Injection Well 7		0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0
Injection Well 8		0	0	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0	0
Injection Well 9		0	0	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0	0
Injection Well 10		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 11		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 12		0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
Injection Well 13		0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
Injection Well 14		0	0	0	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0	0	0	0	0	0	0	0	0	0
Injection Well 15		0	0	0	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0	0	0	0	0	0	0	0	0	0
Injection Well 16		0	0	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0	0
Injection Well 17		0	0	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0	0

Table 6-12. Alternative 4 Transient Pumping Rate Results

Well ID	Trend Line	Pumping Rate (GPM)																										
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030-2034	2035-2039	2040-2044	2045-2049	2050-2059	2060-2069	2070-2079	2080-2089	2090-2099	2100-2109	2110-2119	2120-2129	2130-2139	2140-2149
Injection Well 18		0	0	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0	0
Injection Well 19		0	0	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0	0
Injection Well 20		0	0	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	0	0	0	0	0	0	0	0	0
Injection Well 21		0	0	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0	0
Injection Well 22		0	0	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0	0
Injection Well 23		0	0	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0	0
Injection Well 24		0	0	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0	0
Injection Well 25		0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0
Injection Well 26		0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0
Injection Well 27		0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0
Injection Well 28		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 29		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 30		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 31		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 32		0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
Injection Well 33		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 34		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 35		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 36		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 37		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 38		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 39		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 40		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 41		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 42		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 43		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 44		0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
Injection Well 45		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 46		0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
Injection Well 47		0	0	0	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	0	0	0	0	0	0	0	0	0	0
Injection Well 48		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 49		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Injection Well 50		0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
New Well 1		0	0	0	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	0	0	0	0	0	0	0	0	0	0
New Well 2		0	0	0	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	0	0	0	0	0	0	0	0	0	0
New Well 4		0	0	0	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	-0.52	0	0	0	0	0	0	0	0	0	0

Table 6-12. Alternative 4 Transient Pumping Rate Results

Well ID	Trend Line	Pumping Rate (GPM)																										
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030-2034	2035-2039	2040-2044	2045-2049	2050-2059	2060-2069	2070-2079	2080-2089	2090-2099	2100-2109	2110-2119	2120-2129	2130-2139	2140-2149
Drain BPOND		-11.46	-9.18	-9.86	-24.33	-24.14	-23.84	-23.93	-23.77	-20.71	-20.62	-20.46	-20.3	-20.08	-19.46	-19.35	-19.35	-19.35	-19.35	0	0	0	0	0	0	0	0	0	0
HW Brine Ponds		0	0	0	-69.36	-65.76	-63.88	-71.72	-63.91	-68.15	-67.68	-64.12	-63.84	-67.11	-63.02	-66.15	-66.16	-66.16	-66.16	0	0	0	0	0	0	0	0	0	0
HW A Pond		0	0	0	-23.37	-22.82	-22.19	-24.24	-23.82	-24.34	-24.14	-23.84	-23.34	-22.72	-21.89	-21.89	-21.9	-21.89	-21.89	0	0	0	0	0	0	0	0	0	0
Grand Total		**-319**	**-295**	**-278**	**-162**	**-157**	**-155**	**-143**	**-134**	**-120**	**-118**	**-113**	**-113**	**-115**	**-121**	**-124**	**-124**	**-124**	**-124**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Grand Total of Capture System		**-264**	**-259**	**-247**	**-136**	**-131**	**-129**	**-117**	**-108**	**-94**	**-92**	**-87**	**-87**	**-89**	**-95**	**-98**	**-98**	**-98**	**-98**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Net Pumping of Capture System		**-264**	**-259**	**-247**	**-274**	**-269**	**-266**	**-254**	**-246**	**-232**	**-229**	**-225**	**-224**	**-227**	**-232**	**-235**	**-236**	**-235**	**-235**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Net Injection		**0**	**0**	**0**	**138**	**138**	**138**	**138**	**138**	**138**	**138**	**138**	**138**	**138**	**138**	**138**	**138**	**138**	**138**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes:

Negative value indicates pumping rate; positive value indicates injection rate

Red points on trend line indicates pumping; blue points indicate injection; static line indicates no pumping or injection

