APPENDIX D

CHEMICAL ANALYSES OF WATER FROM PRIVATE WELLS SAMPLED IN APRIL-JUNE, 2014

June 4, 2014

Lab ID : VI 1441355-007
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 7, 2014-11:58
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description : I
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	251	--	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Calcium	71	1	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Magnesium	18	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Potassium	ND	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Sodium	11	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Total Cations	5.5	--	meq/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Boron	ND	0.1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Copper	ND	10	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Iron	ND	50	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Manganese	20	10	ug/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Zinc	ND	20	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Gypsum Requirement	0.0	--	Tons/AF		200.7	05/12/14:205432	200.7	05/12/14:206872
SAR	0.3	--	--		200.7	05/12/14:205432	200.7	05/13/14:206926
Total Alkalinity	160	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Hydroxide	ND	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Carbonate	ND	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Bicarbonate	190	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Sulfate	83.6	0.5	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Chloride	3	1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Nitrate	ND	0.4	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Nitrate Nitrogen	ND	0.1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Fluoride	0.2	0.1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Total Anions	4.9	--	meq/L		2320B	05/19/14:205700	2320B	05/19/14:207259
pH	7.1	--	units		4500-H B	05/09/14:205357	4500HB	05/09/14:206752
E. C.	474	1	umhos/cm		2510B	05/13/14:205475	2510B	05/14/14:206888
TDS by Summation	377	--	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	05/14/14:205522	200.8	05/14/14:207013

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 4, 2014

Lab ID : VI 1441355-007
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 7, 2014-11:58
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description :
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.769 ± 1.17	1.47	pCi/L	15/5	900.0	05/21/14-07:00 2P1405798	900.0	05/22/14-14:00 2A1407494

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 4, 2014

Lab ID : VI 1441355-004
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 6, 2014-10:00
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description : 2
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	ND	--	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Calcium	ND	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Magnesium	ND	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Potassium	ND	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Sodium	81	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Total Cations	3.5	--	meq/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Boron	ND	0.1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Copper	ND	10	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Iron	ND	50	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Manganese	ND	10	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Zinc	ND	20	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Gypsum Requirement	0.7	--	Tons/AF		200.7	05/12/14:205432	200.7	05/12/14:206872
SAR	N/A	--	--		200.7	05/12/14:205432	200.7	05/12/14:206872
Total Alkalinity	130	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Hydroxide	ND	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Carbonate	ND	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Bicarbonate	160	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Sulfate	4.8	0.5	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Chloride	9	1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Nitrate	ND	0.4	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Nitrate Nitrogen	ND	0.1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Fluoride	0.2	0.1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Total Anions	3.0	--	meq/L		2320B	05/19/14:205700	2320B	05/19/14:207259
pH	7.7	--	units		4500-H B	05/09/14:205357	4500HB	05/09/14:206752
E. C.	305	1	umhos/cm		2510B	05/13/14:205475	2510B	05/14/14:206888
TDS by Summation	255	--	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	05/14/14:205522	200.8	05/14/14:207013

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
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Stockton, CA 95215
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CA ELAP Certification No. 2810

June 4, 2014

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Description : 2
Project : KJ Mariposa

Lab ID : VI 1441355-004
Customer ID : 4-18180

Sampled On : May 6, 2014-10:00
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry[P:1]								
Gross Alpha	1.76 ± 1.60	1.59	pCi/L	15/5	900.0	05/21/14-07:00 2P1405798	900.0	05/22/14-15:00 2A1407490

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Stockton, CA 95215
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Visalia, CA 93291
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FAX: (559)734-8435
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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 18, 2014

Lab ID : VI 1441469-011
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 14, 2014-12:21
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa : 3
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	64.7	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Calcium	21	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Magnesium	3	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Potassium	3	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Sodium	10	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Cations	1.8	--	meq/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Boron	ND	0.1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Copper	ND	10	ug/L	1000[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Iron	80	50	ug/L	300[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Manganese	160	10	ug/L	50[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Zinc	320	20	ug/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Gypsum Requirement	0.06	--	Tons/AF		200.7	05/21/14:205833	200.7	05/21/14:207417
SAR	0.5	--	--		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Alkalinity	70	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Hydroxide	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Carbonate	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Bicarbonate	80	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Sulfate	12.5	0.5	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Chloride	2	1	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate	ND	0.4	mg/L	45	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate Nitrogen	ND	0.1	mg/L	10	300.0	05/16/14:205782	300.0	05/17/14:207325
Fluoride	0.2	0.1	mg/L	2	300.0	05/16/14:205782	300.0	05/17/14:207325
Total Anions	1.6	--	meq/L		2320B	05/20/14:205757	2320B	05/21/14:207335
pH	6.7	--	units		4500-H B	05/20/14:205797	4500HB	05/20/14:207312
E. C.	196	1	umhos/cm	1600[2]	2510B	05/19/14:205724	2510B	05/19/14:207199
TDS by Summation	132	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Metals, Diss[P:1]								
Arsenic	9	2	ug/L	10	200.8	05/21/14:205840	200.8	05/21/14:207422

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
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Santa Paula, CA 93060
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June 18, 2014

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600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Lab ID : VI 1441469-011
Customer ID : 4-18180

Sampled On : May 14, 2014-12:21
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 3
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P,1]								
Gross Alpha	0.558 ± 0.983	1.30	pCi/L		900.0	06/02/14-08:30 2P1406217	900.0	06/05/14-08:00 2A1408193

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Visalia, CA 93291
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FAX: (559)734-8435
CA ELAP Certification No. 2810

June 18, 2014

Lab ID : VI 1441469-002
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 9, 2014-10:00
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 4
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	175	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Calcium	62	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Magnesium	5	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Potassium	4	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Sodium	13	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Cations	4.2	--	meq/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Boron	ND	0.1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Copper	ND	10	ug/L	1000[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Iron	ND	50	ug/L	300[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Manganese	ND	10	ug/L	50[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Zinc	ND	20	ug/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Gypsum Requirement	0.09	--	Tons/AF		200.7	05/21/14:205833	200.7	05/21/14:207417
SAR	0.4	--	--		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Alkalinity	180	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Hydroxide	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Carbonate	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Bicarbonate	220	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Sulfate	9.3	0.5	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Chloride	12	1	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate	1.7	0.4	mg/L	45	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate Nitrogen	0.4	0.1	mg/L	10	300.0	05/16/14:205782	300.0	05/17/14:207325
Fluoride	ND	0.1	mg/L	2	300.0	05/16/14:205782	300.0	05/17/14:207325
Total Anions	4.2	--	meq/L		2320B	05/20/14:205757	2320B	05/20/14:207336
pH	7.4	--	units		4500-H B	05/20/14:205797	4500HB	05/20/14:207312
E. C.	428	1	umhos/cm	1600[2]	2510B	05/19/14:205724	2510B	05/19/14:207199
TDS by Summation	327	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/21/14:205840	200.8	05/21/14:207422

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

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3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 18, 2014

Lab ID : VI 1441469-002
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 9, 2014-10:00
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 4
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	7.01 ± 1.77	1.09	pCi/L		900.0	06/02/14-08:30 2P1406217	900.0	06/04/14-10:00 2A1408193

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
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CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
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Chico, CA 95926
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Visalia, CA 93291
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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 26, 2014

Lab ID : VI 1441787-004
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 27, 2014-12:40
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa 6
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	203	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	45	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	22	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	3	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	18	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	4.9	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	10	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	ND	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	40	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.0	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.5	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	140	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Hydroxide	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Carbonate	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Bicarbonate	180	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Sulfate	60.6	0.5	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Chloride	12	1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate	7.2	0.4	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate Nitrogen	1.6	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Fluoride	0.2	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Total Anions	4.7	--	meq/L		2320B	06/05/14:206477	2320B	06/05/14:208187
pH	7.1	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	494	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	348	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	10	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
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Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
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Chico, CA 95926
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San Luis Obispo, CA 93401
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
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June 26, 2014

Lab ID : VI 1441787-004
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 27, 2014-12:40
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa 6
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	1.17 ± 1.42	1.70	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/17/14-16:00 2A1409086

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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2500 Stagecoach Road
Stockton, CA 95215
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Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-008
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-15:30
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 8
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	38.2	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Calcium	12	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Magnesium	2	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Potassium	2	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Sodium	9	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Cations	1.2	--	meq/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Boron	ND	0.1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Copper	60	10	ug/L	1000[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Iron	ND	50	ug/L	300[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Manganese	ND	10	ug/L	50[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Zinc	30	20	ug/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Gypsum Requirement	0.08	--	Tons/AF		200.7	05/01/14:204943	200.7	05/01/14:206339
SAR	0.6	--	--		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Alkalinity	50	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Hydroxide	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Carbonate	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Bicarbonate	60	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Sulfate	1.4	0.5	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/05/14:206663
Chloride	2	1	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/05/14:206663
Nitrate	3.2	0.4	mg/L	45	300.0	05/05/14:205252	300.0	05/05/14:206663
Nitrate Nitrogen	0.7	0.1	mg/L	10	300.0	05/05/14:205252	300.0	05/05/14:206663
Fluoride	ND	0.1	mg/L	2	300.0	05/05/14:205252	300.0	05/05/14:206663
Total Anions	1.1	--	meq/L		2320B	05/05/14:205093	2320B	05/05/14:206461
pH	6.0	--	units		4500-H B	05/01/14:204955	4500HB	05/01/14:206264
E. C.	116	1	umhos/cm	1600[2]	2510B	05/01/14:204942	2510B	05/01/14:206240
TDS by Summation	92	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/01/14:204952	200.8	05/01/14:206326

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

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May 28, 2014

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Lab ID : VI 1441244-008
Customer ID : 4-18180

Sampled On : April 28, 2014-15:30
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 8
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.898 ± 1.09	1.30	pCi/L	15/5	900.0	05/14/14-15:00 2P1405539	900.0	05/16/14-12:00 2A1407233

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Santa Paula, CA 93060
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2500 Stagecoach Road
Stockton, CA 95215
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Chico, CA 95926
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TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 18, 2014

Lab ID : VI 1441469-013
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 14, 2014-13:33
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 9
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	154	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Calcium	27	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Magnesium	21	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Potassium	ND	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Sodium	11	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Cations	3.6	--	meq/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Boron	ND	0.1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Copper	ND	10	ug/L	1000[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Iron	ND	50	ug/L	300[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Manganese	ND	10	ug/L	50[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Zinc	ND	20	ug/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Gypsum Requirement	0.06	--	Tons/AF		200.7	05/21/14:205833	200.7	05/21/14:207417
SAR	0.4	--	--		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Alkalinity	150	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Hydroxide	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Carbonate	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Bicarbonate	190	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Sulfate	14.1	0.5	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Chloride	3	1	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate	2.0	0.4	mg/L	45	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate Nitrogen	0.5	0.1	mg/L	10	300.0	05/16/14:205782	300.0	05/17/14:207325
Fluoride	0.3	0.1	mg/L	2	300.0	05/16/14:205782	300.0	05/17/14:207325
Total Anions	3.5	--	meq/L		2320B	05/20/14:205757	2320B	05/21/14:207335
pH	7.1	--	units		4500-H B	05/20/14:205797	4500HB	05/20/14:207312
E. C.	366	1	umhos/cm	1600[2]	2510B	05/19/14:205724	2510B	05/19/14:207199
TDS by Summation	268	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/21/14:205840	200.8	05/21/14:207422

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
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3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 18, 2014

Lab ID : VI 1441469-013
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 14, 2014-13:33
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 9
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.955 ± 1.16	1.38	pCi/L		900.0	06/02/14-08:30 2P1406217	900.0	06/05/14-09:00 2A1408193

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Stockton, CA 95215
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Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-015
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-14:30
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 10
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	35.7	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Calcium	11	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Magnesium	2	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Potassium	2	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Sodium	12	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Cations	1.3	--	meq/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Boron	ND	0.1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Copper	20	10	ug/L	1000[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Iron	ND	50	ug/L	300[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Manganese	ND	10	ug/L	50[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Zinc	630	20	ug/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Gypsum Requirement	0.08	--	Tons/AF		200.7	05/01/14:204943	200.7	05/01/14:206339
SAR	0.9	--	--		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Alkalinity	40	10	mg/L		2320B	05/06/14:205167	2320B	05/06/14:206542
Hydroxide	ND	10	mg/L		2320B	05/06/14:205167	2320B	05/06/14:206542
Carbonate	ND	10	mg/L		2320B	05/06/14:205167	2320B	05/06/14:206542
Bicarbonate	50	10	mg/L		2320B	05/06/14:205167	2320B	05/06/14:206542
Sulfate	2.8	0.5	mg/L	500[2]	300.0	05/02/14:205208	300.0	05/02/14:206869
Chloride	7	1	mg/L	500[2]	300.0	05/02/14:205208	300.0	05/02/14:206869
Nitrate	6.2	0.4	mg/L	45	300.0	05/02/14:205208	300.0	05/02/14:206869
Nitrate Nitrogen	1.4	0.1	mg/L	10	300.0	05/02/14:205208	300.0	05/02/14:206869
Fluoride	ND	0.1	mg/L	2	300.0	05/02/14:205208	300.0	05/02/14:206869
Total Anions	1.2	--	meq/L		2320B	05/06/14:205167	2320B	05/06/14:206542
pH	6.2	--	units		4500-H B	05/01/14:204955	4500HB	05/01/14:206264
E. C.	136	1	umhos/cm	1600[2]	2510B	05/01/14:204942	2510B	05/01/14:206240
TDS by Summation	93	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/01/14:204952	200.8	05/01/14:206326

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
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Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
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Chico, CA 95926
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San Luis Obispo, CA 93401
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-015
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-14:30
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 10
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry[P:1]								
Gross Alpha	1.25 ± 1.14	1.26	pCi/L	15/5	900.0	05/14/14-15:00 2P1405539	900.0	05/16/14-12:00 2A1407237

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Visalia, CA 93291
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FAX: (559)734-8435
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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 18, 2014

Lab ID : VI 1441469-007
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 13, 2014-10:00
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:]								
Total Hardness as CaCO3	119	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Calcium	33	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Magnesium	9	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Potassium	4	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Sodium	16	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Cations	3.2	--	meq/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Boron	ND	0.1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Copper	ND	10	ug/L	1000[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Iron	ND	50	ug/L	300[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Manganese	ND	10	ug/L	50[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Zinc	ND	20	ug/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Gypsum Requirement	0.1	--	Tons/AF		200.7	05/21/14:205833	200.7	05/21/14:207417
SAR	0.6	--	--		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Alkalinity	130	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Hydroxide	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Carbonate	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Bicarbonate	150	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Sulfate	12.1	0.5	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Chloride	10	1	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate	0.5	0.4	mg/L	45	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate Nitrogen	0.1	0.1	mg/L	10	300.0	05/16/14:205782	300.0	05/17/14:207325
Fluoride	0.2	0.1	mg/L	2	300.0	05/16/14:205782	300.0	05/17/14:207325
Total Anions	3.0	--	meq/L		2320B	05/20/14:205757	2320B	05/20/14:207336
pH	7.3	--	units		4500-H B	05/20/14:205797	4500HB	05/20/14:207312
E. C.	334	1	umhos/cm	1600[2]	2510B	05/19/14:205724	2510B	05/19/14:207199
TDS by Summation	235	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Metals, Diss[P:]								
Arsenic	ND	2	ug/L	10	200.8	05/21/14:205840	200.8	05/21/14:207422

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

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June 18, 2014

Lab ID : VI 1441469-007
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 13, 2014-10:00
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.881 ± 1.12	1.32	pCi/L		900.0	06/02/14-08:30 2P1406217	900.0	06/04/14-07:00 2A1408195

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-007
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-10:00
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 12
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	100	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Calcium	32	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Magnesium	5	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Potassium	3	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Sodium	13	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Cations	2.7	--	meq/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Boron	ND	0.1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Copper	ND	10	ug/L	1000[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Iron	50	50	ug/L	300[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Manganese	40	10	ug/L	50[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Zinc	ND	20	ug/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Gypsum Requirement	0.09	--	Tons/AF		200.7	05/01/14:204943	200.7	05/01/14:206339
SAR	0.6	--	--		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Alkalinity	110	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Hydroxide	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Carbonate	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Bicarbonate	130	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Sulfate	7.5	0.5	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/05/14:206663
Chloride	6	1	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/05/14:206663
Nitrate	ND	0.4	mg/L	45	300.0	05/05/14:205252	300.0	05/05/14:206663
Nitrate Nitrogen	ND	0.1	mg/L	10	300.0	05/05/14:205252	300.0	05/05/14:206663
Fluoride	ND	0.1	mg/L	2	300.0	05/05/14:205252	300.0	05/05/14:206663
Total Anions	2.5	--	meq/L		2320B	05/05/14:205093	2320B	05/05/14:206461
pH	6.9	--	units		4500-H B	04/30/14:204905	4500HB	04/30/14:206198
E. C.	255	1	umhos/cm	1600[2]	2510B	05/01/14:204942	2510B	05/01/14:206240
TDS by Summation	196	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/27/14:206022	200.8	05/27/14:207671

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-007
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-10:00
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 12
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry[P:1]								
Gross Alpha	6.53 ± 1.68	0.908	pCi/L	15/5	900.0	05/14/14-15:00 2P1405539	900.0	05/16/14-10:20 2A1407232

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Santa Paula, CA 93060
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2500 Stagecoach Road
Stockton, CA 95215
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Chico, CA 95926
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San Luis Obispo, CA 93401
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-001
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-14:30
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 13
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	38.2	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Calcium	12	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Magnesium	2	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Potassium	2	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Sodium	12	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Cations	1.3	--	meq/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Boron	ND	0.1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Copper	10	10	ug/L	1000[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Iron	ND	50	ug/L	300[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Manganese	ND	10	ug/L	50[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Zinc	ND	20	ug/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Gypsum Requirement	0.09	--	Tons/AF		200.7	05/01/14:204943	200.7	05/01/14:206339
SAR	0.8	--	--		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Alkalinity	50	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Hydroxide	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Carbonate	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Bicarbonate	60	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Sulfate	1.6	0.5	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/05/14:206663
Chloride	8	1	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/05/14:206663
Nitrate	4.4	0.4	mg/L	45	300.0	05/05/14:205252	300.0	05/05/14:206663
Nitrate Nitrogen	1.0	0.1	mg/L	10	300.0	05/05/14:205252	300.0	05/05/14:206663
Fluoride	ND	0.1	mg/L	2	300.0	05/05/14:205252	300.0	05/05/14:206663
Total Anions	1.3	--	meq/L		2320B	05/05/14:205093	2320B	05/05/14:206461
pH	6.4	--	units		4500-H B	05/01/14:204955	4500HB	05/01/14:206264
E. C.	137	1	umhos/cm	1600[2]	2510B	05/01/14:204942	2510B	05/01/14:206240
TDS by Summation	102	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/01/14:204952	200.8	05/01/14:206326

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
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Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
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583 E. Lindo Avenue
Chico, CA 95926
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3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-001
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-14:30
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ (3
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry[P:1]								
Gross Alpha	1.45 ± 1.27	1.34	pCi/L	15/5	900.0	05/14/14-15:00 2P1405539	900.0	05/16/14-09:00 2A1407233

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Stockton, CA 95215
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Chico, CA 95926
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San Luis Obispo, CA 93401
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 4, 2014

