

Appendix E
SUMMARY OF LONG TERM MONITORING OPTIMIZATION EVALUATION OF CURRENT GROUNDWATER MONITORING PROGRAM
THREE-TIERED LONG TERM MONITORING OPTIMIZATION
CAMP STANLEY STORAGE AREA, TEXAS

Well ID	Current Sampling Frequency	Qualitative Evaluation			Temporal Evaluation		Spatial Evaluation		Summary			
		Exclude	Retain	Recommended Monitoring Frequency	Exclude/Reduce	Retain	Exclude	Retain	Exclude	Retain	Recommended Monitoring Frequency	Rationale
On Post Monitoring Wells												
AOC65-MW1-LGR	Quarterly	✓		Sample after major rain event	Not Analyzed			↓ ^{a/}		✓	Sample after major rain event	Statistics confirm qualitative evaluation
AOC65-MW2A	Quarterly	✓		Sample after major rain event		✓	-- ^{b/}	--		✓	Sample after major rain event	Statistics confirm qualitative evaluation
AOC65-PZ01-LGR	Quarterly	✓		Sample after major rain event	✓		Not Included		✓		Exclude	Exclude well based on statistics
AOC65-PZ02-LGR	Quarterly	✓		Sample after major rain event	✓		Not Included		✓		Exclude	Exclude well based on statistics
AOC65-PZ03-LGR	Quarterly	✓		Sample after major rain event	✓		Not Included		✓		Exclude	Exclude well based on statistics
AOC65-PZ04-LGR	Quarterly	✓		Sample after major rain event	✓		Not Included		✓		Exclude	Exclude well based on statistics
AOC65-PZ05-LGR	Quarterly	✓		Sample after major rain event	✓		Not Included		✓		Exclude	Exclude well based on statistics
AOC65-PZ06-LGR	Quarterly	✓		Sample after major rain event	✓		Not Included		✓		Exclude	Exclude well based on statistics
CS-1	Quarterly		✓	Annual		✓		✓		✓	Annual	Statistics confirm qualitative evaluation
CS-10	Quarterly		✓	Annual	✓		--	--		✓	Annual	Qualitative factor (drinking water well) overrides statistic recommendations
CS-11	Quarterly	✓		Biennial		✓	✓			✓	Annual	Increase sampling frequency due to temporal trend
CS-2	Quarterly		✓	Semi-annual	✓		✓		✓		Annual	Decrease sampling frequency due to statistics results
CS-3	Not Sampled	✓		Remove	✓		Not Included		✓		Exclude	Statistics confirm qualitative evaluation
CS-4	Quarterly		✓	Semi-annual		✓	✓			✓	Semi-Annual	Temporal statistics confirm qualitative evaluation
CS-9	Quarterly		✓	Annual	✓		--	--		✓	Annual	Qualitative factor (drinking water well) overrides statistic recommendations
CS-D	Quarterly		✓	Semi-annual		✓		✓		✓	Semi-Annual	Statistics confirm qualitative evaluation
CS-I	Quarterly		✓	Biennial		✓	✓			✓	Annual	Increase sampling frequency due to temporal trend
CS-MW10-CC	Quarterly		✓	Biennial	✓		Not Included			✓	Biennial	Statistics confirm qualitative evaluation
CS-MW10-LGR	Quarterly		✓	Semi-annual	✓		✓			✓	Annual	Decrease sampling frequency due to statistics results
CS-MW11A-LGR	Quarterly		✓	Semi-annual	✓			✓		✓	Semi-Annual	Spatial statistics confirm qualitative evaluation
CS-MW11B-LGR	Quarterly		✓	Semi-annual	✓			✓		✓	Semi-Annual	Spatial statistics confirm qualitative evaluation
CS-MW12-BS	Quarterly		✓	Biennial	✓		Not Included			✓	Biennial	Statistics confirm qualitative evaluation
CS-MW12-CC	Quarterly		✓	Biennial	✓		Not Included			✓	Biennial	Statistics confirm qualitative evaluation
CS-MW12-LGR	Quarterly		✓	Semi-annual		✓			✓	✓	Annual	Decrease sampling frequency due to statistics results (ND sentry well)
CS-MW16-CC	Quarterly		✓	Semi-annual		✓	Not Included			✓	Semi-Annual	Statistics confirm qualitative evaluation
CS-MW16-LGR	Quarterly		✓	Semi-annual		✓		✓		✓	Semi-Annual	Statistics confirm qualitative evaluation
CS-MW17-LGR	Quarterly		✓	Biennial	✓			✓		✓	Annual	Increase sampling frequency due to spatial result
CS-MW18-LGR	Quarterly		✓	Semi-annual		✓		✓		✓	Semi-Annual	Statistics confirm qualitative evaluation
CS-MW19-LGR	Quarterly		✓	Semi-annual	✓			✓			Semi-Annual	Spatial statistics confirm qualitative evaluation
CS-MW1-BS	Quarterly		✓	Biennial	✓		Not Included			✓	Biennial	Statistics confirm qualitative evaluation
CS-MW1-CC	Quarterly		✓	Biennial	✓		Not Included			✓	Biennial	Statistics confirm qualitative evaluation
CS-MW1-LGR	Quarterly		✓	Semi-annual		✓				✓	Semi-Annual	Temporal statistics confirm qualitative evaluation
CS-MW2-CC	Quarterly		✓	Biennial	✓			✓		✓	Biennial	Statistics confirm qualitative evaluation