GPM = Gallons per Minute

Table 6-13. Interim Milestones

Interim Milestone		Year Boron Concentration Drops Below the PCC				Year Sulfate Concentration Drops Below the PCC	
		Alternative 1 [1]	Alternative 2	Alternative 3	Alternative 4	Alternative 1 [1]	Alternative 2
Outside Plant Property	Distal Areas		2129	2129	2049		2034
Inside Plant Property	Distal Areas (areas more than 500 ft from source area)				2039	2034	2039
	Beyond the pond perimeter				2049 [2]		2039

(1) No post pumping period simulated with Alternative 1

(2) A few model cells remain above the PCC in a very low conductivity zone

Remains above PCC throughout simulation (2049)

Remains above PCC throughout simulation (2149)

Table 7-1 Predicted Mass Discharge of Boron at Transects in 2069- Summary

Simulation	Year	Mass Discharge of Boron (kg/d)													
		A-A'	B-B'	C-C'	D-D'	E-E'	F-F'	G-G'	H-H'	I-I'	J-J'	K-K'	L-L'	M-M'	N-N'
Alternative 2 [1]	End of 2069	4.39E-01	2.33E-01	4.99E-02	3.99E-01	2.13E-02	3.15E-03	1.78E-02	8.10E-03	9.69E-02	4.63E-02	3.65E-02	9.3E-04	8.65E-03	1.70E-02
Alternative 3 [1]	End of 2069	4.50E-01	2.40E-01	4.93E-02	4.15E-01	1.99E-02	3.11E-03	1.79E-02	8.11E-03	9.37E-02	4.57E-02	3.35E-02	9.2E-04	8.45E-03	1.65E-02
Alternative 4 [1]	End of 2069	1.87E-01	7.18E-02	5.11E-02	1.25E-01	1.42E-02	2.95E-03	1.94E-02	8.88E-03	8.97E-02	3.63E-02	2.60E-02	9.7E-04	8.95E-03	1.53E-02

Notes:

[1] Capture system is simulated to be shutoff end of 2049 for Alternatives 2, 3, and 4

Shaded cells indicate all concentrations are below the "PCC" at the transect

Table 7-2. Predicted Mass Discharge of Boron at Transects in 2069 - Detailed

Simulation	Year	Layer	Mass Discharge of Boron (kg/d)													
			A-A'	B-B'	C-C'	D-D'	E-E'	F-F'	G-G'	H-H'	I-I'	J-J'	K-K'	L-L'	M-M'	N-N'
Alternative 2	End of 2069	Layer 1	5.95E-03	4.32E-03	5.82E-06	5.03E-03	7.89E-03	6.33E-06	6.58E-03	4.04E-03	5.85E-05	2.14E-02	3.05E-03	3.85E-05	4.93E-03	1.02E-05
Alternative 3	End of 2069	Layer 1	6.35E-03	4.40E-03	6.14E-06	5.32E-03	7.51E-03	5.98E-06	6.67E-03	4.04E-03	5.37E-05	2.13E-02	3.11E-03	4.21E-05	4.82E-03	1.05E-05
Alternative 4	End of 2069	Layer 1	4.50E-03	1.29E-03	6.61E-06	1.48E-03	3.49E-03	5.76E-06	6.71E-03	4.15E-03	4.95E-05	1.79E-02	2.93E-03	4.59E-05	5.10E-03	1.08E-05
Alternative 2	End of 2069	Layer 2	3.80E-01	1.25E-01	2.51E-02	3.49E-01	1.77E-03	4.64E-04	5.56E-03	2.50E-03	3.57E-02	1.18E-02	1.98E-02	2.63E-05	1.93E-03	9.08E-03
Alternative 3	End of 2069	Layer 2	3.91E-01	1.30E-01	2.49E-02	3.64E-01	1.27E-03	4.47E-04	5.58E-03	2.50E-03	3.38E-02	1.10E-02	1.70E-02	2.85E-05	1.88E-03	8.86E-03
Alternative 4	End of 2069	Layer 2	1.50E-01	3.77E-02	2.57E-02	1.05E-01	1.08E-03	4.34E-04	6.11E-03	2.99E-03	2.92E-02	6.45E-03	1.04E-02	3.14E-05	2.00E-03	8.34E-03
Alternative 2	End of 2069	Layer 3	2.08E-02	4.17E-02	1.38E-02	2.11E-02	1.56E-03	6.22E-04	4.50E-04	1.33E-04	3.49E-02	1.79E-03	2.89E-03	7.30E-07	7.85E-05	1.16E-03
Alternative 3	End of 2069	Layer 3	2.12E-02	4.28E-02	1.35E-02	2.19E-02	1.50E-03	6.18E-04	4.50E-04	1.34E-04	3.41E-02	1.76E-03	2.80E-03	8.80E-07	7.90E-05	1.14E-03
Alternative 4	End of 2069	Layer 3	1.03E-02	8.41E-03	1.41E-02	7.17E-03	1.17E-03	5.96E-04	4.92E-04	1.46E-04	3.50E-02	1.49E-03	2.61E-03	1.11E-06	8.14E-05	1.15E-03
Alternative 2	End of 2069	Layer 4	2.01E-02	5.51E-02	1.08E-02	1.87E-02	7.30E-03	1.93E-03	3.86E-03	8.50E-04	2.05E-02	6.58E-03	6.77E-03	8.65E-04	1.72E-03	4.28E-03
Alternative 3	End of 2069	Layer 4	2.02E-02	5.63E-02	1.07E-02	1.94E-02	6.89E-03	1.93E-03	3.84E-03	8.57E-04	2.02E-02	6.82E-03	6.73E-03	8.52E-04	1.67E-03	4.05E-03
Alternative 4	End of 2069	Layer 4	1.10E-02	1.83E-02	1.10E-02	6.18E-03	5.78E-03	1.80E-03	4.67E-03	9.98E-04	2.00E-02	5.74E-03	6.14E-03	8.94E-04	1.76E-03	3.44E-03
Alternative 2	End of 2069	Layer 5	1.13E-02	6.45E-03	2.60E-04	4.69E-03	2.75E-03	1.25E-04	1.33E-03	5.69E-04	5.61E-03	4.83E-03	3.94E-03	0	0	2.50E-03
Alternative 3	End of 2069	Layer 5	1.12E-02	6.37E-03	2.75E-04	4.35E-03	2.70E-03	1.16E-04	1.34E-03	5.80E-04	5.54E-03	4.80E-03	3.94E-03	0	0	2.46E-03
Alternative 4	End of 2069	Layer 5	1.09E-02	6.05E-03	2.66E-04	4.64E-03	2.64E-03	1.10E-04	1.38E-03	5.95E-04	5.48E-03	4.62E-03	3.91E-03	0	0	2.40E-03