Lab ID : VI 1441355-006
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 7, 2014-12:45
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description : 14
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	345	--	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Calcium	84	1	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Magnesium	33	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Potassium	ND	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Sodium	15	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Total Cations	7.6	--	meq/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Boron	ND	0.1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Copper	ND	10	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Iron	60	50	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Manganese	ND	10	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Zinc	ND	20	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Gypsum Requirement	0.0	--	Tons/AF		200.7	05/12/14:205432	200.7	05/12/14:206872
SAR	0.4	--	--		200.7	05/12/14:205432	200.7	05/13/14:206926
Total Alkalinity	270	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Hydroxide	ND	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Carbonate	ND	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Bicarbonate	330	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Sulfate	34.8	0.5	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Chloride	17	1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Nitrate	5.0	0.4	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Nitrate Nitrogen	1.1	0.1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Fluoride	0.2	0.1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Total Anions	6.7	--	meq/L		2320B	05/19/14:205700	2320B	05/19/14:207259
pH	6.9	--	units		4500-H B	05/09/14:205357	4500HB	05/09/14:206752
E. C.	638	1	umhos/cm		2510B	05/13/14:205475	2510B	05/14/14:206888
TDS by Summation	519	--	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Metals, Diss[P:1]								
Arsenic	2	2	ug/L		200.8	05/14/14:205522	200.8	05/14/14:207013

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
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Stockton, CA 95215
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 4, 2014

Lab ID : VI 1441355-006
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 7, 2014-12:45
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description : 14
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.000 ± 0.996	1.67	pCi/L	15/5	900.0	05/21/14-07:00 2P1405798	900.0	05/22/14-15:00 2A1407495

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Chico, CA 95926
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San Luis Obispo, CA 93401
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Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 4, 2014

Lab ID : VI 1441355-001
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 6, 2014-13:30
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description : 15
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	120	--	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Calcium	40	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Magnesium	5	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Potassium	3	1	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Sodium	21	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Total Cations	3.4	--	meq/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Boron	ND	0.1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Copper	ND	10	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Iron	ND	50	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Manganese	40	10	ug/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Zinc	ND	20	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Gypsum Requirement	0.1	--	Tons/AF		200.7	05/12/14:205432	200.7	05/13/14:206926
SAR	0.8	--	--		200.7	05/12/14:205432	200.7	05/12/14:206872
Total Alkalinity	130	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Hydroxide	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Carbonate	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Bicarbonate	160	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Sulfate	5.7	0.5	mg/L		300.0	05/16/14:205782	300.0	05/16/14:207325
Chloride	6	1	mg/L		300.0	05/16/14:205782	300.0	05/16/14:207325
Nitrate	ND	0.4	mg/L		300.0	05/16/14:205782	300.0	05/16/14:207325
Nitrate Nitrogen	ND	0.1	mg/L		300.0	05/16/14:205782	300.0	05/16/14:207325
Fluoride	0.2	0.1	mg/L		300.0	05/16/14:205782	300.0	05/16/14:207325
Total Anions	2.9	--	meq/L		2320B	05/20/14:205757	2320B	05/20/14:207336
pH	7.4	--	units		4500-H B	05/09/14:205357	4500HB	05/09/14:206752
E. C.	298	1	umhos/cm		2510B	05/13/14:205475	2510B	05/14/14:206888
TDS by Summation	241	--	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Metals, Diss[P:1]								
Arsenic	21	2	ug/L		200.8	05/14/14:205522	200.8	05/14/14:207013

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
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Santa Paula, CA 93060
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 4, 2014

Lab ID : VI 1441355-001
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 6, 2014-13:30
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description : 15
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	5.68 ± 1.67	1.00	pCi/L	15/5	900.0	05/21/14-07:00 2P1405798	900.0	05/22/14-13:00 2A1407490
Uranium	4.14 ± 1.62	0.481	pCi/L	20	908.0	05/28/14-07:48 2P1406058	908.0	05/29/14-16:54 2A1407806

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
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Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
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3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 26, 2014

Lab ID : VI 1441787-017
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 29, 2014-10:00
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa 16A
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	35.7	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	11	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	2	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	2	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	6	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	1.0	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	ND	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	ND	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.03	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.4	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	40	10	mg/L		2320B	06/09/14:206556	2320B	06/09/14:208408
Hydroxide	ND	10	mg/L		2320B	06/09/14:206556	2320B	06/09/14:208408
Carbonate	ND	10	mg/L		2320B	06/09/14:206556	2320B	06/09/14:208408
Bicarbonate	40	10	mg/L		2320B	06/09/14:206556	2320B	06/09/14:208408
Sulfate	0.8	0.5	mg/L		300.0	06/06/14:206840	300.0	06/06/14:208769
Chloride	2	1	mg/L		300.0	06/06/14:206840	300.0	06/06/14:208769
Nitrate	4.1	0.4	mg/L		300.0	06/06/14:206840	300.0	06/06/14:208769
Nitrate Nitrogen	0.9	0.1	mg/L		300.0	06/06/14:206840	300.0	06/06/14:208769
Fluoride	ND	0.1	mg/L		300.0	06/06/14:206840	300.0	06/06/14:208769
Total Anions	0.8	--	meq/L		2320B	06/09/14:206556	2320B	06/09/14:208408
pH	6.4	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	107	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	68	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

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853 Corporation Street
Santa Paula, CA 93060
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Stockton, CA 95215
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
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June 26, 2014

Lab ID : VI 1441787-017
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 29, 2014-10:00
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa 16A
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	1.27 ± 1.16	1.15	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/18/14-08:00 2A1409084

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 26, 2014

Lab ID : VI 1441787-018
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 29, 2014-10:30
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa 16B
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	35.7	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	11	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	2	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	2	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	5	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	1.0	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	ND	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	ND	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.04	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.4	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	40	10	mg/L		2320B	06/09/14:206556	2320B	06/09/14:208408
Hydroxide	ND	10	mg/L		2320B	06/09/14:206556	2320B	06/09/14:208408
Carbonate	ND	10	mg/L		2320B	06/09/14:206556	2320B	06/09/14:208408
Bicarbonate	50	10	mg/L		2320B	06/09/14:206556	2320B	06/09/14:208408
Sulfate	0.6	0.5	mg/L		300.0	06/06/14:206840	300.0	06/06/14:208769
Chloride	ND	1	mg/L		300.0	06/06/14:206840	300.0	06/06/14:208769
Nitrate	1.5	0.4	mg/L		300.0	06/06/14:206840	300.0	06/06/14:208769
Nitrate Nitrogen	0.3	0.1	mg/L		300.0	06/06/14:206840	300.0	06/06/14:208769
Fluoride	ND	0.1	mg/L		300.0	06/06/14:206840	300.0	06/06/14:208769
Total Anions	0.9	--	meq/L		2320B	06/09/14:206556	2320B	06/09/14:208408
pH	6.7	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	95	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	72	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
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2500 Stagecoach Road
Stockton, CA 95215
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Chico, CA 95926
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San Luis Obispo, CA 93401
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-018
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 29, 2014-10:30
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa 16B
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.655 ± 0.934	1.17	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/18/14-09:00 2A1409086

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 4, 2014

Lab ID : VI 1441355-003
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 6, 2014-11:10
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description : 18
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	124	--	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Calcium	35	1	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Magnesium	9	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Potassium	4	1	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Sodium	13	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Total Cations	3.2	--	meq/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Boron	ND	0.1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Copper	160	10	ug/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Iron	60	50	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Manganese	ND	10	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Zinc	120	20	ug/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Gypsum Requirement	0.0	--	Tons/AF		200.7	05/12/14:205432	200.7	05/13/14:206926
SAR	0.5	--	--		200.7	05/12/14:205432	200.7	05/13/14:206926
Total Alkalinity	50	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Hydroxide	ND	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Carbonate	ND	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Bicarbonate	70	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Sulfate	40.0	0.5	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Chloride	9	1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Nitrate	44.5	0.4	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Nitrate Nitrogen	10	0.1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Fluoride	ND	0.1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Total Anions	3.0	--	meq/L		2320B	05/19/14:205700	2320B	05/19/14:207259
pH	6.3	--	units		4500-H B	05/09/14:205357	4500HB	05/09/14:206752
E. C.	310	1	umhos/cm		2510B	05/13/14:205475	2510B	05/14/14:206888
TDS by Summation	224	--	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	05/14/14:205522	200.8	05/14/14:207013

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
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June 4, 2014

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Description : 18
Project : KJ Mariposa

Lab ID : VI 1441355-003
Customer ID : 4-18180

Sampled On : May 6, 2014-11:10
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.506 ± 0.993	1.32	pCi/L	15/5	900.0	05/21/14-07:00 2P1405798	900.0	05/22/14-13:00 2A1407494

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-003
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-12:00
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 19
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	44.8	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Calcium	13	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Magnesium	3	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Potassium	3	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Sodium	8	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Cations	1.3	--	meq/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Boron	ND	0.1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Copper	ND	10	ug/L	1000[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Iron	ND	50	ug/L	300[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Manganese	ND	10	ug/L	50[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Zinc	ND	20	ug/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Gypsum Requirement	0.06	--	Tons/AF		200.7	05/01/14:204943	200.7	05/01/14:206339
SAR	0.5	--	--		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Alkalinity	50	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Hydroxide	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Carbonate	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Bicarbonate	60	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Sulfate	1.7	0.5	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/05/14:206663
Chloride	5	1	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/05/14:206663
Nitrate	5.4	0.4	mg/L	45	300.0	05/05/14:205252	300.0	05/05/14:206663
Nitrate Nitrogen	1.2	0.1	mg/L	10	300.0	05/05/14:205252	300.0	05/05/14:206663
Fluoride	ND	0.1	mg/L	2	300.0	05/05/14:205252	300.0	05/05/14:206663
Total Anions	1.2	--	meq/L		2320B	05/05/14:205093	2320B	05/05/14:206461
pH	6.1	--	units		4500-H B	05/01/14:204955	4500HB	05/01/14:206264
E. C.	131	1	umhos/cm	1600[2]	2510B	05/01/14:204942	2510B	05/01/14:206240
TDS by Summation	99	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/01/14:204952	200.8	05/01/14:206326

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
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May 28, 2014

Lab ID : VI 1441244-003
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-12:00
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 19
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.751 ± 0.955	1.13	pCi/L	15/5	900.0	05/14/14-15:00 2P1405539	900.0	05/16/14-10:30 2A1407234

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Stockton, CA 95215
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
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May 28, 2014

Lab ID : VI 1441244-004
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-12:30
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 20
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	47.3	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Calcium	14	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Magnesium	3	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Potassium	3	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Sodium	6	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Cations	1.3	--	meq/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Boron	ND	0.1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Copper	ND	10	ug/L	1000[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Iron	1490	50	ug/L	300[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Manganese	840	10	ug/L	50[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Zinc	ND	20	ug/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Gypsum Requirement	0.04	--	Tons/AF		200.7	05/01/14:204943	200.7	05/01/14:206339
SAR	0.4	--	--		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Alkalinity	50	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Hydroxide	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Carbonate	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Bicarbonate	60	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Sulfate	1.2	0.5	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/05/14:206663
Chloride	6	1	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/05/14:206663
Nitrate	ND	0.4	mg/L	45	300.0	05/05/14:205252	300.0	05/05/14:206663
Nitrate Nitrogen	ND	0.1	mg/L	10	300.0	05/05/14:205252	300.0	05/05/14:206663
Fluoride	ND	0.1	mg/L	2	300.0	05/05/14:205252	300.0	05/05/14:206663
Total Anions	1.2	--	meq/L		2320B	05/05/14:205093	2320B	05/05/14:206461
pH	5.9	--	units		4500-H B	05/01/14:204955	4500HB	05/01/14:206264
E. C.	131	1	umhos/cm	1600[2]	2510B	05/01/14:204942	2510B	05/01/14:206240
TDS by Summation	93	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/01/14:204952	200.8	05/01/14:206326

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
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Stockton, CA 95215
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Chico, CA 95926
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San Luis Obispo, CA 93401
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
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May 28, 2014

Lab ID : VI 1441244-004
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-12:30
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 20
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.713 ± 1.02	1.28	pCi/L	15/5	900.0	05/14/14-15:00 2P1405539	900.0	05/16/14-11:00 2A1407233

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Stockton, CA 95215
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 18, 2014

Lab ID : VI 1441469-006
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 9, 2014-14:50
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 21
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	37.3	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Calcium	10	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Magnesium	3	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Potassium	2	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Sodium	13	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Cations	1.4	--	meq/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Boron	ND	0.1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Copper	10	10	ug/L	1000[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Iron	ND	50	ug/L	300[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Manganese	ND	10	ug/L	50[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Zinc	ND	20	ug/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Gypsum Requirement	0.1	--	Tons/AF		200.7	05/21/14:205833	200.7	05/21/14:207417
SAR	0.9	--	--		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Alkalinity	50	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Hydroxide	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Carbonate	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Bicarbonate	60	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Sulfate	2.5	0.5	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Chloride	4	1	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate	9.3	0.4	mg/L	45	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate Nitrogen	2.1	0.1	mg/L	10	300.0	05/16/14:205782	300.0	05/17/14:207325
Fluoride	0.1	0.1	mg/L	2	300.0	05/16/14:205782	300.0	05/17/14:207325
Total Anions	1.3	--	meq/L		2320B	05/20/14:205757	2320B	05/20/14:207336
pH	6.7	--	units		4500-H B	05/20/14:205797	4500HB	05/20/14:207312
E. C.	149	1	umhos/cm	1600[2]	2510B	05/19/14:205724	2510B	05/19/14:207199
TDS by Summation	104	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/21/14:205840	200.8	05/21/14:207422

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

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June 18, 2014

Lab ID : VI 1441469-006
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 9, 2014-14:50
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 21
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	5.02 ± 1.41	0.824	pCi/L		900.0	06/02/14-08:30 2P1406217	900.0	06/04/14-09:00 2A1408192

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-009
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-12:00
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 22
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	51.4	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Calcium	14	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Magnesium	4	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Potassium	3	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Sodium	15	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Cations	1.8	--	meq/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Boron	ND	0.1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Copper	20	10	ug/L	1000[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Iron	50	50	ug/L	300[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Manganese	ND	10	ug/L	50[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Zinc	20	20	ug/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Gypsum Requirement	0.1	--	Tons/AF		200.7	05/01/14:204943	200.7	05/01/14:206339
SAR	0.9	--	--		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Alkalinity	60	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Hydroxide	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Carbonate	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Bicarbonate	80	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Sulfate	2.0	0.5	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/06/14:206663
Chloride	5	1	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/06/14:206663
Nitrate	9.2	0.4	mg/L	45	300.0	05/05/14:205252	300.0	05/06/14:206663
Nitrate Nitrogen	2.1	0.1	mg/L	10	300.0	05/05/14:205252	300.0	05/06/14:206663
Fluoride	ND	0.1	mg/L	2	300.0	05/05/14:205252	300.0	05/06/14:206663
Total Anions	1.6	--	meq/L		2320B	05/05/14:205093	2320B	05/05/14:206461
pH	6.1	--	units		4500-H B	05/01/14:204955	4500HB	05/01/14:206264
E. C.	168	1	umhos/cm	1600[2]	2510B	05/01/14:204942	2510B	05/01/14:206240
TDS by Summation	132	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/01/14:204952	200.8	05/01/14:206326

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-009
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-12:00
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 22
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry[P:1]								
Gross Alpha	3.45 ± 1.20	0.958	pCi/L	15/5	900.0	05/14/14-15:00 2P1405539	900.0	05/16/14-10:00 2A1407237

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
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563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
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3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 18, 2014

Lab ID : VI 1441469-003
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 9, 2014-12:40
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 23
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	131	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Calcium	36	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Magnesium	10	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Potassium	5	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Sodium	22	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Cations	3.7	--	meq/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Boron	ND	0.1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Copper	10	10	ug/L	1000[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Iron	60	50	ug/L	300[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Manganese	ND	10	ug/L	50[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Zinc	180	20	ug/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Gypsum Requirement	0.1	--	Tons/AF		200.7	05/21/14:205833	200.7	05/21/14:207417
SAR	0.8	--	--		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Alkalinity	130	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Hydroxide	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Carbonate	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Bicarbonate	160	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Sulfate	12.5	0.5	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Chloride	19	1	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate	15.6	0.4	mg/L	45	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate Nitrogen	3.5	0.1	mg/L	10	300.0	05/16/14:205782	300.0	05/17/14:207325
Fluoride	0.1	0.1	mg/L	2	300.0	05/16/14:205782	300.0	05/17/14:207325
Total Anions	3.7	--	meq/L		2320B	05/20/14:205757	2320B	05/20/14:207336
pH	7.3	--	units		4500-H B	05/20/14:205797	4500HB	05/20/14:207312
E. C.	402	1	umhos/cm	1600[2]	2510B	05/19/14:205724	2510B	05/19/14:207199
TDS by Summation	280	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Metals, Diss[P:1]								
Arsenic	3	2	ug/L	10	200.8	05/21/14:205840	200.8	05/21/14:207422

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
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563 E. Lindo Avenue
Chico, CA 95926
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FAX: (530)343-3807
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3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 18, 2014

Lab ID : VI 1441469-003
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 9, 2014-12:40
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 23
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry[P:1]								
Gross Alpha	8.33 ± 1.99	1.02	pCi/L		900.0	06/02/14-08:30 2P1406217	900.0	06/04/14-07:00 2A1408192

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Stockton, CA 95215
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Chico, CA 95926
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San Luis Obispo, CA 93401
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 18, 2014

Lab ID : VI 1441469-004
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 9, 2014-12:02
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 24
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	131	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Calcium	36	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Magnesium	10	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Potassium	5	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Sodium	22	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Cations	3.7	--	meq/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Boron	ND	0.1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Copper	10	10	ug/L	1000[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Iron	ND	50	ug/L	300[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Manganese	ND	10	ug/L	50[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Zinc	ND	20	ug/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Gypsum Requirement	0.1	--	Tons/AF		200.7	05/21/14:205833	200.7	05/21/14:207417
SAR	0.8	--	--		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Alkalinity	130	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Hydroxide	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Carbonate	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Bicarbonate	160	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Sulfate	12.5	0.5	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Chloride	19	1	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate	15.7	0.4	mg/L	45	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate Nitrogen	3.6	0.1	mg/L	10	300.0	05/16/14:205782	300.0	05/17/14:207325
Fluoride	0.1	0.1	mg/L	2	300.0	05/16/14:205782	300.0	05/17/14:207325
Total Anions	3.7	--	meq/L		2320B	05/20/14:205757	2320B	05/20/14:207336
pH	7.3	--	units		4500-H B	05/20/14:205797	4500HB	05/20/14:207312
E. C.	403	1	umhos/cm	1600[2]	2510B	05/19/14:205724	2510B	05/19/14:207199
TDS by Summation	280	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Metals, Diss[P:1]								
Arsenic	3	2	ug/L	10	200.8	05/21/14:205840	200.8	05/21/14:207422

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
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Stockton, CA 95215
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Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 18, 2014

Lab ID : VI 1441469-004
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 9, 2014-12:02
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 24
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	7.05 ± 1.77	1.08	pCi/L		900.0	06/02/14-08:30 2P1406217	900.0	06/04/14-12:00 2A1408193

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 4, 2014

Lab ID : VI 1441355-010
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 7, 2014-14:30
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description : 26
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	240	--	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Calcium	83	1	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Magnesium	8	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Potassium	ND	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Sodium	9	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Total Cations	5.2	--	meq/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Boron	ND	0.1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Copper	ND	10	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Iron	50	50	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Manganese	30	10	ug/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Zinc	ND	20	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Gypsum Requirement	0.0	--	Tons/AF		200.7	05/12/14:205432	200.7	05/12/14:206872
SAR	0.3	--	--		200.7	05/12/14:205432	200.7	05/13/14:206926
Total Alkalinity	200	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Hydroxide	ND	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Carbonate	ND	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Bicarbonate	240	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Sulfate	29.3	0.5	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Chloride	3	1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Nitrate	ND	0.4	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Nitrate Nitrogen	ND	0.1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Fluoride	0.1	0.1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Total Anions	4.6	--	meq/L		2320B	05/19/14:205700	2320B	05/19/14:207259
pH	7.3	--	units		4500-H B	05/09/14:205357	4500HB	05/09/14:206752
E. C.	443	1	umhos/cm		2510B	05/13/14:205475	2510B	05/14/14:206888
TDS by Summation	372	--	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	05/14/14:205522	200.8	05/14/14:207013

