North Butte Water Balance

20-Jan-17

Assumes 9 Pore Volumes of Treatment (1 P.V. GWS and 8 P.V. RO)

Year				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
				2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Production Flows																									
Total Production Flow (gpm) (end of year)				2830	1977	1383	532	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Production Bleed (gpm)				28.3	19.8	13.8	5.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Misc. GWS				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Control Bleed (gpm)				10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	0	0	0	0	0	0	0
Restoration Flows																									
	PV With Flare (Kgal)	GWS PV to Finish	RO PV to Finish																						
MU 1 (gal) (RO)	**64,000**	1	8			180	180	252	252	180															
GWS (gal)						45	45	63	63	45															
Total Disposal (gal)						45	45	63	63	45															
MU 2 (gal) (RO)	**79,000**	1	8							72	252	252	252	252	180										
GWS (gal)										18	63	63	63	63	45										
Total Disposal (gal)										18	63	63	63	63	45										
Total Restoration Disposal (gpm)				**0**	**0**	**45**	**45**	**63**	**63**	**63**	**63**	**63**	**63**	**63**	**45**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Installed RO Capacity (gpm) (feed)	**Feed (gpm)**	**Feed (Future)**																							
	250																								
	100																								
Total RO Capacity (gpm)	**250**	**0**																							
Deep Disposal Well Capacity (gpm)	**Permitted**	**Current**	**Future**																						
North Butte 1	**75**	**75**		75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
North Butte 2	**75**			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Butte 3				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Butte 4				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		75	**0**																						
Total Available				75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
Total Production Bleed (gpm)				28.3	19.8	13.8	5.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Misc. Process Water				3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Misc. GWS				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Control Bleed (gpm)				10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	0	0	0	0	0	0	0
Total Restoration Disposal (gpm)				0	0	45.0	45.0	63.0	63.0	63	63	63.0	63	63	45	0	0	0	0	0	0	0	0	0	0
Total Disposal Required (gpm)				41.3	32.8	71.8	63.3	76.0	76.0	73	73	73.0	73	73	55	10	10	10	0	0	0	0	0	0	0
Total Disposal Balance				**34**	**42**	**3**	**12**	**-1**	**-1**	**2**	**2**	**2**	**2**	**2**	**20**	**65**	**65**	**65**	**75**	**75**	**75**	**75**	**75**	**75**	**75**
Equivalent RO Feed Rate (gpm)				**227**	**280**	**20**	**80**	**-7**	**-7**	**13**	**13**	**13**	**13**	**13**	**133**	**433**	**433**	**433**	**500**	**500**	**500**	**500**	**500**	**500**	**500**

Total Disposal Balance				**34**	**42**	**3**	**12**	**-1**	**-1**	**2**	**2**	**2**	**2**	**2**	**20**	**65**	**65**	**65**	**75**	**75**	**75**	**75**	**75**	**75**	**75**
Equivalent RO Feed Rate (gpm)				**227**	**280**	**20**	**80**	**-7**	**-7**	**13**	**13**	**13**	**13**	**13**	**133**	**433**	**433**	**433**	**500**	**500**	**500**	**500**	**500**	**500**	**500**