Notes:

Segment has no exceedanes through all layers

Table 7-3. Predicted Mass of Boron Removed by Wells

Well Name	Boron Mass Removed (kg/d)									
	Baseline	A1-2029	A1-2049	A2-2029	A2-2049	A3-2029	A3-2049	A4-2029	A4-2049	Sub-Area
111SP	0.27	0.21	0.14	0.24	0.2	0.21	0.18	0	0	Central Source Area
19SP	0	0	0	0	0	0	0	0	0	Central Source Area
26SP	0.22	0.04	0.02	0	0	0	0	0	0	Central Source Area
29SP	0	0	0	0	0	0	0	0	0	Central Source Area
4S	0.11	0.11	0.07	0	0	0	0	0	0	Central Source Area
70SP	0.33	0.18	0.16	0	0	0	0	0	0	Central Source Area
B-1	0.05	0.02	0.01	0	0	0	0	0	0	Central Source Area
21S	0.06	0.07	0.07	0.03	0.02	0.03	0.02	0	0	East Source Area
51SP	0.08	0.07	0.07	0.03	0.02	0.03	0.03	0	0	East Source Area
52SP	0.04	0.04	0.04	0.03	0.02	0.03	0.02	0	0	East Source Area
53SP	0.03	0.04	0.04	0.02	0.02	0.02	0.02	0	0	East Source Area
54SP	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0	0	East Source Area
WECO Well	0.33	0.29	0.34	0.09	0.07	0.09	0.07	0.09	0.07	East Source Area
74A	0.17	0.1	0.09	0.1	0.09	0.1	0.09	0.12	0.09	North Distal Area
75A	0.09	0.05	0.04	0.05	0.04	0.05	0.04	0	0	North Distal Area
79A	0.29	0.14	0.12	0.14	0.12	0.14	0.12	0	0	North Distal Area
82A	0.17	0.05	0.05	0.05	0.05	0.05	0.05	0	0	North Distal Area
106A	0.1	0.09	0.08	0.07	0.05	0.07	0.06	0	0	Off-site West Area
107A	0.08	0.03	0.03	0.03	0.03	0.03	0.03	0.09	0.04	Off-site West Area
108A	0.15	0.06	0.06	0.06	0.06	0.06	0.06	0.13	0.05	Off-site West Area
10M	0.07	0.03	0.03	0.03	0.02	0.04	0.03	0.04	0.03	Off-site West Area
10S	0.02	0.01	0	0.01	0	0.05	0.03	0.01	0	Off-site West Area
113M	0.03	0.03	0.04	0.03	0.02	0.05	0.02	0.01	0.01	Off-site West Area
114S	0	0	0	0	0	0	0	0	0	Off-site West Area
59M	0.01	0.02	0.03	0.02	0.01	0.01	0.01	0	0	Off-site West Area
98M	0.04	0.05	0.04	0.04	0.02	0.02	0.01	0.05	0.03	Off-site West Area
SRP-8	0	0.01	0.01	0	0	0	0	0	0	Off-site West Area
6M	0.01	0.02	0.01	0.01	0	0.01	0	0.01	0.01	South Source Area
130M	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	South Source Area
9M	0.2	0.08	0.06	0.07	0.06	0.07	0.06	0.07	0.06	South Source Area
142R	0.07	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	South Source Area
147A	0.07	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.03	South Source Area
68A	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	Soutwest Distal Area
115M	0.02	0.05	0.06	0.04	0.03	0.07	0.03	0.04	0.02	West Source Area