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
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Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 4, 2014

Lab ID : VI 1441355-010
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 7, 2014-14:30
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description 2 6
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.374 ± 1.04	1.50	pCi/L	15/5	900.0	05/21/14-07:00 2P1405798	900.0	05/22/14-16:00 2A1407495

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Stockton, CA 95215
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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 4, 2014

Lab ID : VI 1441355-011
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 7, 2014-14:55
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description : 27
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	220	--	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Calcium	75	1	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Magnesium	8	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Potassium	ND	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Sodium	11	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Total Cations	4.9	--	meq/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Boron	ND	0.1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Copper	ND	10	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Iron	ND	50	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Manganese	560	10	ug/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Zinc	30	20	ug/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Gypsum Requirement	0.0	--	Tons/AF		200.7	05/12/14:205432	200.7	05/12/14:206872
SAR	0.3	--	--		200.7	05/12/14:205432	200.7	05/13/14:206926
Total Alkalinity	170	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Hydroxide	ND	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Carbonate	ND	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Bicarbonate	210	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Sulfate	38.3	0.5	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Chloride	3	1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Nitrate	ND	0.4	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Nitrate Nitrogen	ND	0.1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Fluoride	0.1	0.1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Total Anions	4.3	--	meq/L		2320B	05/19/14:205700	2320B	05/19/14:207259
pH	7.2	--	units		4500-H B	05/09/14:205357	4500HB	05/09/14:206752
E. C.	418	1	umhos/cm		2510B	05/13/14:205475	2510B	05/14/14:206888
TDS by Summation	345	--	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	05/14/14:205522	200.8	05/14/14:207013

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
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Stockton, CA 95215
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 4, 2014

Lab ID : VI 1441355-011
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 7, 2014-14:55
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description : 27
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	1.86 ± 1.42	1.35	pCi/L	15/5	900.0	05/21/14-07:00 2P1405798	900.0	05/22/14-15:00 2A1407494

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-010
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-12:50
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 2 9
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	139	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Calcium	44	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Magnesium	7	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Potassium	3	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Sodium	13	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Cations	3.4	--	meq/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Boron	ND	0.1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Copper	ND	10	ug/L	1000[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Iron	140	50	ug/L	300[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Manganese	210	10	ug/L	50[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Zinc	110	20	ug/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Gypsum Requirement	0.1	--	Tons/AF		200.7	05/01/14:204943	200.7	05/01/14:206339
SAR	0.5	--	--		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Alkalinity	140	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Hydroxide	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Carbonate	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Bicarbonate	180	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Sulfate	9.3	0.5	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/05/14:206663
Chloride	7	1	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/05/14:206663
Nitrate	ND	0.4	mg/L	45	300.0	05/05/14:205252	300.0	05/05/14:206663
Nitrate Nitrogen	ND	0.1	mg/L	10	300.0	05/05/14:205252	300.0	05/05/14:206663
Fluoride	0.1	0.1	mg/L	2	300.0	05/05/14:205252	300.0	05/05/14:206663
Total Anions	3.3	--	meq/L		2320B	05/05/14:205093	2320B	05/05/14:206461
pH	7.0	--	units		4500-H B	05/01/14:204955	4500HB	05/01/14:206264
E. C.	329	1	umhos/cm	1600[2]	2510B	05/01/14:204942	2510B	05/01/14:206240
TDS by Summation	263	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/01/14:204952	200.8	05/01/14:206326

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
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FAX: (559)734-8435
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May 28, 2014

Lab ID : VI 1441244-010
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-12:50
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 29
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.631 ± 1.11	1.47	pCi/L	15/5	900.0	05/14/14-15:00 2P1405539	900.0	05/16/14-13:00 2A1407233

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Stockton, CA 95215
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Chico, CA 95926
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San Luis Obispo, CA 93401
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TEL: (559)734-9473
FAX: (559)734-8435
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May 28, 2014

Lab ID : VI 1441244-011
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-13:30
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 30
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	100	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Calcium	22	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Magnesium	11	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Potassium	3	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Sodium	8	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Cations	2.4	--	meq/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Boron	ND	0.1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Copper	50	10	ug/L	1000[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Iron	ND	50	ug/L	300[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Manganese	ND	10	ug/L	50[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Zinc	ND	20	ug/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Gypsum Requirement	0.05	--	Tons/AF		200.7	05/01/14:204943	200.7	05/01/14:206339
SAR	0.3	--	--		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Alkalinity	100	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Hydroxide	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Carbonate	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Bicarbonate	120	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Sulfate	13.5	0.5	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/06/14:206663
Chloride	3	1	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/06/14:206663
Nitrate	ND	0.4	mg/L	45	300.0	05/05/14:205252	300.0	05/06/14:206663
Nitrate Nitrogen	ND	0.1	mg/L	10	300.0	05/05/14:205252	300.0	05/06/14:206663
Fluoride	ND	0.1	mg/L	2	300.0	05/05/14:205252	300.0	05/06/14:206663
Total Anions	2.3	--	meq/L		2320B	05/05/14:205093	2320B	05/05/14:206461
pH	6.6	--	units		4500-H B	05/01/14:204955	4500HB	05/01/14:206264
E. C.	227	1	umhos/cm	1600[2]	2510B	05/01/14:204942	2510B	05/01/14:206240
TDS by Summation	180	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/01/14:204952	200.8	05/01/14:206326

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
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Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-011
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-13:30
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 30
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.611 ± 0.932	1.16	pCi/L	15/5	900.0	05/14/14-15:00 2P1405539	900.0	05/16/14-13:30 2A1407234

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Stockton, CA 95215
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-013
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-10:30
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 32
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	72.8	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Calcium	16	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Magnesium	8	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Potassium	4	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Sodium	15	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Cations	2.2	--	meq/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Boron	ND	0.1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Copper	ND	10	ug/L	1000[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Iron	50	50	ug/L	300[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Manganese	ND	10	ug/L	50[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Zinc	50	20	ug/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Gypsum Requirement	0.1	--	Tons/AF		200.7	05/01/14:204943	200.7	05/01/14:206339
SAR	0.8	--	--		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Alkalinity	90	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Hydroxide	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Carbonate	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Bicarbonate	120	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Sulfate	7.0	0.5	mg/L	500[2]	300.0	05/02/14:205208	300.0	05/03/14:206869
Chloride	3	1	mg/L	500[2]	300.0	05/02/14:205208	300.0	05/03/14:206869
Nitrate	0.7	0.4	mg/L	45	300.0	05/02/14:205208	300.0	05/03/14:206869
Nitrate Nitrogen	0.2	0.1	mg/L	10	300.0	05/02/14:205208	300.0	05/03/14:206869
Fluoride	0.1	0.1	mg/L	2	300.0	05/02/14:205208	300.0	05/03/14:206869
Total Anions	2.2	--	meq/L		2320B	05/05/14:205093	2320B	05/05/14:206461
pH	7.3	--	units		4500-H B	05/01/14:204955	4500HB	05/01/14:206264
E. C.	218	1	umhos/cm	1600[2]	2510B	05/01/14:204942	2510B	05/01/14:206240
TDS by Summation	174	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/01/14:204952	200.8	05/01/14:206326

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

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853 Corporation Street
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San Luis Obispo, CA 93401
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-013
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-10:30
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 32
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry[P:1]								
Gross Alpha	2.15 ± 1.02	0.950	pCi/L	15/5	900.0	05/14/14-15:00 2P1405539	900.0	05/16/14-14:00 2A1407233

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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San Luis Obispo, CA 93401
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-022
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : June 2, 2014-10:30
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa 33
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	58.9	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	17	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	4	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	3	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	13	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	1.8	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	30	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	ND	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	ND	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.07	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.7	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	60	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Hydroxide	ND	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Carbonate	ND	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Bicarbonate	70	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Sulfate	1.0	0.5	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Chloride	8	1	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Nitrate	10.9	0.4	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Nitrate Nitrogen	2.5	0.1	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Fluoride	ND	0.1	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Total Anions	1.6	--	meq/L		2320B	06/10/14:206685	2320B	06/10/14:208500
pH	6.3	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	182	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	127	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	06/04/14:206395	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-022
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : June 2, 2014-10:30
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa 33
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	1.33 ± 1.21	1.20	pCi/L	15/5	900.0	06/18/14-07:00 2P1406997	900.0	06/18/14-17:00 2A1409115

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-019
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : June 2, 2014-09:30
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa 34
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	104	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	30	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	7	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	3	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	17	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	2.9	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	ND	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	60	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.1	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.7	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	110	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Hydroxide	ND	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Carbonate	ND	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Bicarbonate	140	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Sulfate	4.8	0.5	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Chloride	10	1	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Nitrate	ND	0.4	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Nitrate Nitrogen	ND	0.1	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Fluoride	ND	0.1	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Total Anions	2.7	--	meq/L		2320B	06/10/14:206685	2320B	06/10/14:208500
pH	7.5	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	285	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	212	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

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FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-019
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : June 2, 2014-09:30
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa 34
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P,1]								
Gross Alpha	2.85 ± 1.13	0.906	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/18/14-09:00 2A1409087

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
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Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
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3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 18, 2014

Lab ID : VI 1441469-001
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 7, 2014-16:00
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 35
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	222	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Calcium	74	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Magnesium	9	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Potassium	ND	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Sodium	9	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Cations	4.8	--	meq/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Boron	ND	0.1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Copper	ND	10	ug/L	1000[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Iron	60	50	ug/L	300[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Manganese	310	10	ug/L	50[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Zinc	600	20	ug/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Gypsum Requirement	0.0	--	Tons/AF		200.7	05/21/14:205833	200.7	05/21/14:207417
SAR	0.3	--	--		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Alkalinity	190	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Hydroxide	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Carbonate	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Bicarbonate	230	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Sulfate	42.8	0.5	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Chloride	2	1	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate	ND	0.4	mg/L	45	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate Nitrogen	ND	0.1	mg/L	10	300.0	05/16/14:205782	300.0	05/17/14:207325
Fluoride	0.2	0.1	mg/L	2	300.0	05/16/14:205782	300.0	05/17/14:207325
Total Anions	4.7	--	meq/L		2320B	05/20/14:205757	2320B	05/20/14:207336
pH	7.1	--	units		4500-H B	05/20/14:205797	4500HB	05/20/14:207312
E. C.	480	1	umhos/cm	1600[2]	2510B	05/19/14:205724	2510B	05/19/14:207199
TDS by Summation	367	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/21/14:205840	200.8	05/21/14:207422

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

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San Luis Obispo, CA 93401
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Visalia, CA 93291
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June 18, 2014

Lab ID : VI 1441469-001
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 7, 2014-16:00
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 35
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	1.34 ± 1.35	1.40	pCi/L		900.0	06/02/14-08:30 2P1406217	900.0	06/03/14-19:00 2A1408192

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Visalia, CA 93291
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CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-002
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-10:30
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ 36
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	182	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Calcium	40	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Magnesium	20	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Potassium	6	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Sodium	20	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Cations	4.7	--	meq/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Boron	ND	0.1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Copper	ND	10	ug/L	1000[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Iron	90	50	ug/L	300[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Manganese	40	10	ug/L	50[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Zinc	ND	20	ug/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Gypsum Requirement	0.0	--	Tons/AF		200.7	05/01/14:204943	200.7	05/01/14:206339
SAR	0.6	--	--		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Alkalinity	120	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Hydroxide	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Carbonate	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Bicarbonate	150	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Sulfate	78.8	0.5	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/05/14:206663
Chloride	14	1	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/05/14:206663
Nitrate	ND	0.4	mg/L	45	300.0	05/05/14:205252	300.0	05/05/14:206663
Nitrate Nitrogen	ND	0.1	mg/L	10	300.0	05/05/14:205252	300.0	05/05/14:206663
Fluoride	0.2	0.1	mg/L	2	300.0	05/05/14:205252	300.0	05/05/14:206663
Total Anions	4.5	--	meq/L		2320B	05/05/14:205093	2320B	05/05/14:206461
pH	6.9	--	units		4500-H B	05/01/14:204955	4500HB	05/01/14:206264
E. C.	445	1	umhos/cm	1600[2]	2510B	05/01/14:204942	2510B	05/01/14:206240
TDS by Summation	329	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/01/14:204952	200.8	05/01/14:206326

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

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853 Corporation Street
Santa Paula, CA 93060
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Stockton, CA 95215
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Chico, CA 95926
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3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-002
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-10:30
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 36
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.470 ± 1.12	1.58	pCi/L	15/5	900.0	05/14/14-15:00 2P1405539	900.0	05/16/14-10:00 2A1407233

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Visalia, CA 93291
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June 26, 2014

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Lab ID : VI 1441787-016
Customer ID : 4-18180

Sampled On : May 29, 2014-09:00
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa 37
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P,1]								
Total Hardness as CaCO3	21.6	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	7	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	1	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	ND	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	5	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	0.6	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	20	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	ND	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	60	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.05	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.5	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	30	10	mg/L		2320B	06/09/14:206556	2320B	06/09/14:208408
Hydroxide	ND	10	mg/L		2320B	06/09/14:206556	2320B	06/09/14:208408
Carbonate	ND	10	mg/L		2320B	06/09/14:206556	2320B	06/09/14:208408
Bicarbonate	40	10	mg/L		2320B	06/09/14:206556	2320B	06/09/14:208408
Sulfate	0.5	0.5	mg/L		300.0	06/06/14:206840	300.0	06/06/14:208769
Chloride	1	1	mg/L		300.0	06/06/14:206840	300.0	06/06/14:208769
Nitrate	0.4	0.4	mg/L		300.0	06/06/14:206840	300.0	06/06/14:208769
Nitrate Nitrogen	0.1	0.1	mg/L		300.0	06/06/14:206840	300.0	06/06/14:208769
Fluoride	ND	0.1	mg/L		300.0	06/06/14:206840	300.0	06/06/14:208769
Total Anions	0.7	--	meq/L		2320B	06/09/14:206556	2320B	06/09/14:208408
pH	6.4	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	76	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	55	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P,1]								
Arsenic	ND	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

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June 26, 2014

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Description : KJ Mariposa 37
Project : KJ Mariposa

Lab ID : VI 1441787-016
Customer ID : 4-18180

Sampled On : May 29, 2014-09:00
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.186 ± 0.734	1.08	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/18/14-07:00 2A1409084

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 4, 2014

Lab ID : VI 1441355-002
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 6, 2014-12:17
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description : 39
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	87.1	--	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Calcium	25	1	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Magnesium	6	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Potassium	4	1	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Sodium	13	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Total Cations	2.4	--	meq/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Boron	ND	0.1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Copper	10	10	ug/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Iron	ND	50	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Manganese	ND	10	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Zinc	80	20	ug/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Gypsum Requirement	0.09	--	Tons/AF		200.7	05/12/14:205432	200.7	05/13/14:206926
SAR	0.6	--	--		200.7	05/12/14:205432	200.7	05/13/14:206926
Total Alkalinity	90	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Hydroxide	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Carbonate	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Bicarbonate	110	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Sulfate	9.2	0.5	mg/L		300.0	05/16/14:205782	300.0	05/16/14:207325
Chloride	4	1	mg/L		300.0	05/16/14:205782	300.0	05/16/14:207325
Nitrate	0.8	0.4	mg/L		300.0	05/16/14:205782	300.0	05/16/14:207325
Nitrate Nitrogen	0.2	0.1	mg/L		300.0	05/16/14:205782	300.0	05/16/14:207325
Fluoride	0.2	0.1	mg/L		300.0	05/16/14:205782	300.0	05/16/14:207325
Total Anions	2.1	--	meq/L		2320B	05/20/14:205757	2320B	05/20/14:207336
pH	6.8	--	units		4500-H B	05/09/14:205357	4500HB	05/09/14:206752
E. C.	219	1	umhos/cm		2510B	05/13/14:205475	2510B	05/14/14:206888
TDS by Summation	172	--	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	05/14/14:205522	200.8	05/14/14:207013

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

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3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 4, 2014

Lab ID : VI 1441355-002
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 6, 2014-12:17
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description : 39
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	2.43 ± 1.03	0.923	pCi/L	15/5	900.0	05/21/14-07:00 2P1405798	900.0	05/22/14-13:00 2A1407495

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Santa Paula, CA 93060
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Chico, CA 95926
TEL: (530)343-5818
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San Luis Obispo, CA 93401
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 4, 2014

Lab ID : VI 1441355-008
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 7, 2014-10:45
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description : 40
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	186	--	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Calcium	50	1	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Magnesium	15	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Potassium	ND	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Sodium	10	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Total Cations	4.2	--	meq/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Boron	ND	0.1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Copper	ND	10	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Iron	ND	50	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Manganese	ND	10	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Zinc	ND	20	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Gypsum Requirement	0.02	--	Tons/AF		200.7	05/12/14:205432	200.7	05/12/14:206872
SAR	0.3	--	--		200.7	05/12/14:205432	200.7	05/13/14:206926
Total Alkalinity	170	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Hydroxide	ND	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Carbonate	ND	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Bicarbonate	210	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Sulfate	8.6	0.5	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Chloride	2	1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Nitrate	1.5	0.4	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Nitrate Nitrogen	0.3	0.1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Fluoride	0.2	0.1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Total Anions	3.7	--	meq/L		2320B	05/19/14:205700	2320B	05/19/14:207259
pH	7.1	--	units		4500-H B	05/09/14:205357	4500HB	05/09/14:206752
E. C.	350	1	umhos/cm		2510B	05/13/14:205475	2510B	05/14/14:206888
TDS by Summation	297	--	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	05/14/14:205522	200.8	05/14/14:207013

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
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Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

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563 E. Lindo Avenue
Chico, CA 95926
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FAX: (530)343-3807
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3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
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FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 4, 2014

Lab ID : VI 1441355-008
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 7, 2014-10:45
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description : 40
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.232 ± 0.916	1.35	pCi/L	15/5	900.0	05/21/14-07:00 2P1405798	900.0	05/22/14-16:00 2A1407490

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Santa Paula, CA 93060
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Stockton, CA 95215
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Chico, CA 95926
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San Luis Obispo, CA 93401
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 18, 2014

Lab ID : VI 1441469-008
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 13, 2014-11:30
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 41
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	233	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Calcium	57	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Magnesium	22	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Potassium	ND	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Sodium	11	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Cations	5.1	--	meq/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Boron	ND	0.1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Copper	ND	10	ug/L	1000[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Iron	60	50	ug/L	300[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Manganese	ND	10	ug/L	50[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Zinc	ND	20	ug/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Gypsum Requirement	0.07	--	Tons/AF		200.7	05/21/14:205833	200.7	05/21/14:207417
SAR	0.3	--	--		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Alkalinity	240	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Hydroxide	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Carbonate	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Bicarbonate	290	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Sulfate	8.8	0.5	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Chloride	4	1	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate	3.7	0.4	mg/L	45	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate Nitrogen	0.8	0.1	mg/L	10	300.0	05/16/14:205782	300.0	05/17/14:207325
Fluoride	0.2	0.1	mg/L	2	300.0	05/16/14:205782	300.0	05/17/14:207325
Total Anions	5.1	--	meq/L		2320B	05/20/14:205757	2320B	05/21/14:207335
pH	7.4	--	units		4500-H B	05/20/14:205797	4500HB	05/20/14:207312
E. C.	512	1	umhos/cm	1600[2]	2510B	05/19/14:205724	2510B	05/19/14:207199
TDS by Summation	397	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Metals, Diss[P:1]								
Arsenic	4	2	ug/L	10	200.8	05/21/14:205840	200.8	05/21/14:207422

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 18, 2014

Lab ID : VI 1441469-008
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 13, 2014-11:30
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa5 41
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	1.19 ± 1.28	1.46	pCi/L		900.0	06/02/14-08:30 2P1406217	900.0	06/05/14-07:00 2A1408193