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		Exclude	Retain	Recommended Monitoring Frequency	Exclude/Reduce	Retain	Exclude	Retain	Exclude	Retain	Recommended Monitoring Frequency	Rationale
CS-MW2-LGR	Quarterly		✓	Semi-annual	✓		--	--		✓	Semi-Annual	Qualitative factor (recompleted well) overrides statistic recommendations
CS-MW3-LGR	Quarterly		✓	Semi-annual	✓			✓		✓	Semi-Annual	Spatial statistics confirm qualitative evaluation
CS-MW4-LGR	Quarterly		✓	Semi-annual	✓			✓		✓	Semi-Annual	Spatial statistics confirm qualitative evaluation
CS-MW5-LGR	Quarterly		✓	Semi-annual	✓			✓		✓	Semi-Annual	Spatial statistics confirm qualitative evaluation
CS-MW6-BS	Quarterly		✓	Biennial	✓			↓		✓	Biennial	Temporal statistics confirm qualitative evaluation
CS-MW6-CC	Quarterly		✓	Biennial	✓			↓		✓	Biennial	Temporal statistics confirm qualitative evaluation
CS-MW6-LGR	Quarterly		✓	Semi-annual	✓			✓↓		✓	Semi-Annual	Spatial statistics confirm qualitative evaluation
CS-MW7-CC	Quarterly		✓	Biennial	✓			→		✓	Biennial	Temporal statistics confirm qualitative evaluation
CS-MW7-LGR	Quarterly		✓	Semi-annual		✓		✓→		✓	Semi-Annual	Statistics confirm qualitative evaluation
CS-MW8-CC	Quarterly		✓	Biennial	✓			↓		✓	Biennial	Temporal statistics confirm qualitative evaluation
CS-MW8-LGR	Quarterly		✓	Semi-annual	✓		--	--↓		✓	Annual	Decrease sampling frequency due to statistics results
CS-MW9-BS	Quarterly		✓	Biennial	✓		Not Included			✓	Biennial	Temporal statistics confirm qualitative evaluation
CS-MW9-CC	Quarterly		✓	Biennial	✓		Not Included			✓	Biennial	Temporal statistics confirm qualitative evaluation
CS-MW9-LGR	Quarterly		✓	Semi-annual	✓			✓			Semi-annual	Spatial statistics confirm qualitative evaluation
CS-MWG-LGR	Quarterly		✓	Biennial	✓			✓		✓	Annual	Increase sampling frequency due to spatial result
CS-MWH-LGR	Quarterly		✓	Biennial	✓		✓			✓	Biennial	Statistics confirm qualitative evaluation
WestBay Wells												
CS-WB01-LGR-01	Monthly & after rain events		✓	Semi-annual	✓		↓			✓	Semi-Annual	Qualitative factor overrides statistic recommendations
CS-WB01-LGR-02	Monthly & after rain events		✓	Semi-annual	✓		↓			✓	Semi-Annual	Qualitative factor overrides statistic recommendations
CS-WB01-LGR-03	Monthly & after rain events		✓	Semi-annual		✓	↓			✓	Semi-Annual	Temporal statistics confirm qualitative evaluation
CS-WB01-LGR-04	Monthly & after rain events		✓	Semi-annual	✓		↓			✓	Semi-Annual	Qualitative factor overrides statistic recommendations