116M	0.19	0.23	0.24	0.12	0.07	0.06	0.03	0.06	0.02	West Source Area
117A	0.29	0.07	0.06	0.03	0.01	0.02	0.01	0	0	West Source Area
118A	0.03	0.03	0.02	0.01	0.01	0	0	0	0	West Source Area
119A	0.2	0.12	0.09	0.12	0.09	0.12	0.09	0.17	0.08	West Source Area
122A	0.15	0.03	0.03	0.03	0.02	0.03	0.03	0.16	0.04	West Source Area
1D	0	0	0	0	0	0.13	0.09	0.13	0.08	West Source Area
31M	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0	West Source Area
43S	0.09	0.05	0.04	0.05	0.04	0.04	0.03	0.08	0.05	West Source Area
55D	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	West Source Area
56D	0.26	0.19	0.17	0.19	0.15	0.19	0.14	0	0	West Source Area
58M	0	0.02	0.02	0.02	0.01	0.07	0.03	0	0	West Source Area
5M	0.02	0.08	0.09	0.06	0.04	0.23	0.07	0.12	0.03	West Source Area
5S	0.12	0.07	0.08	0.05	0.03	0	0	0	0	West Source Area

Table 7-3. Predicted Mass of Boron Removed by Wells

Well Name	Boron Mass Removed (kg/d)									
	Baseline	A1-2029	A1-2049	A2-2029	A2-2049	A3-2029	A3-2049	A4-2029	A4-2049	Sub-Area
78A	0.29	0.1	0.09	0.09	0.09	0.09	0.09	0.29	0.12	West Source Area
SRP-1	0	0	0	0	0	0	0	0	0	West Source Area
SRP-2	0	0	0	0	0	0	0	0	0	West Source Area
SRP-3	0.28	0.21	0.14	0.17	0.1	0.11	0.06	0	0	West Source Area
SRP-4	0.09	0.15	0.12	0.12	0.08	0.11	0.08	0	0	West Source Area
SRP-5	0.76	0.45	0.38	0.28	0.14	0.19	0.09	0	0	West Source Area
SRP-6	0.17	0.11	0.11	0.1	0.06	0.05	0.02	-0.01	0	West Source Area
SRP-7	0.03	0.03	0.03	0	0	0	0	0	0	West Source Area
New Capture Well 1	0	0	0	0	0	0.08	0.07	0	0	Central Source Area
New Capture Well 2	0	0	0	0	0	0.05	0.03	0	0	Central Source Area
New Capture Well 3	0	0	0	0	0	0.03	0.02	0	0	West Source Area
New Capture Well 4	0	0	0	0	0	0.01	0.01	0.01	0	West Source Area
New Capture Well 5	0	0	0	0	0	0.01	0	0	0	West Source Area
New Capture Well 6	0	0	0	0	0	0.11	0.02	0	0	West Source Area
New Capture Well 7	0	0	0	0	0	0.09	0.04	0	0	West Source Area
New Capture Well 8	0	0	0	0	0	0.08	0.05	0	0	West Source Area
New Capture Well 9	0	0	0	0	0	0.14	0.05	0	0	West Source Area
New Capture Well 10	0	0	0	0	0	0.1	0.04	0	0	West Source Area
New Capture Well 11	0	0	0	0	0	0	0	0	0	West Source Area
New Capture Well 12	0	0	0	0	0	0	0	0.01	0	West Source Area
Horizontal Capture Well 1 - A Pond	0	0	0	0	0	0	0	0.73	0.18	West Source Area
Horizontal Capture Well 2 - Brine Ponds	0	0	0	0	0	0	0	1.09	0.52	Central Source Area
Sum of Mass Removed	6.15	3.93	3.51	2.72	1.97	3.47	2.26	3.59	1.61	