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
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Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-014
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-11:00
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 42
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	106	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Calcium	26	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Magnesium	10	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Potassium	4	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Sodium	12	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Cations	2.7	--	meq/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Boron	ND	0.1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Copper	60	10	ug/L	1000[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Iron	110	50	ug/L	300[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Manganese	40	10	ug/L	50[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Zinc	40	20	ug/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Gypsum Requirement	0.09	--	Tons/AF		200.7	05/01/14:204943	200.7	05/01/14:206339
SAR	0.5	--	--		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Alkalinity	110	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Hydroxide	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Carbonate	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Bicarbonate	140	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Sulfate	8.6	0.5	mg/L	500[2]	300.0	05/02/14:205208	300.0	05/02/14:206869
Chloride	5	1	mg/L	500[2]	300.0	05/02/14:205208	300.0	05/02/14:206869
Nitrate	1.7	0.4	mg/L	45	300.0	05/02/14:205208	300.0	05/02/14:206869
Nitrate Nitrogen	0.4	0.1	mg/L	10	300.0	05/02/14:205208	300.0	05/02/14:206869
Fluoride	0.1	0.1	mg/L	2	300.0	05/02/14:205208	300.0	05/02/14:206869
Total Anions	2.6	--	meq/L		2320B	05/05/14:205093	2320B	05/05/14:206461
pH	6.8	--	units		4500-H B	05/01/14:204955	4500HB	05/01/14:206264
E. C.	263	1	umhos/cm	1600[2]	2510B	05/01/14:204942	2510B	05/01/14:206240
TDS by Summation	207	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/01/14:204952	200.8	05/01/14:206326

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-014
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-11:00
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 42
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.465 ± 0.912	1.22	pCi/L	15/5	900.0	05/14/14-15:00 2P1405539	900.0	05/16/14-14:30 2A1407234

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
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563 E. Lindo Avenue
Chico, CA 95926
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FAX: (530)343-3807
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3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 4, 2014

Lab ID : VI 1441355-009
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 7, 2014-11:10
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description : 43
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	240	--	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Calcium	65	1	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Magnesium	19	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Potassium	ND	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Sodium	11	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Total Cations	5.3	--	meq/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Boron	ND	0.1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Copper	ND	10	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Iron	50	50	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Manganese	ND	10	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Zinc	ND	20	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Gypsum Requirement	0.0	--	Tons/AF		200.7	05/12/14:205432	200.7	05/12/14:206872
SAR	0.3	--	--		200.7	05/12/14:205432	200.7	05/13/14:206926
Total Alkalinity	180	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Hydroxide	ND	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Carbonate	ND	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Bicarbonate	220	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Sulfate	24.7	0.5	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Chloride	12	1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Nitrate	17.2	0.4	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Nitrate Nitrogen	3.9	0.1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Fluoride	0.1	0.1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Total Anions	4.7	--	meq/L		2320B	05/19/14:205700	2320B	05/19/14:207259
pH	6.9	--	units		4500-H B	05/09/14:205357	4500HB	05/09/14:206752
E. C.	462	1	umhos/cm		2510B	05/13/14:205475	2510B	05/14/14:206888
TDS by Summation	369	--	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	05/14/14:205522	200.8	05/14/14:207013

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

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563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
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San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 4, 2014

Lab ID : VI 1441355-009
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 7, 2014-11:10
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description : 43
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.439 ± 1.05	1.47	pCi/L	15/5	900.0	05/21/14-07:00 2P1405798	900.0	05/22/14-15:00 2A1407493

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Santa Paula, CA 93060
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2500 Stagecoach Road
Stockton, CA 95215
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Chico, CA 95926
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San Luis Obispo, CA 93401
TEL: (805)783-2940
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-012
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-14:30
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 44
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	121	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Calcium	37	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Magnesium	7	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Potassium	4	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Sodium	10	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Cations	3.0	--	meq/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Boron	ND	0.1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Copper	40	10	ug/L	1000[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Iron	ND	50	ug/L	300[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Manganese	ND	10	ug/L	50[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Zinc	ND	20	ug/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Gypsum Requirement	0.03	--	Tons/AF		200.7	05/01/14:204943	200.7	05/01/14:206339
SAR	0.4	--	--		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Alkalinity	110	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Hydroxide	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Carbonate	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Bicarbonate	130	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Sulfate	28.4	0.5	mg/L	500[2]	300.0	05/02/14:205208	300.0	05/03/14:206869
Chloride	2	1	mg/L	500[2]	300.0	05/02/14:205208	300.0	05/03/14:206869
Nitrate	ND	0.4	mg/L	45	300.0	05/02/14:205208	300.0	05/03/14:206869
Nitrate Nitrogen	ND	0.1	mg/L	10	300.0	05/02/14:205208	300.0	05/03/14:206869
Fluoride	0.2	0.1	mg/L	2	300.0	05/02/14:205208	300.0	05/03/14:206869
Total Anions	2.8	--	meq/L		2320B	05/05/14:205093	2320B	05/05/14:206461
pH	7.2	--	units		4500-H B	05/01/14:204955	4500HB	05/01/14:206264
E. C.	295	1	umhos/cm	1600[2]	2510B	05/01/14:204942	2510B	05/01/14:206240
TDS by Summation	219	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Metals, Diss[P:1]								
Arsenic	2	2	ug/L	10	200.8	05/01/14:204952	200.8	05/01/14:206326

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
853 Corporation Street
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-012
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-14:30
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 44
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	2.32 ± 1.09	0.908	pCi/L	15/5	900.0	05/14/14-15:00 2P1405539	900.0	05/16/14-12:00 2A1407232

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

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2500 Stagecoach Road
Stockton, CA 95215
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Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 4, 2014

Lab ID : VI 1441355-005
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 7, 2014-13:40
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description : 45
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	235	--	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Calcium	53	1	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Magnesium	25	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Potassium	ND	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Sodium	18	1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Total Cations	5.5	--	meq/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Boron	ND	0.1	mg/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Copper	ND	10	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Iron	ND	50	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Manganese	ND	10	ug/L		200.7	05/12/14:205432	200.7	05/12/14:206872
Zinc	130	20	ug/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Gypsum Requirement	0.06	--	Tons/AF		200.7	05/12/14:205432	200.7	05/12/14:206872
SAR	0.5	--	--		200.7	05/12/14:205432	200.7	05/13/14:206926
Total Alkalinity	220	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Hydroxide	ND	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Carbonate	ND	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Bicarbonate	270	10	mg/L		2320B	05/19/14:205700	2320B	05/19/14:207259
Sulfate	14.9	0.5	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Chloride	4	1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Nitrate	ND	0.4	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Nitrate Nitrogen	ND	0.1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Fluoride	0.2	0.1	mg/L		300.0	05/15/14:205761	300.0	05/16/14:207283
Total Anions	4.9	--	meq/L		2320B	05/19/14:205700	2320B	05/19/14:207259
pH	7.2	--	units		4500-H B	05/09/14:205357	4500HB	05/09/14:206752
E. C.	464	1	umhos/cm		2510B	05/13/14:205475	2510B	05/14/14:206888
TDS by Summation	385	--	mg/L		200.7	05/12/14:205432	200.7	05/13/14:206926
Metals, Diss[P:1]								
Arsenic	12	2	ug/L		200.8	05/14/14:205522	200.8	05/14/14:207013

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
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Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 4, 2014

Lab ID : VI 1441355-005
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 7, 2014-13:40
Sampled By : J. McPhetridge
Received On : May 9, 2014-10:30
Matrix : Ground Water

Description : 45
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.985 ± 1.20	1.43	pCi/L	15/5	900.0	05/21/14-07:00 2P1405798	900.0	05/22/14-14:00 2A1407493

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

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3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 18, 2014

Lab ID : VI 1441469-009
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 13, 2014-12:40
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 4b
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	164	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Calcium	41	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Magnesium	15	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Potassium	ND	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Sodium	11	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Cations	3.8	--	meq/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Boron	ND	0.1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Copper	ND	10	ug/L	1000[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Iron	ND	50	ug/L	300[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Manganese	ND	10	ug/L	50[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Zinc	ND	20	ug/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Gypsum Requirement	0.04	--	Tons/AF		200.7	05/21/14:205833	200.7	05/21/14:207417
SAR	0.4	--	--		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Alkalinity	150	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Hydroxide	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Carbonate	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Bicarbonate	190	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Sulfate	27.2	0.5	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Chloride	5	1	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate	ND	0.4	mg/L	45	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate Nitrogen	ND	0.1	mg/L	10	300.0	05/16/14:205782	300.0	05/17/14:207325
Fluoride	0.2	0.1	mg/L	2	300.0	05/16/14:205782	300.0	05/17/14:207325
Total Anions	3.8	--	meq/L		2320B	05/20/14:205757	2320B	05/21/14:207335
pH	7.1	--	units		4500-H B	05/20/14:205797	4500HB	05/20/14:207312
E. C.	400	1	umhos/cm	1600[2]	2510B	05/19/14:205724	2510B	05/19/14:207199
TDS by Summation	289	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/21/14:205840	200.8	05/21/14:207422

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
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Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
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3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
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FAX: (805)783-2912
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 18, 2014

Lab ID : VI 1441469-009
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 13, 2014-12:40
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 46
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.000 ± 0.797	1.34	pCi/L		900.0	06/02/14-08:30 2P1406217	900.0	06/04/14-08:00 2A1408195

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
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Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
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Chico, CA 95926
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San Luis Obispo, CA 93401
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 18, 2014

Lab ID : VI 1441469-010
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 14, 2014-10:30
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 47
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	189	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Calcium	41	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Magnesium	21	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Potassium	3	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Sodium	18	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Cations	4.6	--	meq/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Boron	ND	0.1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Copper	ND	10	ug/L	1000[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Iron	70	50	ug/L	300[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Manganese	ND	10	ug/L	50[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Zinc	ND	20	ug/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Gypsum Requirement	0.06	--	Tons/AF		200.7	05/21/14:205833	200.7	05/21/14:207417
SAR	0.6	--	--		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Alkalinity	180	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Hydroxide	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Carbonate	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Bicarbonate	210	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Sulfate	16.4	0.5	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Chloride	12	1	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate	19.9	0.4	mg/L	45	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate Nitrogen	4.5	0.1	mg/L	10	300.0	05/16/14:205782	300.0	05/17/14:207325
Fluoride	0.2	0.1	mg/L	2	300.0	05/16/14:205782	300.0	05/17/14:207325
Total Anions	4.5	--	meq/L		2320B	05/20/14:205757	2320B	05/21/14:207335
pH	6.8	--	units		4500-H B	05/20/14:205797	4500HB	05/20/14:207312
E. C.	481	1	umhos/cm	1600[2]	2510B	05/19/14:205724	2510B	05/19/14:207199
TDS by Summation	342	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Metals, Diss[P:1]								
Arsenic	2	2	ug/L	10	200.8	05/21/14:205840	200.8	05/21/14:207422

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
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Office & Laboratory
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Stockton, CA 95215
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 18, 2014

Lab ID : VI 1441469-010
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 14, 2014-10:30
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 47
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	2.58 ± 1.24	1.05	pCi/L		900.0	06/02/14-08:30 2P1406217	900.0	06/04/14-11:00 2A1408192

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
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CA ELAP Certification No. 1563

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Chico, CA 95926
TEL: (530)343-5818
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Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-006
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-10:40
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 49
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	44.8	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Calcium	13	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Magnesium	3	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Potassium	3	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Sodium	8	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Cations	1.3	--	meq/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Boron	ND	0.1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Copper	ND	10	ug/L	1000[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Iron	80	50	ug/L	300[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Manganese	10	10	ug/L	50[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Zinc	ND	20	ug/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Gypsum Requirement	0.06	--	Tons/AF		200.7	05/01/14:204943	200.7	05/01/14:206339
SAR	0.5	--	--		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Alkalinity	50	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Hydroxide	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Carbonate	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Bicarbonate	60	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Sulfate	8.6	0.5	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/05/14:206663
Chloride	3	1	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/05/14:206663
Nitrate	1.2	0.4	mg/L	45	300.0	05/05/14:205252	300.0	05/05/14:206663
Nitrate Nitrogen	0.3	0.1	mg/L	10	300.0	05/05/14:205252	300.0	05/05/14:206663
Fluoride	ND	0.1	mg/L	2	300.0	05/05/14:205252	300.0	05/05/14:206663
Total Anions	1.3	--	meq/L		2320B	05/05/14:205093	2320B	05/05/14:206461
pH	6.2	--	units		4500-H B	05/01/14:204955	4500HB	05/01/14:206264
E. C.	138	1	umhos/cm	1600[2]	2510B	05/01/14:204942	2510B	05/01/14:206240
TDS by Summation	100	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/01/14:204952	200.8	05/01/14:206326

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
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Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-006
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-10:40
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 49
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.918 ± 1.04	1.23	pCi/L	15/5	900.0	05/14/14-15:00 2P1405539	900.0	05/16/14-09:00 2A1407237

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Santa Paula, CA 93060
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2500 Stagecoach Road
Stockton, CA 95215
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Chico, CA 95926
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San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-005
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-11:10
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 50
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	84.6	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Calcium	24	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Magnesium	6	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Potassium	3	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Sodium	12	1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Cations	2.3	--	meq/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Boron	ND	0.1	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Copper	ND	10	ug/L	1000[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Iron	50	50	ug/L	300[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Manganese	50	10	ug/L	50[2]	200.7	05/01/14:204943	200.7	05/01/14:206339
Zinc	ND	20	ug/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Gypsum Requirement	0.1	--	Tons/AF		200.7	05/01/14:204943	200.7	05/01/14:206339
SAR	0.6	--	--		200.7	05/01/14:204943	200.7	05/01/14:206339
Total Alkalinity	100	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Hydroxide	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Carbonate	ND	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Bicarbonate	120	10	mg/L		2320B	05/05/14:205093	2320B	05/05/14:206461
Sulfate	6.3	0.5	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/05/14:206663
Chloride	5	1	mg/L	500[2]	300.0	05/05/14:205252	300.0	05/05/14:206663
Nitrate	ND	0.4	mg/L	45	300.0	05/05/14:205252	300.0	05/05/14:206663
Nitrate Nitrogen	ND	0.1	mg/L	10	300.0	05/05/14:205252	300.0	05/05/14:206663
Fluoride	ND	0.1	mg/L	2	300.0	05/05/14:205252	300.0	05/05/14:206663
Total Anions	2.2	--	meq/L		2320B	05/05/14:205093	2320B	05/05/14:206461
pH	6.9	--	units		4500-H B	05/01/14:204955	4500HB	05/01/14:206264
E. C.	229	1	umhos/cm	1600[2]	2510B	05/01/14:204942	2510B	05/01/14:206240
TDS by Summation	176	--	mg/L		200.7	05/01/14:204943	200.7	05/01/14:206339
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/01/14:204952	200.8	05/01/14:206326

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
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Office & Laboratory
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Stockton, CA 95215
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FAX: (209)942-0423
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Chico, CA 95926
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San Luis Obispo, CA 93401
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 28, 2014

Lab ID : VI 1441244-005
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : April 28, 2014-11:10
Sampled By : Jen McPhetridge
Received On : April 30, 2014-09:45
Matrix : Drinking Water

Description : KJ Mariposa 50
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry[P:1]								
Gross Alpha	4.38 ± 1.30	0.850	pCi/L	15/5	900.0	05/14/14-15:00 2P1405539	900.0	05/16/14-11:30 2A1407234

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Stockton, CA 95215
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3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 18, 2014

Lab ID : VI 1441469-005
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 9, 2014-13:33
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 51
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	181	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Calcium	51	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Magnesium	13	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Potassium	4	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Sodium	18	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Cations	4.5	--	meq/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Boron	ND	0.1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Copper	ND	10	ug/L	1000[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Iron	250	50	ug/L	300[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Manganese	220	10	ug/L	50[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Zinc	ND	20	ug/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Gypsum Requirement	0.1	--	Tons/AF		200.7	05/21/14:205833	200.7	05/21/14:207417
SAR	0.6	--	--		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Alkalinity	190	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Hydroxide	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Carbonate	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Bicarbonate	230	10	mg/L		2320B	05/20/14:205757	2320B	05/20/14:207336
Sulfate	11.0	0.5	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Chloride	14	1	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate	ND	0.4	mg/L	45	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate Nitrogen	ND	0.1	mg/L	10	300.0	05/16/14:205782	300.0	05/17/14:207325
Fluoride	0.2	0.1	mg/L	2	300.0	05/16/14:205782	300.0	05/17/14:207325
Total Anions	4.4	--	meq/L		2320B	05/20/14:205757	2320B	05/20/14:207336
pH	7.2	--	units		4500-H B	05/20/14:205797	4500HB	05/20/14:207312
E. C.	468	1	umhos/cm	1600[2]	2510B	05/19/14:205724	2510B	05/19/14:207199
TDS by Summation	341	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/21/14:205840	200.8	05/21/14:207422

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

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853 Corporation Street
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 18, 2014

Lab ID : VI 1441469-005
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 9, 2014-13:33
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 51
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.909 ± 1.16	1.36	pCi/L		900.0	06/02/14-08:30 2P1406217	900.0	06/03/14-16:00 2A1408195

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L.
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Santa Paula, CA 93060
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2500 Stagecoach Road
Stockton, CA 95215
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Chico, CA 95926
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San Luis Obispo, CA 93401
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Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 18, 2014

Lab ID : VI 1441469-012
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 14, 2014-11:30
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 52
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	120	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Calcium	35	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Magnesium	8	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Potassium	ND	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Sodium	9	1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Cations	2.8	--	meq/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Boron	ND	0.1	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Copper	ND	10	ug/L	1000[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Iron	ND	50	ug/L	300[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Manganese	ND	10	ug/L	50[2]	200.7	05/21/14:205833	200.7	05/21/14:207417
Zinc	ND	20	ug/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Gypsum Requirement	0.03	--	Tons/AF		200.7	05/21/14:205833	200.7	05/21/14:207417
SAR	0.4	--	--		200.7	05/21/14:205833	200.7	05/21/14:207417
Total Alkalinity	110	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Hydroxide	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Carbonate	ND	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Bicarbonate	140	10	mg/L		2320B	05/20/14:205757	2320B	05/21/14:207335
Sulfate	10.8	0.5	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Chloride	7	1	mg/L	500[2]	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate	2.6	0.4	mg/L	45	300.0	05/16/14:205782	300.0	05/17/14:207325
Nitrate Nitrogen	0.6	0.1	mg/L	10	300.0	05/16/14:205782	300.0	05/17/14:207325
Fluoride	ND	0.1	mg/L	2	300.0	05/16/14:205782	300.0	05/17/14:207325
Total Anions	2.8	--	meq/L		2320B	05/20/14:205757	2320B	05/21/14:207335
pH	7.5	--	units		4500-H B	05/20/14:205797	4500HB	05/20/14:207312
E. C.	295	1	umhos/cm	1600[2]	2510B	05/19/14:205724	2510B	05/19/14:207199
TDS by Summation	212	--	mg/L		200.7	05/21/14:205833	200.7	05/21/14:207417
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L	10	200.8	05/21/14:205840	200.8	05/21/14:207422

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

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CA ELAP Certification No. 2810

June 18, 2014

Lab ID : VI 1441469-012
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 14, 2014-11:30
Sampled By : Jennifer McPhetridge
Received On : May 16, 2014-09:50
Matrix : Drinking Water

Description : KJ Mariposa 52
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P,1]								
Gross Alpha	0.470 ± 0.922	1.23	pCi/L		900.0	06/02/14-08:30 2P1406217	900.0	06/04/14-09:00 2A1408195

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
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Chico, CA 95926
TEL: (530)343-5818
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San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-020
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : June 2, 2014-10:00
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa 53
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	42.3	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	12	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	3	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	2	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	14	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	1.5	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	ND	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	ND	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.07	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.9	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	40	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Hydroxide	ND	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Carbonate	ND	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Bicarbonate	50	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Sulfate	1.2	0.5	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Chloride	11	1	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Nitrate	10	0.4	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Nitrate Nitrogen	2.3	0.1	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Fluoride	ND	0.1	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Total Anions	1.3	--	meq/L		2320B	06/10/14:206685	2320B	06/10/14:208500
pH	6.1	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	163	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	103	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
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CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-020
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : June 2, 2014-10:00
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa 53
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	1.11 ± 1.12	1.17	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/18/14-09:00 2A1409084