CS-WB01-LGR-05	Monthly & after rain events		✓	Semi-annual	✓		↓			✓	Semi-Annual	Qualitative factor overrides statistic recommendations
CS-WB01-LGR-06	Monthly & after rain events		✓	Semi-annual	✓		↓			✓	Semi-Annual	Qualitative factor overrides statistic recommendations
CS-WB01-LGR-07	Monthly & after rain events		✓	Semi-annual		✓	↓			✓	Semi-Annual	Temporal statistics confirm qualitative evaluation
CS-WB01-LGR-08	Monthly & after rain events		✓	Semi-annual	✓		↓			✓	Semi-Annual	Qualitative factor overrides statistic recommendations
CS-WB01-LGR-09	Monthly & after rain events		✓	Semi-annual		✓	--	--		✓	Semi-Annual	Temporal statistics confirm qualitative evaluation
CS-WB01-UGR-01	Monthly & after rain events		✓	Semi-annual	Not Analyzed			↓		✓	Semi-Annual	Spatial statistics confirm qualitative evaluation
CS-WB02-LGR-01	Monthly & after rain events		✓	Semi-annual		✓	--	--→		✓	Semi-Annual	Statistics confirm qualitative evaluation
CS-WB02-LGR-02	Monthly & after rain events		✓	Semi-annual		✓	--	--		✓	Semi-Annual	Temporal statistics confirm qualitative evaluation
CS-WB02-LGR-03	Monthly & after rain events		✓	Semi-annual		✓	--	--		✓	Semi-Annual	Temporal statistics confirm qualitative evaluation
CS-WB02-LGR-04	Monthly & after rain events		✓	Semi-annual		✓	↓--	--		✓	Semi-Annual	Temporal statistics confirm qualitative evaluation
CS-WB02-LGR-05	Monthly & after rain events		✓	Semi-annual	✓		↓--	--		✓	Semi-Annual	Qualitative factor overrides statistic recommendations
CS-WB02-LGR-06	Monthly & after rain events		✓	Semi-annual	✓		↓	→		✓	Semi-Annual	Qualitative factor overrides statistic recommendations
CS-WB02-LGR-07	Monthly & after rain events		✓	Semi-annual	✓		↓	→		✓	Semi-Annual	Qualitative factor overrides statistic recommendations
CS-WB02-LGR-08	Monthly & after rain events		✓	Semi-annual	✓		↓	→		✓	Semi-Annual	Qualitative factor overrides statistic recommendations
CS-WB02-LGR-09	Monthly & after rain events		✓	Semi-annual	✓			↓→		✓	Semi-Annual	Spatial statistics confirm qualitative evaluation
CS-WB02-UGR-01	Monthly & after rain events		✓	Semi-annual	Not Analyzed			↓→		✓	Semi-Annual	Spatial statistics confirm qualitative evaluation
CS-WB03-LGR-01	Monthly & after rain events		✓	Semi-annual	Not Analyzed		--	--		✓	Semi-Annual	Qualitative factor overrides statistic recommendations
CS-WB03-LGR-02	Monthly & after rain events		✓	Semi-annual	Not Analyzed		--	--		✓	Semi-Annual	Qualitative factor overrides statistic recommendations
CS-WB03-LGR-03	Monthly & after rain events		✓	Semi-annual		✓	--	--		✓	Semi-Annual	Temporal statistics confirm qualitative evaluation