Notes:

A1= Alternative 1

A2 = Alternative 2

A3= Alternative 3

A4 = Alternative 4

Table 7-4. Predicted Mass of Sulfate Removed by Wells

Well Name	Sulfate Mass Removed (kg/d)					
	Baseline	A1-2029	A1-2049	A2-2029	A2-2049	Sub-Area
111SP	184	60.3	53.6	59.1	40.8	Central Source Area
19SP	2.0	0.53	0.34	0.38	0.24	Central Source Area
26SP	167	27.0	0	26.7	0	Central Source Area
29SP	0.30	0.22	0.22	0.22	0.22	Central Source Area
4S	110	58.2	0	54.7	0	Central Source Area
70SP	172	172	0	173	0	Central Source Area
B-1	80.4	38.9	0	38.6	0	Central Source Area
21S	55.5	56.1	32.7	56.1	19.3	East Source Area
51SP	63.8	71.9	50.2	72.0	41.0	East Source Area
52SP	32.4	32.7	24.1	32.7	19.6	East Source Area
53SP	32.4	35.8	26.0	35.8	20.9	East Source Area
54SP	9.9	11.1	6.7	11.1	4.0	East Source Area
WECO Well	600	461	118	440	84.3	East Source Area
74A	201	145	147	138	140	North Distal Area
75A	84.1	71.1	74.0	66.9	70.2	North Distal Area
79A	314	222	223	192	196	North Distal Area
82A	136	45.6	44.7	42.6	42.1	North Distal Area
106A	293	121	116	116	112	Off-site West Area
107A	115	66.2	67.6	64.5	66.5	Off-site West Area
108A	184	125	128	122	126	Off-site West Area
10M	119	57.8	48.3	53.9	41.4	Off-site West Area
10S	19.4	9.4	7.8	8.8	6.7	Off-site West Area
113M	15.9	13.7	9.2	13.1	5.0	Off-site West Area
114S	1.3	1.3	0.01	1.3	0.01	Off-site West Area
59M	11.6	8.4	5.4	7.9	3.3	Off-site West Area
98M	130	53.5	38.4	47.2	33.7	Off-site West Area
SRP-8	1.7	1.9	0	1.9	0	Off-site West Area
6M	35.1	23.7	10.7	21.8	8.1	South Source Area
130M	31.8	49.0	29.9	51.4	19.5	South Source Area
9M	189	149	103	135	78.4	South Source Area
142R	55.4	34.5	30.8	34.5	30.4	South Source Area
147A	97.4	103	61.4	108	43.0	South Source Area
68A	19.9	12.1	12.0	10.7	11.0	Soutwest Distal Area
115M	28.2	29.2	22.9	27.8	15.4	West Source Area

Table 7-4. Predicted Mass of Sulfate Removed by Wells

Well Name	Sulfate Mass Removed (kg/d)					
	Baseline	A1-2029	A1-2049	A2-2029	A2-2049	Sub-Area
116M	98.4	86.1	43.8	84.3	31.6	West Source Area
117A	55.5	24.1	14.0	23.5	12.3	West Source Area
118A	5.6	6.1	2.2	6.1	0.79	West Source Area
119A	154	96.8	97.0	86.0	87.4	West Source Area
122A	91.6	55.0	55.1	52.5	53.1	West Source Area
1D	2.1	2.0	2.0	1.6	1.7	West Source Area
31M	11.3	5.2	5.1	3.7	3.7	West Source Area
43S	82.8	57.4	57.3	53.5	53.9	West Source Area
55D	5.0	4.4	4.5	3.5	3.6	West Source Area
56D	216	194	191	169	154	West Source Area
58M	5.1	7.6	4.6	7.5	1.7	West Source Area
5M	21.0	26.4	13.2	26.2	6.1	West Source Area
5S	26.8	22.8	10.8	22.6	5.2	West Source Area
78A	211	145	147	140	143	West Source Area
SRP-1	0	0	0	0	0	West Source Area
SRP-2	1.4	0.40	0	0.30	0	West Source Area
SRP-3	107	66.4	57.8	56.4	43.2	West Source Area
SRP-4	164	123	116	116	106	West Source Area
SRP-5	217	149	91.8	144	71.6	West Source Area
SRP-6	30.0	29.8	18.2	29.7	6.8	West Source Area
SRP-7	7.8	7.1	0	7.1	0	West Source Area
Sum of Mass Removed	5108	3476	2422	3299	2065	