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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June 26, 2014

Lab ID : VI 1441787-021
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : June 2, 2014-10:15
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa 54
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	48.2	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	16	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	2	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	2	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	10	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	1.4	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	110	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	360	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	ND	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.08	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.6	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	60	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Hydroxide	ND	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Carbonate	ND	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Bicarbonate	70	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Sulfate	ND	0.5	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Chloride	7	1	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Nitrate	ND	0.4	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Nitrate Nitrogen	ND	0.1	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Fluoride	ND	0.1	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Total Anions	1.3	--	meq/L		2320B	06/10/14:206685	2320B	06/10/14:208500
pH	6.9	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	162	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	107	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

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June 26, 2014

Lab ID : VI 1441787-021
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : June 2, 2014-10:15
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa 54
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	1.05 ± 1.12	1.28	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/18/14-10:00 2A1409086

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

Christopher J. Eastoe
Staff Scientist
520-621-1638 (office)
520-621-2672 (fax)
eastoe@email.arizona.edu (e-mail)

THE UNIVERSITY OF ARIZONA
TUCSON ARIZONA

Environmental Isotope Laboratory
Department of Geosciences
Gould-Simpson Building
Tucson AZ 85721-0077
USA

Kenneth D. Schmidt and Associates
Attn: Cheryl Lassotovitch
600 W Shaw, Suite 250
Fresno CA 93704

June 5, 2014

REPORT OF ANALYSES **13 water samples for δ18O and δD**

W number	Sample	δ18O ‰	δD ‰
59357	KJ Mariposa 35	-10.1	-69
59358	KJ Mariposa 4	-7.9	-61
59359	KJ Mariposa 23	-9.1	-64
59360	KJ Mariposa 24	-9.1	-63
59361	KJ Mariposa 51	-9.4	-65
59362	KJ Mariposa 21	-10.7	-73
59363	KJ Mariposa 11	-10.0	-69
59364	KJ Mariposa 41	-10.3	-70
59365	KJ Mariposa 46	-10.3	-71
59366	KJ Mariposa 47	-8.7	-61
59367	KJ Mariposa 3	-10.6	-72
59368	KJ Mariposa 52	-10.1	-69
59369	KJ Mariposa 9	-10.3	-69
Analytical Precision		0.08	0.9

C.J.Eastoe
Staff Scientist

2

Kenneth D. Schmidt and Associates
Attn: Cheryl Lassotovitch
600 W Shaw, Suite 250
Fresno CA 93704

June 12, 2104

REPORT OF ANALYSES **22 water samples for δ18O and δD**

W number	Sample	δ18O ‰	δD ‰
59416	KJ Mariposa CV 12	-8.4	-59
59417	KJ Mariposa CV 8	-8.9	-64
59418	KJ Mariposa CV 14	-9.2	-63
59419	CV KJ Mariposa 6	-8.1	-58
59420	KJ Mariposa CV 7	-8.2	-59
59421	KJ Mariposa CV 13	-9.1	-66
59422	KJ Mariposa CV 2	-8.2	-59
59423	KJ Mariposa CV 5	-8.1	-59
59424	KJ Mariposa 16A	-11.8	-80
59425	KJ Mariposa 16B	-12.0	-82
59426	KJ Mariposa 34	-10.7	-74
59427	KJ Mariposa 53	-10.3	-71
59428	KJ Mariposa 54	-2.8	-37 ← Crazy
59429	KJ Mariposa 33	-10.4	-72
59430	KJ Mariposa CV 16	-8.2	-58
59431	KJ Mariposa CV 6	-8.0	-58
59432	KJ Mariposa CV 3	-8.3	-60
59433	KJ Mariposa CV 4	-8.0	-58
59434	KJ Mariposa CV 11	-8.9	-62
59435	KJ Mariposa CV 10	-5.1	-48
59436	KJ Mariposa CV 15	-8.4	-62
59437	KJ Mariposa 37	-11.7	-80
Analytical Precision		0.08	0.9

C.J.Eastoe
Staff Scientist

Kenneth D. Schmidt and Associates May 20, 2014
Attn: Cheryl Lassotovitch
600 W Shaw, Suite 250 26
Fresno CA 93704

REPORT OF ANALYSES **26 water samples for δ18O and δD**

W number	Sample	δ18O ‰	δD ‰
59282	KJ Mariposa 32	-9.9	-69
59283	KJ Mariposa 42	-10.2	-70
59284	KJ Mariposa 10	-10.4	-71
59285	KJ Mariposa 13	-10.6	-73
59286	KJ Mariposa 36	-9.4	-66
59287	KJ Mariposa 19	-10.3	-71
59288	KJ Mariposa 20	-3.1	-38
59289	KJ Mariposa 12	-10.9	-75
59290	KJ Mariposa 50	-10.4	-73
59291	KJ Mariposa 49	-10.5	-72
59292	KJ Mariposa 8	-10.7	-73
59293	KJ Mariposa 22	-10.5	-72
59294	KJ Mariposa 29	-10.2	-70
59295	KJ Mariposa 44	-11.1	-76
59296	KJ Mariposa 30	-10.6	-71
59319	KJ Mariposa 15	-10.0	-68
59320	KJ Mariposa 39	-10.4	-72
59321	KJ Mariposa 18	-10.2	-69
59322	KJ Mariposa 2	-9.8	-67
59323	KJ Mariposa 45	-10.3	-72
59324	KJ Mariposa 14	-10.1	-70
59325	KJ Mariposa 1	-10.2	-70
59326	KJ Mariposa 40	-10.4	-70
59327	KJ Mariposa 43	-9.9	-69
59328	KJ Mariposa 26	-9.8	-68
59329	KJ Mariposa 27	-10.1	-70
Analytical Precision		0.08	0.9

C.J. Eastoe
Staff Scientist

Wells in Catheys Valley

June 26, 2014

Lab ID : VI 1441787-007
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 27, 2014-11:30
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CY 2
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	185	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	41	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	20	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	ND	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	14	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	4.3	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	10	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	ND	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	ND	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.04	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.4	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	170	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Hydroxide	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Carbonate	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Bicarbonate	210	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Sulfate	8.3	0.5	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Chloride	7	1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate	16.9	0.4	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate Nitrogen	3.8	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Fluoride	0.1	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Total Anions	4.1	--	meq/L		2320B	06/05/14:206477	2320B	06/05/14:208187
pH	7.2	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	437	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	317	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-007
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 27, 2014-11:30
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CV 2
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.501 ± 0.983	1.31	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/17/14-17:00 2A1409087

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

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3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-010
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 28, 2014-10:20
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CV3
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	228	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	60	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	19	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	2	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	22	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	5.6	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	20	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	ND	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	30	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.03	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.6	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	190	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Hydroxide	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Carbonate	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Bicarbonate	230	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Sulfate	30.0	0.5	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Chloride	20	1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate	11.7	0.4	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate Nitrogen	2.6	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Fluoride	0.2	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Total Anions	5.2	--	meq/L		2320B	06/05/14:206477	2320B	06/05/14:208187
pH	7.4	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	545	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	395	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	6	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
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Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
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563 E. Lindo Avenue
Chico, CA 95926
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3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-010
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 28, 2014-10:20
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CV3
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	2.26 ± 1.11	1.01	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/17/14-18:00 2A1409087

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
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Chico, CA 95926
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FAX: (530)343-3807
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3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-011
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 28, 2014-10:40
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CV4
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	265	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	65	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	25	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	2	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	21	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	6.3	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	ND	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	ND	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.0	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.6	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	200	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Hydroxide	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Carbonate	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Bicarbonate	250	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Sulfate	30.4	0.5	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Chloride	18	1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate	21.9	0.4	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate Nitrogen	5.0	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Fluoride	0.1	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Total Anions	5.6	--	meq/L		2320B	06/05/14:206477	2320B	06/05/14:208187
pH	7.1	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	594	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	433	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	4	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
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Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
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Chico, CA 95926
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Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-011
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 28, 2014-10:40
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CU4
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P,1]								
Gross Alpha	1.20 ± 1.36	1.61	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/17/14-18:00 2A1409088

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
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Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
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Chico, CA 95926
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San Luis Obispo, CA 93401
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CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-008
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 27, 2014-12:00
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CU5
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	193	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	41	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	22	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	ND	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	16	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	4.6	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	50	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	ND	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	30	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.01	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.5	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	160	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Hydroxide	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Carbonate	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Bicarbonate	200	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Sulfate	17.9	0.5	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Chloride	11	1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate	11.2	0.4	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate Nitrogen	2.5	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Fluoride	0.1	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Total Anions	4.1	--	meq/L		2320B	06/05/14:206477	2320B	06/05/14:208187
pH	6.9	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	445	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	319	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-008
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 27, 2014-12:00
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CV5
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.165 ± 0.856	1.33	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/17/14-17:00 2A1409088

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
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Chico, CA 95926
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San Luis Obispo, CA 93401
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-009
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 27, 2014-13:27
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CVb
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	161	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	35	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	18	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	1	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	14	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	3.9	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	10	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	ND	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	20	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	100	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.06	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.5	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	150	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Hydroxide	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Carbonate	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Bicarbonate	190	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Sulfate	9.3	0.5	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Chloride	9	1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate	7.2	0.4	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate Nitrogen	1.6	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Fluoride	0.1	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Total Anions	3.7	--	meq/L		2320B	06/05/14:206477	2320B	06/05/14:208187
pH	7.1	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	397	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	284	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
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Stockton, CA 95215
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Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-009
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 27, 2014-13:27
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CV6
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	3.31 ± 1.24	1.01	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/18/14-07:00 2A1409086

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Santa Paula, CA 93060
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Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
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2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
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Chico, CA 95926
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FAX: (530)343-3807
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San Luis Obispo, CA 93401
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FAX: (805)783-2912
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 26, 2014

Lab ID : VI 1441787-005
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 27, 2014-10:20
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CV7
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	197	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	46	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	20	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	3	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	15	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	4.7	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	ND	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	100	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.0	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.5	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	140	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Hydroxide	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Carbonate	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Bicarbonate	180	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Sulfate	11.9	0.5	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Chloride	14	1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate	40.4	0.4	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate Nitrogen	9.1	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Fluoride	ND	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Total Anions	4.2	--	meq/L		2320B	06/05/14:206477	2320B	06/05/14:208187
pH	7.3	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	468	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	330	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

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853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
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Stockton, CA 95215
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-005
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 27, 2014-10:20
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CV 7
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	1.63 ± 1.34	1.32	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/17/14-16:00 2A1409087

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Chico, CA 95926
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San Luis Obispo, CA 93401
TEL: (805)783-2940
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-002
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 22, 2014-12:45
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CVB
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	180	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	49	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	14	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	3	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	18	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	4.5	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	0.3	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	ND	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	ND	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.06	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.6	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	170	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Hydroxide	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Carbonate	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Bicarbonate	200	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Sulfate	14.3	0.5	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Chloride	10	1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate	0.6	0.4	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate Nitrogen	0.1	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Fluoride	0.3	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Total Anions	3.9	--	meq/L		2320B	06/05/14:206477	2320B	06/05/14:208187
pH	7.8	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	409	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	309	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	3	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

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June 26, 2014

Lab ID : VI 1441787-002
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 22, 2014-12:45
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CVB
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	1.75 ± 1.44	1.42	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/17/14-15:00 2A1409087

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 26, 2014

Lab ID : VI 1441787-014
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 28, 2014-12:58
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CVID
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	245	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	62	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	22	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	2	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	25	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	6.0	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	0.2	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	250	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	470	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	ND	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.06	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.7	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	210	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Hydroxide	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Carbonate	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Bicarbonate	260	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Sulfate	2.4	0.5	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Chloride	56	1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate	ND	0.4	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate Nitrogen	ND	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Fluoride	0.2	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Total Anions	5.9	--	meq/L		2320B	06/05/14:206477	2320B	06/05/14:208187
pH	7.1	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	648	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	430	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

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Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
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June 26, 2014

Lab ID : VI 1441787-014
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 28, 2014-12:58
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CV 10
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	1.45 ± 1.42	1.52	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/18/14-07:00 2A1409087

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Stockton, CA 95215
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Chico, CA 95926
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San Luis Obispo, CA 93401
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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 26, 2014

Lab ID : VI 1441787-013
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : June 1, 2014-11:30
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CVII
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units.	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	167	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	29	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	23	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	5	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	17	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	4.2	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	50	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	150	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.06	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.6	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	150	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Hydroxide	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Carbonate	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Bicarbonate	180	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Sulfate	15.8	0.5	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Chloride	18	1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate	16.4	0.4	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate Nitrogen	3.7	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Fluoride	0.1	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Total Anions	4.1	--	meq/L		2320B	06/05/14:206477	2320B	06/05/14:208187
pH	7.7	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	437	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	304	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

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853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
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2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
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Chico, CA 95926
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San Luis Obispo, CA 93401
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Lab ID : VI 1441787-013
Customer ID : 4-18180

Sampled On : June 1, 2014-11:30
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa : CV11
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.693 ± 1.07	1.39	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/17/14-19:00 2A1409088

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Stockton, CA 95215
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June 26, 2014

Lab ID : VI 1441787-001
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 22, 2014-11:58
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CV 12
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	315	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	72	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	33	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	2	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	17	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	7.1	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	50	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	ND	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.0	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.4	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	220	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Hydroxide	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Carbonate	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Bicarbonate	270	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Sulfate	27.0	0.5	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Chloride	57	1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate	18.1	0.4	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate Nitrogen	4.1	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Fluoride	ND	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Total Anions	6.9	--	meq/L		2320B	06/05/14:206477	2320B	06/05/14:208187
pH	7.2	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	714	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	496	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	4	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
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June 26, 2014

Lab ID : VI 1441787-001
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 22, 2014-11:58
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CV 12
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	1.72 ± 1.51	1.59	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/17/14-15:00 2A1409086

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Visalia, CA 93291
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FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-006
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 27, 2014-10:55
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CV13
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	114	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	34	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	7	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	1	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	24	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	3.3	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	ND	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	ND	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.1	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	1.0	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	110	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Hydroxide	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Carbonate	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Bicarbonate	130	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Sulfate	17.9	0.5	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Chloride	7	1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate	4.1	0.4	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate Nitrogen	0.9	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Fluoride	0.1	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Total Anions	2.8	--	meq/L		2320B	06/05/14:206477	2320B	06/05/14:208187
pH	7.8	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	321	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	225	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	8	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
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Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-006
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 27, 2014-10:55
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CV13
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.000 ± 0.885	1.49	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/17/14-17:00 2A1409086

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
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563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

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3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-003
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 22, 2014-14:00
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CV 14
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	145	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	30	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	17	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	1	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	18	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	3.7	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	ND	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	ND	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.08	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.7	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	140	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Hydroxide	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Carbonate	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Bicarbonate	170	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Sulfate	8.6	0.5	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Chloride	8	1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate	5.0	0.4	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate Nitrogen	1.1	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Fluoride	0.2	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Total Anions	3.3	--	meq/L		2320B	06/05/14:206477	2320B	06/05/14:208187
pH	6.9	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	362	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	258	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	2	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
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Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
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Chico, CA 95926
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San Luis Obispo, CA 93401
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9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-003
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 22, 2014-14:00
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CV 14
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	2.11 ± 1.06	1.04	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/17/14-15:00 2A1409088

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Santa Paula, CA 93060
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Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
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Stockton, CA 95215
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San Luis Obispo, CA 93401
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Visalia, CA 93291
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FAX: (559)734-8435
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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 26, 2014

Lab ID : VI 1441787-015
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 28, 2014-13:30
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CV15
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	126	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	39	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	7	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	ND	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	37	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	4.1	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	ND	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	20	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	ND	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.2	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	1.4	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	150	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Hydroxide	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Carbonate	ND	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Bicarbonate	180	10	mg/L		2320B	06/05/14:206477	2320B	06/05/14:208187
Sulfate	25.5	0.5	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Chloride	13	1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate	ND	0.4	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Nitrate Nitrogen	ND	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Fluoride	2.8	0.1	mg/L		300.0	06/05/14:206802	300.0	06/05/14:208714
Total Anions	4.0	--	meq/L		2320B	06/05/14:206477	2320B	06/05/14:208187
pH	7.7	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	430	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	304	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	ND	2	ug/L		200.8	06/04/14:206396	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

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853 Corporation Street
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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 26, 2014

Lab ID : VI 1441787-015
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : May 28, 2014-13:30
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CV15
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	4.54 ± 1.49	1.15	pCi/L	15/5	900.0	06/16/14-08:00 2P1406881	900.0	06/18/14-07:00 2A1409088

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Santa Paula, CA 93060
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Stockton, CA 95215
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Chico, CA 95926
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San Luis Obispo, CA 93401
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

June 26, 2014

Lab ID : VI 1441787-023
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : June 2, 2014-11:40
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CV17
Project : KJ Mariposa

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit[P:1]								
Total Hardness as CaCO3	176	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Calcium	41	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Magnesium	18	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Potassium	ND	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Sodium	17	1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Cations	4.3	--	meq/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Boron	ND	0.1	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Copper	40	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Iron	ND	50	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Manganese	ND	10	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Zinc	ND	20	ug/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Gypsum Requirement	0.04	--	Tons/AF		200.7	06/04/14:206386	200.7	06/04/14:208118
SAR	0.6	--	--		200.7	06/04/14:206386	200.7	06/04/14:208118
Total Alkalinity	160	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Hydroxide	ND	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Carbonate	ND	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Bicarbonate	190	10	mg/L		2320B	06/10/14:206685	2320B	06/10/14:208500
Sulfate	18.3	0.5	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Chloride	17	1	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Nitrate	20.6	0.4	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Nitrate Nitrogen	4.7	0.1	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Fluoride	ND	0.1	mg/L		300.0	06/09/14:206697	300.0	06/09/14:208548
Total Anions	4.3	--	meq/L		2320B	06/10/14:206685	2320B	06/10/14:208500
pH	7.1	--	units		4500-H B	06/04/14:206392	4500HB	06/04/14:208079
E. C.	448	1	umhos/cm		2510B	06/04/14:206373	2510B	06/05/14:208047
TDS by Summation	322	--	mg/L		200.7	06/04/14:206386	200.7	06/04/14:208118
Metals, Diss[P:1]								
Arsenic	4	2	ug/L		200.8	06/04/14:206395	200.8	06/04/14:208136

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

June 26, 2014

Lab ID : VI 1441787-023
Customer ID : 4-18180

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Sampled On : June 2, 2014-11:40
Sampled By : Jen McPhetridge
Received On : June 3, 2014-10:00
Matrix : Water

Description : KJ Mariposa CV 17
Project : KJ Mariposa

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Gross Alpha	0.671 ± 1.11	1.39	pCi/L	15/5	900.0	06/18/14-07:00 2P1406997	900.0	06/18/14-18:00 2A1409115

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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Appendix 3-C

Technical Analyses

Appendix 3-C: Technical Analyses

Technical information is used throughout the Yosemite-Mariposa IRWM Plan to describe and develop a better understanding of the water-related needs, conflicts, opportunities, and challenges of the Region. The process of developing an integrated regional water management plan (IRWM Plan) requires drawing and synthesizing technical data from many other plans, studies and data previously prepared by stakeholders. This Appendix is intended to provide a brief overview of the technical information that was used to formulate the diversity and broad array of water resources challenges that are incorporated throughout the IRWM Plan. The technical content and descriptions of the Y-M Region are included in Sections 2, 3 and 4 of the Plan. The analysis conducted in Sections 2, 3 and 4 are primarily based on existing documents within the Region. Additionally, Appendix 3-B includes a groundwater study conducted as part of this Plan to provide a better understanding of the Region's groundwater resources. This technical analyses appendix includes a description of the data sources and analyses that were used to prepare the IRWM Plan, as well as provides supplementary information to these sections and a limited discussion of additional information that could be obtained to help refine the Plan in the future.