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		Exclude	Retain	Recommended Monitoring Frequency	Exclude/Reduce	Retain	Exclude	Retain	Exclude	Retain	Recommended Monitoring Frequency	Rationale
CS-WB03-LGR-04	Monthly & after rain events		✓	Semi-annual		✓	--	--		✓	Semi-Annual	Temporal statistics confirm qualitative evaluation
CS-WB03-LGR-05	Monthly & after rain events		✓	Semi-annual		✓		↓		✓	Semi-Annual	Statistics confirm qualitative evaluation
CS-WB03-LGR-06	Monthly & after rain events		✓	Semi-annual		✓		↓		✓	Semi-Annual	Statistics confirm qualitative evaluation
CS-WB03-LGR-07	Monthly & after rain events		✓	Semi-annual		✓		↓		✓	Semi-Annual	Statistics confirm qualitative evaluation
CS-WB03-LGR-08	Monthly & after rain events		✓	Semi-annual		✓	--	--		✓	Semi-Annual	Statistics confirm qualitative evaluation
CS-WB03-LGR-09	Monthly & after rain events		✓	Semi-annual		✓		↓		✓	Semi-Annual	Statistics confirm qualitative evaluation
CS-WB03-UGR-01	Monthly & after rain events		✓	Semi-annual		✓	↓			✓	Semi-Annual	Temporal statistics confirm qualitative evaluation
CS-WB04-BS-01	Monthly & after rain events		✓	Biennial	✓		→			✓	Biennial	Statistics confirm qualitative evaluation
CS-WB04-BS-02	Monthly & after rain events		✓	Biennial	✓		→			✓	Biennial	Statistics confirm qualitative evaluation
CS-WB04-CC-01	Monthly & after rain events		✓	Biennial	✓		→			✓	Biennial	Statistics confirm qualitative evaluation
CS-WB04-CC-02	Monthly & after rain events		✓	Biennial	✓		→			✓	Biennial	Statistics confirm qualitative evaluation
CS-WB04-CC-03	Monthly & after rain events		✓	Biennial	✓		--	--		✓	Biennial	Statistics confirm qualitative evaluation
CS-WB04-LGR-01	Monthly & after rain events		✓	Semi-annual	✓		--	--		✓	Semi-Annual	Qualitative factor overrides statistic recommendations
CS-WB04-LGR-02	Monthly & after rain events		✓	Semi-annual	✓		→			✓	Semi-Annual	Qualitative factor overrides statistic recommendations
CS-WB04-LGR-03	Monthly & after rain events		✓	Semi-annual	✓		--	--		✓	Semi-Annual	Qualitative factor overrides statistic recommendations
CS-WB04-LGR-04	Monthly & after rain events		✓	Semi-annual	✓			→		✓	Semi-Annual	Spatial statistics confirm qualitative evaluation
CS-WB04-LGR-06	Monthly & after rain events		✓	Semi-annual		✓	--	--		✓	Semi-Annual	Temporal statistics confirm qualitative evaluation
CS-WB04-LGR-07	Monthly & after rain events		✓	Semi-annual	✓		--	--		✓	Semi-Annual	Qualitative factor overrides statistic recommendations
CS-WB04-LGR-08	Monthly & after rain events		✓	Semi-annual	✓		→			✓	Semi-Annual	Qualitative factor overrides statistic recommendations
CS-WB04-LGR-09	Monthly & after rain events		✓	Semi-annual		✓	→			✓	Semi-Annual	Temporal statistics confirm qualitative evaluation
CS-WB04-LGR-10	Monthly & after rain events		✓	Semi-annual		✓	→			✓	Semi-Annual	Temporal statistics confirm qualitative evaluation
CS-WB04-LGR-11	Monthly & after rain events		✓	Semi-annual	✓		→			✓	Semi-Annual	Qualitative factor overrides statistic recommendations
CS-WB04-UGR-01	Monthly & after rain events		✓	Semi-annual	Not Analyzed			→		✓	Semi-Annual	Spatial statistics confirm qualitative evaluation

^{a/} Spatial recommendation result from North to South vertical cross section analysis that do not impact LGR zone well summary evaluation results.

^{b/} Well in the "intermediate" range; received no recommendation for removal/exclusion or retention/addition in spatial evaluation

^{c/} Spatial recommendation result from West to East vertical cross section analysis that do not impact LGR zone well summary evaluation results.