Notes:

A1= Alternative 1

A2 = Alternative 2

A3= Alternative 3

A4 = Alternative 4

Table 7-5. Predicted Volume of Groundwater Exceeding Boron PCC

Layer	Baseline (2016)	Alternative 1		Alternative 2			Alternative 3			Alternative 4		
		End of 2029	End of 2049	End of 2029	End of 2049	End of 2069	End of 2029	End of 2049	End of 2069	End of 2029	End of 2049	End of 2069
1	93	74	51	54	38	141	23	14	126	72	1	2
2	62	36	30	25	18	79	11	6	75	40	1	0.03
3	118	121	124	119	113	114	72	55	88	92	18	6
4	22	21	19	18	11	14	17	9	14	11	0	0
5	11	6	2	5	1	0	5	0	0	8	0	0
Total	306	258	226	222	181	348	128	83	303	223	21	8
Percent Reduced from Baseline	0	16%	26%	28%	41%	-12%	58%	73%	1%	27%	93%	97%

Note:

Volume estimates were calculated as the volume of groundwater above the Proposed Cleanup Criteria (PCC)of 4 mg/L.

All values are reported in Acre Feet

Negative percentage indicates an increase in volume

Table 7-6. Predicted Volume of Groundwater Exceeding Sulfate PCC

Layer	Baseline (2016)	Alternative 1		Alternative 2		
		End of 2029	End of 2049	End of 2029	End of 2049	End of 2069
1	415	119	117	2	0	0
2	272	62	46	10	0	0
3	332	253	156	146	0.3	0
4	46	36	28	10	0	0
5	13	1	0	1	0	0
Total	1,079	471	347	168	0.3	0
Percent Reduced from Baseline	0	56%	68%	84%	100%	100%

Note:

Volume estimates were calculated as the volume of groundwater above the Proposed Cleanup Criteria (PCC) of 3,000 mg/L.

All values are reported in Acre Feet

Negative percentage indicates an increase in volume

Table 7-7. Predicted Boron Mass Exceeding Boron PCC

Layer	Baseline (2016)	Alternative 1		Alternative 2			Alternative 3			Alternative 4		
		End of 2029	End of 2049	End of 2029	End of 2049	End of 2069	End of 2029	End of 2049	End of 2069	End of 2029	End of 2049	End of 2069
1	1361	1006	735	576	348	1422	222	120	1,340	541	8	13
2	1125	751	670	343	181	687	108	53	674	284	4	0
3	2232	2257	2390	1745	1166	1010	806	554	866	875	125	33
4	274	320	320	253	117	132	242	92	135	82	3	0
5	58	30	9	29	0	0	28	0	0	44	0	0
Total	5051	4364	4124	2945	1812	3252	1,407	819	3,016	1,827	141	47
Percent Reduced from Baseline	0	14%	18%	42%	64%	36%	72%	84%	40%	64%	97%	99%

Note:

Mass estimates were calculated as the mass of boron in groundwater above the Proposed Cleanup Criteria (PCC) of 4 mg/L.

All values are reported in kilograms

Table 7-8. Predicted Sulfate Mass Exceeding Sulfate PCC

Layer	Baseline (2016)	Alternative 1		Alternative 2		
		End of 2029	End of 2049	End of 2029	End of 2049	End of 2069
1	2,287,947	631,602	631,905	7,862	0	0
2	1,395,092	398,122	417,872	45,681	0	0
3	1,616,415	1,513,899	1,747,888	680,852	1,121	0
4	248,073	190,557	218,136	50,445	0	0
5	51,075	3,948	0	2,908	0	0
Total	5,598,602	2,738,128	3,015,801	787,748	1,121	0
Percent Reduced from Baseline	0	51%	46%	86%	100%	100%

Note:

Mass estimates were calculated as the mass of sulfate in groundwater above the Proposed Cleanup Criteria (PCC) of 3,000 mg/L.