This plan was developed after compiling over 75 different water resources, land use planning reports, studies, and data sets that cover issues directly within the Region. While only a portion of the reports were directly referenced in the plan, the library of information has been compiled and will be made available for future updates to fill various information needs. The following analyses were conducted and are included in detail in the following Sections:

- Population Growth Analysis: Section 2.4
- Water Demand Analysis: Section 3
- Water Supply Analysis: Section 3 and Appendix 3-B (groundwater study)

In addition to the above analysis, the land use and water management and environmental resources analyses are included in Sections 3 and 4. Supplementary information on these sections is included below.

3-C.1 Land Use and Water Management Plans

Numerous plans and studies related to water resources and land use management in the Y-M Region have been reviewed to support the development of this IRWM Plan. The Y-M IRWM Plan contains information from local planning efforts that have occurred throughout the Region and is consistent with and supports locally-led planning and implementation of integrated water management.

Table 3-C-1 provides a summary of local land use planning documents developed by the jurisdictional agencies in the Region.

Table 3-C-1: Land Use and Management

Agency	Jurisdiction	Role	Planning Documents
		Federal	
Stanislaus National Forest Service			Forest Plan Direction – 2010 Fire Management Plan
Sierra National Forest Service			Forest Management Plan -
Yosemite National Park			General Management Plan – 1980 Merced River Plan and EIS - 2014 A Sense of Place – Design Guidelines for Yosemite Valley – 2004 Wawona Water Conservation Plan Yosemite Valley Plan Supplemental Aquatic Resources Management Plan Invasive Plant Management Plan - 2010 Fire Management Plan - 2004 YNP Visitor Use and Impacts Monitoring - 2011
Bureau of Land Management			Sierra Resource Management Plan and Record of Decision - 2008
Mariposa County LAFCO			Water and Wastewater Municipal Service Review
County			
Mariposa County Planning Department	Mariposa County	Private land development oversight	Mariposa County General Plan Catheys Valley Community Plan Coulterville Community Plan Fish Camp Community Plan Mariposa Community Plan Wawona Community Plan Mariposa County Community Wildfire Protection Plan – 2010
Organizations			
Central Sierra Watershed Committee	Upper Merced, Upper Chowchilla, Upper Fresno, Upper San Joaquin Rivers within the boundaries of Eastern Madera and Mariposa Counties.	Complete a watershed plan	The Eastern Madera County and Mariposa County Long Term Plan for Watershed Conservation and Restoration
Sierra Institute		Build rural communities while taking environmental factors into consideration	Socioeconomic Indicators for Watersheds

Agency	Jurisdiction	Role	Planning Documents
Sierra San Joaquin Noxious Weeds Alliance		Control spread of noxious weeds	Field Guide to Noxious Weeds
Yosemite Stanislaus Solutions		Collaborative to restore and maintain healthy forests and watersheds	Yosemite Stanislaus Solutions Collaborative Landscape Strategy

Water supplies and uses in the Y-M Region were evaluated to determine existing water supply conditions and potential future water supply needs. Primary sources of data were local water purveyor records, reports and estimations based on estimated average daily use as presented in Section 2. Due to a lack of available data, quantifiable supply projections were not available for many of the smaller community water systems, or private domestic groundwater users in the Y-M Region. Table 3-C-2 provides a summary of local water planning documents developed by the municipalities and jurisdictional authorities in the Region.

Water use in the Y-M Region includes local municipal uses for residential (with minimal industrial, commercial and agricultural use), hydro power generation, the maintenance of minimum flow releases to meet downstream ecosystem needs, and major water exports by senior water rights holders.

Table 3-C-2: Local Water Management Plans

Agency	Jurisdiction	Role	Planning Documents and Regulations
Federal and State Agencies			
Army Corps of Engineers	Entire Region	Flood Control and Water Management	
EPA	Entire Region	Water Discharge Regulator	
DWR	Entire Region	Water Regulator	California Water Plan
Regional Water Quality Control Board	Entire Region	Waste Discharge Regulator to Surface Water and Ground Water	Sacramento – San Joaquin River Water Quality Control Plan (Basin Plan)
State Water Resource Control Board	Entire Region	Water Rights	
CDPH	Entire Region	Drinking Water Regulator	
Mariposa County Health Department	Entire Region	Water and Wastewater Program Administrator	

Agency	Jurisdiction	Role	Planning Documents and Regulations
County Systems			
County Service Area 1-M, Coulterville Water and Sewer (CSA1MCWS)	338 acres in the Coulterville area	Water Purveyor Wastewater Service	
County Service Area 1-M, Lake Don Pedro Sewer (CSA1MLDPS)	135 acres in the Lake Don Pedro area	Wastewater Service	Consumer Confidence Report
County Service Are 1-M, Mariposa Pines (CSA1MMP)	Mariposa Pine Subdivision and Jerseydale area	Wastewater Service	
Special Districts			
Mariposa Public Utility District (MPUD)	870 acres in the Mariposa area	Water Purveyor Wastewater Service	Consumer Confidence Report
Yosemite Alpine Community Services District	Yosemite Alpine Subdivision (~19 acres)	Water Purveyor Snow Removal Road Maintenance	
Yosemite West Maintenance District	110 acres within the Yosemite West Town Planning Area	Water Purveyor Wastewater Service Road Maintenance	
Lake Don Pedro Community Service District	Lake Don Pedro Community	Water Purveyor Wastewater Service	Sanitary Survey of the Merced River Watershed Consumer Confidence Report
Mariposa County Resource Conservation District	Mariposa County	Aide in the conservation of resources including water	MCRCD Long Range Plan
Merced Irrigation District	Portion of Merced County	Water Purveyor, Recreation, Energy Production and Distribution	Merced Water Supply Plan

The majority of the population in the Region is served by groundwater. Because there is a lack of groundwater availability and quality data within the Region, a high level groundwater study was conducted. This study is included in Appendix 3-B. This study provides additional insight into the groundwater present in the Region; however, additional analysis is necessary to better understand the sustainable quantity and quality of the groundwater within the Region;

<u>Additional Information Needs</u>

- Water supply projections for communities within the Region.
- Flows and water quality needed to support sustainable fisheries and ecosystems. With the significant number of reservoirs and waterways in the Y-M Region, it is essential to maintain minimum flow releases from the reservoirs to support aquatic species both in the watershed as well as downstream in the San Joaquin River and the Sacramento-San Joaquin Delta. FERC hydropower licenses for the projects on the Merced River include

requirements for maintaining minimum in-stream flows to provide protection for downstream fisheries and other aquatic species. Conditions including temperature, turbidity, and minimum flow often must be satisfied to ensure the releases are protective of the affected ecosystems.

- Water demands for hydroelectric power generation and instream flow requirements were not evaluated quantitatively in this IRWM Plan as the focus was on consumptive demands and these are non-consumptive demands. Future data collection and analyses could be conducted to provide additional details on the quantitative extent of these uses to improve understanding on potential impacts to other water demands and other Regional factors.

- Quantification of climate change-related variability in snowpack in the Region that can affect water supply, and, therefore, may require potential operational adjustments, including changes in timing and availability of water releases. The climate change discussion was general and did not include this specificity. These modifications could impact the availability of municipal supplies as well as hydropower storage facility operations.

- Water supplies and uses will need to be reassessed during future updates. Detailed analyses were not done on water exports and consumptive uses outside of the Region. However, during future updates, it may be beneficial to obtain additional details on water exports and water use projections outside of the Region in order to better integrate this information with water use data within the Region. The additional analysis may help improve the understanding of the overall interactions of water demands within and outside of the Region and may enhance the ability to effectively plan and assess needs within the Y-M Region.

3-C.2 Environmental Resources

Section 3 of the IRWM Plan presents a sampling of wildlife and plant species, including endangered, threatened or species of concerns, that occur or have been known to historically occur in the Region. This information was compiled from the California Natural Diversity Database Species List.

Table 3-C-3 provides a listing of special status wildlife and plan species, respectively that occur or may occur in the Region. The various rankings are described in 3-C.3 after the table.

Table 3-C-3: Special Status Wildlife Species that Occur or May Occur in the Region

#	Common Name	Scientific Name	Federal List	California List	Heritage Global Rank	Heritage State Rank	Rare Plant Rank	Other Status	Habitats
Amphibians									
1	California Tiger Salamander	Ambystoma californiense	Threatened	Threatened	G2G3	S2S3	-	CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable	Cismontane woodland | Meadow & seep | Riparian woodland | Valley & foothill grassland | Vernal pool | Wetland
2	Mount Lyell Salamander	Hydromantes platycephalus	None	None	G3	S3	-	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Meadow & seep | Subalpine coniferous forest | Upper montane coniferous forest | Wetland
3	Yosemite Toad	Anaxyrus canorus	Proposed Threatened	None	G2	S2	-	CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | USFS_S-Sensitive	Meadow & seep | Subalpine coniferous forest | Wetland
4	Foothill Yellow-legged Frog	Rana boylii	None	None	G3	S2S3	-	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened | USFS_S-Sensitive	Aquatic | Chaparral | Cismontane woodland | Coastal scrub | Klamath/North coast flowing waters | Lower montane coniferous forest | Meadow & seep | Riparian forest | Riparian woodland | Sacramento/San Joaquin flowing waters
5	Limestone Salamander	Hydromantes brunus	None	Threatened	G1	S1	-	BLM_S-Sensitive | CDFW_FP-Fully Protected | IUCN_VU-Vulnerable | USFS_S-Sensitive	Chaparral | Cismontane woodland | Limestone
6	Sierra Nevada yellow-legged Frog	Rana sierrae	Proposed Endangered	Threatened	G1	S1	-	CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | USFS_S-Sensitive	Aquatic
Arachnids									
7	Crane Flat Harvestman	Calicina conifera	None	None	G1	S1	-		Lower montane coniferous forest

#	Common Name	Scientific Name	Federal List	California List	Heritage Global Rank	Heritage State Rank	Rare Plant Rank	Other Status	Habitats
Birds									
8	Great Gray Owl	Strix nebulosa	None	Endangered	G5	S1	-	CDF_S-Sensitive | IUCN_LC-Least Concern | USFS_S-Sensitive	Lower montane coniferous forest | Old growth | Subalpine coniferous forest | Upper montane coniferous forest
9	Northern Goshawk	Accipiter gentilis	None	None	G5	S3	-	BLM_S-Sensitive | CDF_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive	North coast coniferous forest | Subalpine coniferous forest | Upper montane coniferous forest
10	Willow Flycatcher	Empidonax traillii	None	Endangered	G5	S1S2	-	ABC_WLBCC-Watch List of Birds of Conservation Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Meadow & seep | Riparian scrub | Riparian woodland | Wetland
11	Prairie Falcon	Falco mexicanus	None	None	G5	S3	-	CDFW_WL-Watch List | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Sonoran desert scrub | Valley & foothill grassland
12	Black-backed Woodpecker	Picoides arcticus	None	None	G5	SNR	-		
13	Least Bell's Vireo	Vireo bellii pusillus	Endangered	Endangered	G5T2	S2	-	ABC_WLBCC-Watch List of Birds of Conservation Concern | IUCN_NT-Near Threatened	Riparian forest | Riparian scrub | Riparian woodland
14	Double-crested Cormorant	Phalacrocorax auritus	None	None	G5	S3	-	CDFW_WL-Watch List | IUCN_LC-Least Concern	Riparian forest | Riparian scrub | Riparian woodland

#	Common Name	Scientific Name	Federal List	California List	Heritage Global Rank	Heritage State Rank	Rare Plant Rank	Other Status	Habitats
Bryophytes									
15	Elongate Copper Moss	Strix nebulosa	None	None	G4	S2	2B.2	USFS_S-Sensitive	Cismontane woodland
16	Norris' Beard Moss	Accipiter gentilis	None	None	G3G4	S3S4	2B.2		Cismontane woodland | Lower montane coniferous forest
17	Shevock's Copper Moss	Empidonax traillii	None	None	G1	S1	1B.2		Cismontane woodland
18	Slender Silver Moss	Falco mexicanus	None	None	G4G5	S2	2B.2		Broadleaved upland forest | Lower montane coniferous forest | North coast coniferous forest
19	Bolander's Bruchia	Picoides arcticus	None	None	G3	S3?	2B.2	USFS_S-Sensitive	Lower montane coniferous forest | Meadow & seep | Upper montane coniferous forest
20	Koch's Cord Moss	Vireo bellii pusillus	None	None	G1	S1	1B.3		Cismontane woodland | Valley & foothill grassland
Crustaceans									
21	Wengerors' Cave Amphipod	Stygobromus wengerorum	None	None	G1	S1	-	IUCN_VU-Vulnerable	Limestone
Dicots									
22	Hoover's Calycadenia	Calycadenia hooveri	None	None	G3	S3	1B.3	BLM_S-Sensitive	Cismontane woodland | Valley & foothill grassland
23	Merced Clarkia	Clarkia lingulata	None	Endangered	G1	S1	1B.1	USFS_S-Sensitive	Chaparral | Cismontane woodland | Closed-cone coniferous forest
24	Mariposa Daisy	Erigeron mariposanus	None	None	GH	SH	1A		Cismontane woodland
25	Big-scale Balsamroot	Balsamorhiza macrolepis	None	None	G2	S2	1B.2	BLM_S-Sensitive | USFS_S-Sensitive	Chaparral | Cismontane woodland | Ultramafic | Valley & foothill grassland
26	Mariposa Pussypaws	Calyptridium pulchellum	Threatened	None	G1	S1	1B.1		Cismontane woodland
27	Parry's Horkelia	Horkelia parryi	None	None	G2	S2.2	1B.2	BLM_S-Sensitive | USFS_S-Sensitive	Chaparral | Cismontane woodland | Ione formation
28	Yosemite Ivesia	Ivesia unguiculata	None	None	G3	S3.2	4.2		Meadow & seep | Subalpine coniferous forest | Upper montane coniferous forest | Wetland
29	Congdon's Lomatium	Lomatium congdonii	None	None	G2	S2.2	1B.2	BLM_S-Sensitive	Chaparral | Cismontane woodland | Ultramafic

#	Common Name	Scientific Name	Federal List	California List	Heritage Global Rank	Heritage State Rank	Rare Plant Rank	Other Status	Habitats
30	Yosemite Popcornflower	Plagiobothrys torreyi var. torreyi	None	None	G4T2Q	S2.2	1B.2		Lower montane coniferous forest | Meadow & seep | Wetland
31	Mariposa Cryptantha	Cryptantha mariposae	None	None	G3	S3	1B.3	BLM_S-Sensitive	Chaparral | Ultramafic
32	Slender-stemmed Monkeyflower	Mimulus filicaulis	None	None	G2	S2	1B.2	BLM_S-Sensitive | USFS_S-Sensitive	Cismontane woodland | Lower montane coniferous forest | Meadow & seep | Upper montane coniferous forest | Wetland
33	Succulent Owl's-clover	Castilleja campestris var. succulenta	Threatened	Endangered	G4?T2	S2	1B.2		Vernal pool | Wetland
34	Fell-fields Claytonia	Claytonia megarhiza	None	None	G4G5	S2S3	2B.3		Alpine | Alpine boulder & rock field | Subalpine coniferous forest
35	Congdon's Lewisia	Lewisia congdonii	None	Rare	G2	S2	1B.3	USFS_S-Sensitive	Chaparral | Cismontane woodland | Lower montane coniferous forest | Upper montane coniferous forest | Valley & foothill grassland
36	Yosemite Lewisia	Lewisia disepala	None	None	G2	S2.2	1B.2	USFS_S-Sensitive	Lower montane coniferous forest | Pinon & juniper woodlands | Upper montane coniferous forest
37	Yellow-lip Pansy Monkeyflower	Mimulus pulchellus	None	None	G2G3	S2S3	1B.2	BLM_S-Sensitive | USFS_S-Sensitive	Lower montane coniferous forest | Meadow & seep
38	Congdon's Woolly Sunflower	Eriophyllum congdonii	None	Rare	G2	S2.2	1B.2	USFS_S-Sensitive	Chaparral | Cismontane woodland | Lower montane coniferous forest
39	Mono Hot Springs Evening-primrose	Camissonia sierrae ssp. alticola	None	None	G3T2	S2	1B.2	USFS_S-Sensitive	Lower montane coniferous forest | Upper montane coniferous forest
40	Slender-stalked Monkeyflower	Mimulus gracilipes	None	None	G2G3	S2S3	1B.2	BLM_S-Sensitive | USFS_S-Sensitive	Chaparral
41	Tulare Rockcress	Boechera tularensis	None	None	G2	S2	1B.3	USFS_S-Sensitive	Subalpine coniferous forest | Upper montane coniferous forest
42	Small's Southern Clarkia	Clarkia australis	None	None	G2	S2	1B.2	BLM_S-Sensitive | USFS_S-Sensitive	Cismontane woodland | Lower montane coniferous forest
43	Yosemite Woolly Sunflower	Eriophyllum nubigenum	None	None	G2	S2.3	1B.3	USFS_S-Sensitive	Chaparral | Lower montane coniferous forest | Upper montane coniferous forest
44	Short-leaved Hulsea	Hulsea brevifolia	None	None	G3	S3	1B.2	USFS_S-Sensitive	Upper montane coniferous forest

#	Common Name	Scientific Name	Federal List	California List	Heritage Global Rank	Heritage State Rank	Rare Plant Rank	Other Status	Habitats
45	Mariposa Lupine	Lupinus citrinus var. deflexus	None	Threatened	G2T1	S1	1B.2	BLM_S-Sensitive	Chaparral | Cismontane woodland
46	Bolander's Clover	Trifolium bolanderi	None	None	G2G3	S2S3	1B.2	USFS_S-Sensitive	Lower montane coniferous forest | Meadow & seep | Upper montane coniferous forest | Wetland
47	Mariposa Clarkia	Clarkia biloba ssp. australis	None	None	G4G5T2T3	S2S3	1B.2	BLM_S-Sensitive | USFS_S-Sensitive	Chaparral | Cismontane woodland | Ultramafic
48	Beaked Clarkia	Clarkia rostrata	None	None	G2G3	S2S3	1B.3	BLM_S-Sensitive	Cismontane woodland | Valley & foothill grassland
49	Madera Leptosiphon	Leptosiphon serrulatus	None	None	G1?	S1?	1B.2	USFS_S-Sensitive	Cismontane woodland | Lower montane coniferous forest
50	Slender Lupine	Lupinus gracilentus	None	None	G2	S2	1B.3		Subalpine coniferous forest
51	Shaggyhair Lupine	Lupinus spectabilis	None	None	G2	S2.2	1B.2	BLM_S-Sensitive	Chaparral | Cismontane woodland | Ultramafic
52	Merced Phacelia	Phacelia ciliata var. opaca	None	None	G5TH	SH	3.2		Valley & foothill grassland
Ferns									
53	Moosewort	Botrychium tunux	None	None	G3?	S1	2B.1	USFS_S-Sensitive	Alpine boulder & rock field | Limestone
54	Paradox Moonwort	Botrychium paradoxum	None	None	G3G4	S1	2B.1	USFS_S-Sensitive	Alpine boulder & rock field | Limestone | Upper montane coniferous forest
Forest									
55	Big Tree Forest	Big Tree Forest	None	None	G3	S3.2	-		Lower montane coniferous forest
Island Waters									
56	Central Valley Drainage Hardhead/Squawfish Stream	Central Valley Drainage Hardhead/Squawfish Stream	None	None	GNR	SNR	-		
Insects									
57	Wawona Riffle Beetle	Atractelmis wawona	None	None	G1G3	S1S2	-		Aquatic
58	Boharts' Blue Butterfly	Philotiella speciosa bohartorum	None	None	G3G4T1	S1	-		Chaparral | Cismontane woodland | Valley & foothill grassland
59	Sierra Pygmy Grasshopper	Tetrix sierrana	None	None	G1G2	S1S2	-	IUCN_VU-Vulnerable	Lower montane coniferous forest

#	Common Name	Scientific Name	Federal List	California List	Heritage Global Rank	Heritage State Rank	Rare Plant Rank	Other Status	Habitats
60	Valley Elderberry Longhorn Beetle	Desmocerus californicus dimorphus	Threatened	None	G3T2	S2	-		Riparian scrub
61	Leech's Skyline Diving Beetle	Hydroporus leechi	None	None	G1?	S1?	-		Aquatic
Mammals									
62	Long-eared Myotis	Myotis evotis	None	None	G5	S4?	-	Recreation	
63	American Badger	Taxidea taxus	None	None	G5	S4	-	Recreation	
64	Yuma Myotis	Myotis yumanensis	None	None	G5	S4?	-	Transient	
65	Gray-headed Pika	Ochotona princeps schisticeps	None	None	G5T2T4	S2S4	-	Institution	
66	Sierra Nevada Mountain Beaver	Aplodontia rufa californica	None	None	G5T3T4	S2S3	-	Mobile Home Park	
67	Spotted Bat	Euderma maculatum	None	None	G4	S2S3	-	Mobile Home Park	
68	Sierra Nevada Red Fox	Vulpes vulpes necator	None	Threatened	G5T1T2	S1	-	Mobile Home Park	
69	Townsend's Big-eared Bat	Corynorhinus townsendii	None	Candidate Threatened	G3G4	S2S3	-	Recreation	
70	Silver-haired Bat	Lasionycteris noctivagans	None	None	G5	S3S4	-	BLM_S-Sensitive | IUCN_LC-Least Concern | WBWG_M-Medium Priority	
71	Western Red Bat	Lasiurus blossevillii	None	None	G5	S3?	-	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Alkali marsh | Alkali playa | Alpine | Alpine dwarf scrub | Bog & fen | Brackish marsh | Broadleaved upland forest | Chaparral | Chenopod scrub | Cismontane woodland | Closed-cone coniferous forest | Coastal bluff scrub | Coastal dunes | Coastal prairie
72	Fisher - West Coast DPS	Martes pennanti	Candidate	Candidate Threatened	G5T2T3Q	S2S3	-	BLM_S-Sensitive | IUCN_LC-Least Concern | WBWG_LM-Low-Medium Priority	Lower montane coniferous forest | Riparian forest | Riparian woodland | Upper montane coniferous forest

#	Common Name	Scientific Name	Federal List	California List	Heritage Global Rank	Heritage State Rank	Rare Plant Rank	Other Status	Habitats
73	Pallid Bat	Antrozous pallidus	None	None	G5	S3	-	IUCN_NT-Near Threatened	Alpine talus & scree slope | Talus slope
74	Western Mastiff Bat	Eumops perotis californicus	None	None	G5T4	S3?	-	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Riparian forest | Riparian scrub | Riparian woodland
75	California Wolverine	Gulo gulo	Proposed Threatened	Threatened	G4	S1	-	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | WBWG_H-High Priority	
76	Sierra Marten	Martes americana sierrae	None	None	G5T3T4	S3S4	-	USFS_S-Sensitive	Alpine | Alpine dwarf scrub | Broadleaved upland forest | Meadow & seep | Riparian scrub | Subalpine coniferous forest | Upper montane coniferous forest | Wetland
77	Western Small-footed Myotis	Myotis ciliolabrum	None	None	G5	S2S3	-	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	Broadleaved upland forest | Chaparral | Chenopod scrub | Great Basin grassland | Great Basin scrub | Joshua tree woodland | Lower montane coniferous forest | Meadow & seep | Mojavean desert scrub | Riparian forest | Riparian woodland | Sonoran desert scr
78	Fringed Myotis	Myotis thysanodes	None	None	G4	S4	-	IUCN_LC-Least Concern | WBWG_M-Medium Priority	Lower montane coniferous forest | Oldgrowth | Riparian forest
79	Hoary Bat	Lasiurus cinereus	None	None	G5	S4?	-	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	Cismontane woodland | Lower montane coniferous forest | Riparian forest | Riparian woodland
80	Long-legged Myotis	Myotis volans	None	None	G5	S4?	-	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	North coast coniferous forest | Oldgrowth | Riparian forest

#	Common Name	Scientific Name	Federal List	California List	Heritage Global Rank	Heritage State Rank	Rare Plant Rank	Other Status	Habitats
81	Mount Lyell Shrew	Sorex lyelli	None	None	G2G3	S2S3	-	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	Chaparral | Coastal scrub | Desert wash | Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Riparian woodland | Sonoran desert scrub | Upper montane coniferous forest | Valley & foothill grassland
82	Merced Kangaroo Rat	Dipodomys heermanni dixoni	None	None	G3G4T2T3	S2S3	-	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | WBWG_H-High Priority	Chaparral | Cismontane woodland | Coastal scrub | Valley & foothill grassland
Mollusks									
83	Merced Canyon Shoulderband	Helminthoglypta allynsmithi	None	None	G1	S1	-	IUCN_VU-Vulnerable	Talus slope
84	Yosemite Mariposa Sideband	Monadenia yosemitensis	None	None	G1	S1	-		Riparian forest
85	Trinity Spot	Punctum hannai	None	None	G1G3	S1S3	-		Riparian forest
Monocots									
86	Sanford's Arrowhead	Sagittaria sanfordii	None	None	G3	S3	1B.2	BLM_S-Sensitive	Marsh & swamp | Wetland
87	Tompkins' Sedge	Carex tompkinsii	None	Rare	G3	S3.3	4.3		Chaparral | Cismontane woodland | Lower montane coniferous forest | Upper montane coniferous forest
88	Yosemite Bog Orchid	Platanthera yosemitensis	None	None	G2	S2.2	1B.2	USFS_S-Sensitive	Meadow & seep | Wetland
89	Brownish Beaked-rush	Rhynchospora capitellata	None	None	G5	S1	2B.2		Lower montane coniferous forest | Marsh & swamp | Meadow & seep | Upper montane coniferous forest | Wetland
90	Northern Clustered Sedge	Carex arcta	None	None	G5	S2	2B.2		Bog & fen | North coast coniferous forest | Wetland
91	Bolander's woodreed	Cinna bolanderi	None	None	G2	S2	1B.2	USFS_S-Sensitive	Meadow & seep | Upper montane coniferous forest | Wetland
92	Pilot Ridge Fawn Lily	Erythronium taylorii	None	None	G1	S1	1B.2	USFS_S-Sensitive	Lower montane coniferous forest
93	Slender-leaved Pondweed	Stuckenia filiformis ssp. alpina	None	None	G5T5	S3	2B.2		Marsh & swamp | Wetland

#	Common Name	Scientific Name	Federal List	California List	Heritage Global Rank	Heritage State Rank	Rare Plant Rank	Other Status	Habitats
94	Mountain Bent Grass	Agrostis humilis	None	None	G4Q	S2	2B.3		Alpine boulder & rock field | Limestone | Meadow & seep | Subalpine coniferous forest | Wetland
95	Pleasant Valley Mariposa-lily	Calochortus clavatus var. avius	None	None	G4T2	S2	1B.2	BLM_S-Sensitive | USFS_S-Sensitive	Lower montane coniferous forest
96	Stinkbells	Fritillaria agrestis	None	None	G3	S3.2	4.2		Chaparral | Cismontane woodland | Ultramafic | Valley & foothill grassland
97	Robbins' Pondweed	Potamogeton robbinsii	None	None	G5	S3	2B.3		Marsh & swamp | Wetland
98	White beaked-rush	Rhynchospora alba	None	None	G5	S2	2B.2		Bog & fen | Marsh & swamp | Meadow & seep | Wetland
99	Yosemite Onion	Allium yosemitense	None	Rare	G3	S3	1B.3	USFS_S-Sensitive	Broadleaved upland forest | Chaparral | Cismontane woodland | Lower montane coniferous forest
100	Nuttall's Ribbon-leaved Pondweed	Potamogeton epihydrus	None	None	G5	S2S3	2B.2		Marsh & swamp | Wetland
Reptiles									
101	Western Pond Turtle	Emys marmorata	None	None	G3G4	S3	-	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable | USFS_S-Sensitive	Aquatic | Artificial flowing waters | Klamath/North coast flowing waters | Klamath/North coast standing waters | Marsh & swamp | Sacramento/San Joaquin flowing waters | Sacramento/San Joaquin standing waters | South coast flowing waters | South coast

3-C.3 Special Status Ranking Legend from California Natural Diversity Database

The California Natural Diversity Database (CNDDB) provides information on special status plants and animals. Table 3-C-3 includes delineations of special status species including Global Ranking, State Ranking, and the California Rare Plant Ranks as well as state and federal delineations. The legend below provides additional detail on the global and state rankings as well as the California Rare Plant Ranks. Global and state ranking are assigned by the NatureServe. This program assigns both a global ranking and a state ranking. The global ranking is based on the species worldwide status and the state ranking is based on the species statewide status. The rankings are based on a one to five scale, ranging from critically imperiled (G/S1) to demonstrably secure (G/S5).These status ranks are not a legal status designation, but are often used when making official determinations. In California, there is also the California Rare Plant Ranks which is put together by the California Native Plant Society. This ranking has a combination of numbers and letters to provide a status of the species.

GLOBAL RANKING

The global rank (G-rank) is a reflection of the overall status of an element throughout its global range. Both Global and State ranks represent a letter + number score that reflects a combination of Rarity, Threat and Trend factors, with weighting being heavier on Rarity than the other two.

SPECIES OR NATURAL COMMUNITY LEVEL

- G1 = Critically Imperiled - At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- G2 = Imperiled - At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
- G3 = Vulnerable - At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
- G4 = Apparently Secure - Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5 = Secure - Common; widespread and abundant.

SUBSPECIES LEVEL

Subspecies receive a T-rank attached to the G-rank. With the subspecies, the G-rank reflects the condition of the entire species, whereas the T-rank reflects the global situation of just the subspecies or variety. For example: Chorizanthe robusta var. hartwegii. This plant is ranked G2T1. The G-rank refers to the whole species range i.e., Chorizanthe robusta. The T-rank refers only to the global condition of var. hartwegii.

State Ranking

The state rank (S-rank) is assigned much the same way as the global rank, but state ranks refer to the imperilment status only within California's state boundaries.

- S1 = Critically Imperiled—Critically imperiled in the state because of extreme rarity (often 5 or fewer populations) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.

- S2 = Imperiled—Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state.

- S3 = Vulnerable—Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state.

- S4 = Apparently Secure - Uncommon but not rare in the state; some cause for long-term concern due to declines or other factors.

The California Rare Plant Ranks

1A: Plants Presumed Extirpated in California and either rare or extinct elsewhere

The plants of Rank 1A are presumed extirpated because they have not been seen or collected in the wild in California for many years. This rank includes those plant taxa that are both presumed extinct, as well as those plants which are presumed extirpated in California and rare elsewhere. A plant is extinct if it no longer occurs anywhere. A plant that is extirpated from California has been eliminated from California, but may still occur elsewhere in its range.

1B: Plants Rare, Threatened, or Endangered in California and Elsewhere (Includes Rare Plant Ranks 1B.1, 1B.2, 1B.3)

The plants of Rank 1B are rare throughout their range with the majority of them endemic to California. Most of the plants that are ranked 1B have declined significantly over the last century. California Rare Plant Rank 1B plants constitute the majority of plant taxa tracked by the CNDDB, with more than 1,000 plants assigned to this category of rarity.

2A: Plants Presumed Extirpated in California, but more common elsewhere

The plants of Rank 2A are presumed extirpated because they have not been seen or collected in the wild in California for many years. This rank includes only those plant taxa that are presumed extirpated in California, but that are more common elsewhere in their range. Note: Plants of both Rank 1A and 2A are presumed extirpated in California; the only difference is the status of the plants outside of the state.

2B: Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere (Includes Rare Plant Ranks 2B.1, 2B.2, 2B.3)

The plants of Rank 2B are rare, threatened or endangered in California, but more common elsewhere. Plants common in other states or countries are not eligible for consideration under the provisions of the Federal Endangered Species Act; however they are eligible for consideration under the California Endangered Species Act. This rank is meant to highlight the importance of protecting the geographic range and genetic diversity of more widespread species by protecting those species whose ranges just extend into California. Note: Plants of both Rank 1B and 2B are rare, threatened or endangered in California; the only difference is the status of the plants outside of the state.

3: Plants About Which We Need More Information - A Review list (Includes Rare Plant Ranks 3, 3.1, 3.2, 3.3)

The plants that comprise Rank 3 are united by one common theme--we lack the necessary information to assign them to one of the other lists or to reject them. Nearly all of the plants remaining on Rank 3 are taxonomically problematic.

4: Plants of Limited Distribution - A Watch list (Includes Rare Plant Ranks 4.1, 4.2, 4.3)

The plants in this category are of limited distribution or infrequent throughout a broader area in California, and their vulnerability or susceptibility to threat appears low at this time. While we cannot call these plants “rare” from a statewide perspective, they are uncommon enough that their status should be monitored regularly. Should the degree of endangerment or rarity of a Rank 4 plant change, we will transfer it to a more appropriate rank or delete it from consideration.

Threat Ranks

The California Rare Plant Ranks (CRPR) use a decimal-style threat rank. The threat rank is an extension added onto the CRPR and designates the level of threats by a 1 to 3 ranking with 1 being the most threatened and 3 being the least threatened. So most CRPRs read as 1B.1, 1B.2, 1B.3, etc. Note that some Rank 3 plants do not have a threat code extension due to difficulty in ascertaining threats for these species. Rank 1A and 2A plants also do not have threat code extensions since there are no known extant populations of the plants in California.

Threat Code extension and their meanings:

.1 - Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2 – Moderately threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat)

.3 – Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Additional Notes:

Other considerations used when ranking a species or natural community include the pattern of distribution of the element on the landscape, fragmentation of the population/stands, and historical extent as compared to its modern range. It is important to take a bird's eye or aerial view when ranking sensitive elements rather than simply counting element occurrences.

Uncertainty about the rank of an element is expressed in two major ways: By expressing the ranks as a range of values: e.g., S2S3 means the rank is somewhere between S2 and S3. By adding a ? to the rank: e.g., S2? This represents more certainty than S2S3, but less certainty than S2.

Other symbols: GH All sites are historical; the element has not been seen for at least 20 years, but suitable habitat still exists (SH = All California sites are historical). GX All sites are extirpated; this element is extinct in the wild (SX = All California sites are extirpated). GXC Extinct in the wild; exists in cultivation. G1Q The element is very rare, but there are taxonomic questions associated with it. T Rank applies to a subspecies or variety

3-C.4 Data Needs

During the course of the preparation of this IRWM Plan, data needs were identified by resource specialists working on the plan. Many data and information needs in addition to those described in Sections 2 through 4 and this Technical Appendix are associated with understanding and achieving plan objectives. Objectives that directly correlate to Data Needs in the Region include:

I.B Improve understanding of groundwater usage, quality, and reliability throughout key groundwater use areas in the Region by 2020.

I.D Identify by 2019 and manage and conserve forest, wetlands, and range lands for enhancement of water supply by 2035.

3.H Identify and prioritize impacted watersheds by 2020.

6.R Develop opportunities/data management system so that current scientific data can be made available to make informed, collaborative choices regarding water resources and land use planning throughout the Planning Period.

Appendix 3-D

Climate Change Vulnerability Checklist

Appendix 3-D: Climate Change Vulnerability Assessment Checklist with Priorities per IRWM Plan Objectives

The Proposition 84 IRWM Plan Guidelines issued in November 2012, requires preparation of a climate change vulnerability evaluation in order to meet the Climate Change Standard for Round 2 and 3 of the Proposition 84 IRWM Implementation Grant application. A Climate Change Vulnerability Checklist was provided by the Department of Water Resources (DWR) in its Climate Change Handbook found at http://www.water.ca.gov/climatechange/CCHandbook.cfm and has been completed for the Yosemite-Mariposa Region.

Responses to the questions found in the checklist are provided below. The questions are identified by number and are not italicized. The responses are in bold below each numbered question. Specific narrative relevant to climate change that is drawn from the responses to this checklist will be incorporated directly into a variety of IRWM Plan sections.

Proposed Prioritization of Climate Change Vulnerabilities

As identified in the 2012 Proposition 84/1E IRWM Guidelines, the IRWM Plan must contain a list of prioritized vulnerabilities based on the vulnerability assessment and the IRWM decision making process. The proposed prioritization of Climate Change vulnerabilities summarized below, are in alignment with the Yosemite-Mariposa IRWM prioritized objectives (i.e. the climate change vulnerability was compared to the priority of the objective).

High Priority Climate Change Vulnerabilities

1. Water Demand
   - 1.4 Groundwater supplies in parts of the region lack resiliency after drought events (Objectives A, B)
2. Water Supply
   - 2.1 A portion of the water supply comes from snowmelt. (Objective A)
   - 2.4 A part of the region may have difficulty storing carryover supply surpluses from year to year (Objective A)
   - 2.5 The region has faced a drought in the past during which it failed to meet local water demands (Objective A)
3. Water Quality
   - 3.1 Increased wildfires are a threat in the region (Objective S)
   - 3.5 Part of the region observes water quality shifts during rain events that impact treatment facility operation. (Objective I, K, S)
5. Flooding
   - 5.5 Wildfires are a concern in parts of the region (Objective S)

6. Ecosystem and Habitat Vulnerability
   - 6.1 The region includes inland aquatic habitats vulnerable to erosion and sedimentation issues. (Objective I, K)
   - 6.3 Climate sensitive flora and fauna live in the Region (Objective M)
   - 6.4 Endangered and threatened species exist in the region. (Objective M)
   - 6.5 The region relies on aquatic or water-dependent habitats for recreation. (Objective P)
   - 6.8 The region includes the Sierra Nevada Mountains which is a habitat described in the Endangered Species Coalition's Top 10 habitats vulnerable to climate change. (Objectives L, M, N)
   - 6.9 The Region contains areas of fragmented wildlife corridor habitat (Objective N)

Medium Priority Climate Change Vulnerabilities

1. Water Demand
   - 1.2 Water use varies more than 50% seasonally in parts of the region
   - 1.5 Water use curtailment measures are effective and can harden demand (Objective C)

Responses to Climate Change Vulnerability Checklist

1 Water Demand

1.1 Are there major industries that require cooling/process water in your planning region?

- *As average temperatures increase, cooling water needs may also increase.*
- *Identify major industrial water users in your region and assess their current and projected needs for cooling and process water.*

There are no major industries that require cooling/process water in the Region. The largest facility in the Region is the John C Fremont Healthcare District hospital is in Mariposa. While there is a lot of timber in the Region there are no mills.

1.2 Does water use vary by more than 50% seasonally in parts of your region?

- *Seasonal water use, which is primarily outdoor water use, is expected to increase as average temperatures increase and droughts become more frequent.*
- *Where water use records are available, look at total monthly water uses averaged over the last five years (if available). If maximum and minimum monthly water uses vary by more than 25%, then the answer to this question is "yes".*
- *Where no water use records exist, is crop irrigation responsible for a significant (say >50%) percentage of water demand in parts of your region?*

Yes.

Typical municipal water use indicate average summer water usage is more than twice the volume of winter water usage. The Region has a significant tourism industry, primarily centered around Yosemite National Park. This also contributes to higher summertime domestic water use.