All values are reported in kilograms

Table 8-1. High and Low Boron and Sulfate Source Concentrations for Sensitivity Analysis

Source Area	Recharge Zone	Description	Simulated Source Concentration (mg/L)	Low Source Concentration (mg/L)	High Source Concentration (mg/L)
Boron - Alternative 4					
Units 1 & 2 Bottom Ash Ponds and Clear Well	3	Bottom Ash Pond	13	6.5	26
	31	Clear Well	1.9	0.95	3.8
	48	Clear Well	16	8	32
Units 1 & 2 B Pond	41	B Pond	22	11	44
Former Units 1 & 2 A Pond	2	Outer A Pond	40	20	80
	45	Central A Pond	71.9	35.95	143.8
	53	South A Pond	20	10	40
Units 1 & 2 Cooling Tower Blowdown Pond C	15	North Pond	6.83	3.415	13.66
Sulfate - Alternative 2					
Units 1 & 2 Cooling Tower Blowdown Pond C	4	South Pond	5540	2770	11080
	46	South Pond	5060	2530	10120
Former Units 3&4 Wash Tray Pond	8	Middle Wash Try Pond	2061	1030.5	4122
	39	Wash Tray Pond	2061	1030.5	4122
	47	South Wash Tray Pond	2061	1030.5	4122
Former Units 3 & 4 Drain Collection Pond (DCP)	26	North DCP	2061	1030.5	4122
	30	Middle DCP	2061	1030.5	4122
	55	South DCP	2061	1030.5	4122
Units 1-4 Sediment Retention Pond	32	Sediment Retention Pond	2061	1030.5	4122
	54	East Side Sediment Retention Pond	2061	1030.5	4122

Table 8-2. Simulated Seepage Rates for Sensitivity Analysis

Source Area	Recharge Zone	Description	Simulated Rate (ft/day)	High Seepage Rate (ft/day)
Boron – Alternative 4				
Units 1 & 2 Bottom Ash Ponds and Clear Well [1]	3	Bottom Ash Pond	0.00078	0.00156
	31	Clear Well	0.00092	0.00184
	48	Clear Well	0.00092	0.00184
Units 1 & 2 B Pond [1]	41	B Pond	0.0018	0.0036
Former Units 1 & 2 A Pond [1]	2	Outer A Pond	0.00215	0.0043
	45	Center Pond A	0.00215	0.0043
	53	Pond A Center	0.00215	0.0043
Units 1 & 2 Cooling Tower Blowdown Pond C [1]	15	North Pond	0.0001	0.0002
Sulfate - Alternative 2				
Units 1 & 2 Cooling Tower Blowdown Pond C [1]	4	South Pond C	0.0038	0.0076
	46	South End South Pond C	0.0038	0.0076

Notes:

[1] High multiplier also applied to the transient seepage rates that represent planned source control

Table 8-3. High and Low Hydraulic Conductivity for Sensitivity Analysis

Zone Number	Layer	Zone Description	Calibrated K_x/K_z (ft/day)	Low K_x/K_z (ft/day)	High K_x/K_z (ft/day)
13	2	Alluvium Over-bank Deposits	1/0.1	0.5/0.05	10/1
8	3	Interburden (siltstone)	0.5/0.0007	0.25/0.00035	5/0.007
6	4	McKay (coal)	6/5.5	2/2.75	9.3/8.5
7	5	Sub-McKay (interbedded siltstone/sandstone)	1.5/0.005	1.125/0.00375	15/0.05

Note:

K_x: Horizontal hydraulic conductivity

K_z: Vertical hydraulic conductivity

Table 8-4. High and Low Effective Porosity for Sensitivity Analysis

Unit	Calibrated Effective Porosity	Low Effective Porosity	High Effective Porosity
Fine-grained alluvium	0.15-0.2	0.075-0.1	0.3-0.4
Coarse-grained alluvium	0.2	0.1	0.4
Spoils	0.15	0.075	0.3
Interburden	0.15	0.075	0.3
Rosebud and McKay Coal	0.09	0.045	0.18
Sub-McKay bedrock	0.15	0.075	0.3

Note:

All values are unitless