Irrigated agriculture currently accounts for only a very small proportion of water use within the Region. Lands used for tree fruits, viticulture, field crops and irrigated pasture totaled approximately 1,300 acres within the Region farmed in 2012. For this reason, agricultural water use does not contribute to a large seasonal variability in overall water use in the Region. The majority of agriculture within the Region is not irrigated. The Region contains 152,000 acres of timber production land (121,000 acres National Forest land and 31,000 private land) and 183,763 acres of Williamson Act Land. The majority of agricultural land in the Region is used for rangeland. Much of the rainfall and snowmelt in forests and grasslands is used by the trees, shrubs and grasses on those lands (transpiration), with smaller fractions evaporating from soil or open water, recharging deeper groundwater, or running off into streams. Water use by forest and grassland vegetation varies seasonally, with winter transpiration limited by cold temperatures and seasonal growth in many areas, and late-summer transpiration limited by subsurface storage that the plants can draw from. The actual amount of water use across the Region's heterogeneous forests and grasslands, and the fractions of precipitation that run off into streams or recharge groundwater on a seasonal to interannual basis is not known.

References: Mariposa County 2012 Agricultural Crop and Livestock Report

1.3 Are crops grown in your region climate-sensitive? Would shifts in daily heat patterns, such as how long heat lingers before night-time cooling, be prohibitive for some crops?

- *Fruit and nut crops are climate-sensitive and may require additional water as the climate warms.*

Rangeland and timber make up the majority of crops within the Region; however there are also approximately 500-600 acres of grains, fruits and nuts and vineyards cultivated annually. It is anticipated that these crops could require additional irrigation water if evapotranspiration rates increase due to higher temperatures or changing heat patterns. Permanent crops such as vineyards and orchards also require higher reliability water supplies in order to remain productive during droughts.

References: Mariposa County 2012 Agricultural Crop and Livestock Report

1.4 Do groundwater supplies in your region lack resiliency after drought events?

- *Droughts are expected to become more frequent and more severe in the future. Areas with a more hardened demand may be particularly vulnerable to droughts and may become more dependent on groundwater pumping.*

Yes.

Groundwater is the main water supply source for approximately 80% of the population (estimated at 15,000 full-time persons). The only DWR recognized

contiguous basin in the Region is the Yosemite Valley Basin. This basin supplies water to the various communities in Yosemite National Park as well as a large portion of the 4 million annual visitors. All other groundwater in the Region is obtained from fractured granitic and volcanic features, where it is difficult to quantify the reliable groundwater yield. In addition, these groundwater sources are small and may lack sufficient storage to sustain multi-year droughts. A portion of the visitors to Yosemite National Park also stay in locations that rely on fractured rock and/or low-reliability surface water. The areas within the Region that are entirely dependent on groundwater could be susceptible to declining groundwater production capacity under drought conditions. Overall, there is limited data available on which to estimate the sustainability of groundwater supplies and therefore it is difficult to assess the resiliency of these supplies after drought events. Estimates of quantities needed to make this assessment, including the amounts of groundwater withdrawal, groundwater recharge, and subsurface flow into and out of the aquifers in the Region are not known.

Due to the uncertainty of groundwater availability for much of the Region, with anticipated reductions in yields, groundwater supplies do not provide a highly reliable source with expected climate change impacts and drought conditions. Potential measures to increase the yield and reliability of groundwater in the Region could include enhanced recharge in small distributed facilities, water-use efficiency, and targeted forest management with vegetation thinning. The potential for meadow-restoration projects currently being planned and implemented in the Region to influence downstream groundwater and streamflow are being studied.

References:

http://www.nps.gov/yose/ecoprojects.htm
http://www.nps.gov/yose/naturescience/meadows.htm

1.5 Are water use curtailment measures effective in your region?

- *Droughts are expected to become more frequent and more severe in the future. Areas with a more hardened demand may be particularly vulnerable to droughts.*

Yes.

While none of the water agencies in the Region are large enough to have developed Water Shortage Contingency plans, water shortages/curtailments can occur because of the infrastructure failures and customers are accustomed to reducing water use during periods of drought or other water shortages.

Water demands are generally less flexible for agricultural uses for growers of permanent crops, which make up a small portion of the Region's water demands as over 95 percent of the agricultural lands in the Region are rangeland for grazing. Fallowing of lands and/or shift to crops of higher value per amount of applied water and drip irrigation may not be realistic drought solutions because of the substantial investments required. Higher value permanent crops such as vineyard, fruits, and nuts using drip irrigation systems would harden demand and increase vulnerability to drought. There were 282 acres of vineyards/fruit & nut crops in 2012 in the Region.

References: Mariposa County 2012 Agricultural Crop and Livestock Report

1.6 Are some instream flow requirements in your region either currently insufficient to support aquatic life, or occasionally unmet?

- *Changes in snowmelt patterns in the future may make it difficult to balance water demands. Vulnerabilities for ecosystems and municipal/agricultural water needs may be exacerbated by instream flow requirements that are:*

  1. *not quantified,*

  2. *not accurate for ecosystem needs under multiple environmental conditions including droughts, and*

  3. *not met by regional water managers.*

The Region includes portions of the Merced River, Lower Mariposa County Group of Streams, and the Chowchilla/Fresno watersheds. These watersheds eventually flow into the San Joaquin River which flows north into the Delta. A small quantity of surface water is used for municipal uses in Mariposa and in Lake Don Pedro Community Services District under contract with Merced ID.

The management of these rivers/streams is complex and governed by a range of agencies and licenses including the Federal Energy Regulatory Commission (FERC) licensing and operation of hydroelectric power facilities, the State Water Resources Control Board (SWRCB), reservoir operators such as Army Corps of Engineer (ACOE), Mariposa Public Utilities District (MPUD), Pacific Gas & Electric Company (PG&E), and Merced ID.

Many legal challenges have been made regarding the ecological impacts of diversions out of the Delta and river operations (e.g. for hydropower). These diversions and the remaining flows are being reassessed in regulatory processes that include:

- **SWRCB's Delta Flow Criteria as adopted under Resolution 2010-0039. The SWRCB is also completing a Draft comprehensive review and update of the 2006 Bay-Delta Plan, which could result in modified instream flow objectives for tributaries to the Delta, including the Lower Merced River, Fresno River, Chowchilla River and Mariposa Creek when it is adopted.**

- **In addition to the minimum instream flows prescribed in the existing FERC license, that expired in February 2014 and is in the process of renewal, MID also has the Cowell Adjudication Agreement (Cowell Agreement), the Davis-Grunsky contract, and water right license requirements. The Cowell Agreement was in response to a 1926 Court ruling that is a contractual obligation with Merced ID to provide water to certain downstream users in order to honor senior riparian water rights holders. In October 1967, Merced ID and the California Department of Water Resources executed the Davis-Grunsky contract, which expires in December 2017, whereby Merced ID agreed to maintain continuous flows of 180-220 cubic feet per second in the Merced River spawning area each year from November 1 to April 1. In 2003, Merced ID amended its water right license 2685, 6047, and 11395 which require Merced ID to 1) release an additional**

12,500 AF of water annually in October; and 2) provide a volume of supplemental flow during a 31-day pulse flow period during April and May. The 12,500 AF are in addition to the FERC and Cowell minimum instream flow requirements. (SWRCB website, 2014). Additional and/or modified FERC provisions will also apply to instream flows as part of relicensing.

References:

DWR, Division of Safety of Dams, 2012
SWRCB, Water Quality Certifications, 2014

2 Water Supply

2.1 Does a portion of the water supply in your region come from snowmelt?

- *Snowmelt is expected to decrease as the climate warms. Water systems supplied by snowmelt are therefore potentially vulnerable to climate change.*
- *Where watershed planning documents are available, refer to these in identifying parts of your region that rely on surface water for supplies; if your region contains surface water supplies originating in watersheds where snowpack accumulates, the answer to this question is "Yes."*
- *Where planning documents are not available, identify major rivers in your region with large users. Identify whether the river's headwaters are fed by snowpack.*

Yes.

Although groundwater is the major water supply source within the Region, snowmelt contributes recharge to groundwater. Snowfall dominates precipitation above about 8,000 ft elevation, and provide a significant fraction of annual precipitation above about 6,000 ft. In addition, some agencies use surface water as their main water supply source. For example, the Merced River provides both MPUD and LDPCSD with water supply under contract to Merced ID. The Merced River is fed primarily by snowmelt. The carryover storage and available water supply from the major reservoirs will be affected in the future by changing snowfall and snowmelt patterns, although this potential has not yet been studied in detail. This may affect areas outside of the Region more than those within the Region as the major waterways within the Region feed large reservoirs such as Lake McClure, which is a major source of water for Merced ID. The waterways within the Region such as the Merced, Fresno and Chowchilla Rivers are tributary to the San Joaquin River, which flows into the delta and is a major water supply source for other portions of California.

Major in-Region and export water users include:

- **Merced River**
  - **MPUD –Saxon Creek (Tributary to Merced River In-Region)**
  - **LDPCSD – Lake McClure (In-Region)**
  - **Merced ID (Central Valley)**

- **Fresno/Chowchilla River**
  - **USBR/Chowchilla Water District (Central Valley Project)**

- **Lower Mariposa County Group of Streams**
  - **MPUD Stockton Creek (Tributary to Mariposa Creek In-Region)**

In addition, there are two hydroelectric power projects within the Region, the Merced River Hydroelectric Project owned and operated by Merced ID and the Merced Falls Hydroelectric Project owned and operated by PG&E. These projects use the water non-consumptively within the Region, but require certain flows for the efficient use of the produced power.

2.2 Does part of your region rely on water diverted from the Delta, imported from the Colorado River, or imported from other climate-sensitive systems outside your region?

- *Some imported or transferred water supplies are sources from climate-sensitive watersheds, such as water imported from the Delta and the Colorado River.*

No.

Although the area is a climate-sensitive system, all water used within the Region originates within the Region. The Merced, Chowchilla and Fresno Rivers as well as Mariposa Creek are tributaries to the San Joaquin River, which flows north to create the Sacramento-San Joaquin Delta.

2.3 Does part of your region rely on coastal aquifers? Has salt intrusion been a problem in the past?

- *Coastal aquifers are susceptible to salt intrusion as sea levels rise, and many have already observed salt intrusion due to over-extraction, such as the West Coast Basin in southern California.*

No.

The Region is not located close to the coast and therefore is not affected by salt intrusion.

2.4 Would your region have difficulty in storing carryover supply surpluses from year to year?

- *Droughts are expected to become more severe in the future. Systems that can store more water may be more resilient to droughts.*

Yes.

The Region's largest surface water reservoir (Lake McClure) is owned and operated by Merced ID. The storage in the reservoir has very limited use for users within the Region such as LDPCSD which has a Merced ID contract for water. The Region has some small privately owned dams that provide water supply to local users. In addition, MPUD operates the Stockton Creek Dam (which is a tributary to Mariposa Creek) as a water supply source for their users. The capacity of the locally owned surface water storage supplies are all below 600 AF, which does not

provide a significant source of carryover storage, and therefore its surface water users could have water supply issues in drought years.

References: Draft IRWM Plan Section 3

2.5 Has your region faced a drought in the past during which it failed to meet local water demands?

- *Droughts are expected to become more severe in the future. Systems that have already come close to their supply thresholds may be especially vulnerable to droughts in the future.*

Yes.

Some individual groundwater wells are reported to have gone dry requiring homeowners to truck water for health and safety uses. One water supplier has had to lower a surface water intake when reservoir water levels have dropped because of drought. Other water suppliers have struggled to meet demand with groundwater.

2.6 Does your region have invasive species management issues at your facilities, along conveyance structures, or in habitat areas?

- *As invasive species are expected to become more prevalent with climate change, existing invasive species issues may indicate an ecological vulnerability to climate change.*

Yes.

Examples of the more threatening noxious weed species known to occur in the Landscape include yellow-star thistle (Centaurea solstitialis), Italian thistle (Carduus pycnocephalus), tocalote (Centaurea melitensis), spotted knapweed (Centaurea stroebe), medusahead (Taeniatherum caput-medusae), Klamath weed (Hypericum perforatum), barbed goatgrass (Aegilops triuncialis), and bull thistle (Cirsium vulgare). Wildlife habitat, native plant species, rangeland health, ecosystem integrity and fire regimes are all adversely affected by annual expansion of noxious and invasive weed species in the Landscape. At present aquatic invasives such as quagga and zebra mussels are not present in the Region; however, active prevention efforts are in place to prevent habitation in facilities and/or conveyance structures.

References: Draft IRWM Plan, Section 3; Benson, A. J (USGS). 2014.

3 Water Quality

3.1 Are increased wildfires a threat in your region? If so, does your region include reservoirs with fire-susceptible vegetation nearby which could pose a water quality concern from increased erosion?

- *Some areas are expected to become more vulnerable to wildfires over time. To identify whether this is the case for parts of your region, the California Public Interest Energy Research (PIER) Program has posted wildfire susceptibility projections as a*

Google Earth application at: http://cal-adapt.org/fire/. These projections are only the results of a single study and are not intended for analysis, but can aid in qualitatively answering this question. Read the application's disclaimers carefully to be aware of its limitations.

Yes.

The Region is susceptible to wildfires and has dense forests and vegetation throughout the Region, some of which has not experienced fire for many decades and is therefore building up significant fuel load. Catastrophic wildfires can devastate the landscape, resulting in increased erosion during subsequent rain events.

Because the Region has dense forests and vegetation, fire events tend to create high-intensity fires. A high-intensity fire removes vegetation and litter down to the mineral soil and are most likely to adversely affect water quality. As well, chemical changes in the soil following fire may create an increased resistance to water infiltration in the upper soil layer, and this can increase surface runoff and sheet erosion (USEPA, 2002). Periodic low-intensity prescribed fires reduce the forest fuel loads, but usually have little effect on water quality because burned areas with an intact litter layer yield little sediment and re-vegetate more quickly.

Approximately three fourths of the IRWM Region is dominated by coniferous forests; fires in the Sierra Nevada, of which this Region is a part, are more common than the nation as a whole. Based on Cal-Adapt projections, wildfire susceptibility is anticipated to increase in the Region as a whole and with even higher susceptibilities towards the upper watershed. Of particular concern are the areas within the Sierra National Forest, Stanislaus National Forest and Yosemite National Park.

Potential measures to mitigate wildfire threats in this Region include enhanced forest management with targeted forest thinning to reduce vegetation. In addition to contributing to reduced fire risk this measure is also expected to contribute to an increased water yield.

Reference:

Forests and Water in the Sierra Nevada, 2011
Cal-Adapt.org
http://www.waterboards.ca.gov/water_issues/programs/nps/encyclopedia/2g_fire_mgmt.shtml
USEPA. 2002. *National Management Measures to Control Nonpoint Source Pollution from Forestry*. Pre-Final Draft. U.S. Environmental Protection Agency, Office of Water, Washington, DC.

3.2 Does part of your region rely on surface water bodies with current or recurrent water quality issues related to eutrophication, such as low dissolved oxygen or algal blooms? Are there other water quality constituents potentially exacerbated by climate change?

- *Warming temperatures will result in lower dissolved oxygen levels in water bodies, which are exacerbated by algal blooms and in turn enhance eutrophication. Changes in streamflows may alter pollutant concentrations in water bodies*.

No.

Currently the 303(d) list does not include surface waters in this Region that are impaired by nutrients, low dissolved oxygen or other directly related eutrophication issues.

The majority of the 303(d) water quality impairments found in the Region is related to E.coli, pesticides and mercury. These impairments could potentially be exacerbated with climate change. Although, impacts are not clearly understood, studies suggest that mercury concentrations may increase during drought conditions and impairments by pathogens, for which E.coli is an indicator species, could increase. Climate change can also be expected to create conditions conducive to bacterial activity, such as by increasing water temperatures.

Invasive species found in the Region may also be of increasing concern with climate change, as they can create and/or exacerbate water quality problems.

References:
http://jlakes.org/web/impacts-climate-change-surface-water-quality-EI2009.pdf

3.3 Are seasonal low flows decreasing for some waterbodies in your region? If so, are the reduced low flows limiting the waterbodies' assimilative capacity?

- *In the future, low flow conditions are expected to be more extreme and last longer. This may result in higher pollutant concentrations where loadings increase or remain constant.*

A preliminary analysis conducted has indicated that decreases in base flows in the Merced River have been observed from the period from 1975 to the present. This is potentially due to the effect of climate change on snow pack in the Region and/or the large quantities of vegetation that are evapotranspiring water that could otherwise be recharging groundwater. Wildfires, such as the recent Rim Fire, controlled burn, and other vegetation management may be key to increasing groundwater recharge and therefore seasonal low flow. The Upper Merced River above Lake McClure is unimpaired and flows are directly correlated with snowmelt. It is unknown whether reduced low flows are limiting the water bodies' assimilative capacity; water quality impairments are for parameters such as E. coli and mercury but data are limited in the water bodies for which these impairments exist.

References: USGS, 2011

3.4 Are there beneficial uses designated for some water bodies in your region that cannot always be met due to water quality issues?

- *In the future, low flows are expected decrease, and to last longer. This may result in higher pollutant concentrations where loadings increase or remain constant*.

Yes.

TMDLs have been set on two (2) waterways and one (1) reservoir within the Region. The TMDLs include:

- **TMDL for bacterial contamination (primarily affecting recreational use)**
  - **Bear Creek**
  - **Merced River**

- **Other TMDLs (primarily affecting environmental use)**
  - **Pesticides – Merced River**
  - **Toxicity – Bear Creek, Merced River**
  - **Metals/Metalloids – Merced River**
  - **Mercury –McClure Reservoir**

As the pollutants causing the water quality impairment are often carried into the water bodies through stormwater or naturally occurring runoff, reduced flows as occurs during drought would also reduce pollutant loading. However, more intense storms that are anticipated with climate change, could also result in higher peaks in pollutant flushes from surrounding watersheds. Additionally, as mentioned in 3.2, climate change may have other impacts on mercury and bacterial contamination that is still not well-understood.

Reference:

RWQCB Region 5 – 2008-2010 303d List

3.5 Does part of your region currently observe water quality shifts during rain events that impact treatment facility operation?

- *While it is unclear how average precipitation will change with temperature, it is generally agreed that storm severity will probably increase. More intense, severe storms may lead to increased erosion, which will increase turbidity in surface waters. Areas that already observe water quality responses to rainstorm intensity may be especially vulnerable*.

Yes.

While all purveyors in the Region are able to comply with drinking water standards, MPUD's surface water treatment plant historically experienced operational challenges during periods of increased turbidity, particularly during periods of high runoff in the wintertime and after wildfire. They recently upgraded their WTP to mitigate turbidity and Total Organic Carbon (Disinfection By Products precursor) issues.

Reference:

MPUD 2012 Consumer Confidence Report

4 Sea Level Rise

4.1 Has coastal erosion already been observed in your region?

- *Coastal erosion is expected to occur over the next century as sea levels rise*.

No.

The Region does not include coastline therefore coastal erosion will not occur.

4.2 Are there coastal structures, such as levees or breakwaters, in your region?

- *Coastal structures designed for a specific mean sea level may be impacted by sea level rise*.

No.

The Region does not contain coastal structures such as levees or breakwaters.

4.3 Is there significant coastal infrastructure, such as residences, recreation, water and wastewater treatment, tourism, and transportation) at less than six feet above mean sea level in your region?

- *Coastal flooding will become more common, and will impact a greater extent of property, as sea levels rise. Critical infrastructure in the coastal floodplain may be at risk.*

- *Digital elevation maps should be compared with locations of coastal infrastructure*.

No.

The Region does not contain significant coastal infrastructure.

4.4 Are there climate-sensitive low-lying coastal habitats in your region?

- *Low-lying coastal habitats that are particularly vulnerable to climate change include estuaries and coastal wetlands that rely on a delicate balance of freshwater and salt water.*

No.

There are no climate-sensitive low-lying coastal habitats within the Region at less than six feet above mean sea level.

4.5 Are there areas in your region that currently flood during extreme high tides or storm surges?

- *Areas that are already experiencing flooding during storm surges and very high tides, are more likely to experience increased flooding as sea levels rise.*

No.

There are no areas within the Region that currently flood during extreme high tides or storm surges.

4.6 Is there land subsidence in the coastal areas of your region?

- *Land subsidence may compound the impacts of sea level rise*.

No.

There are no coastal areas within the Region.

4.7 Do tidal gauges along the coastal parts of your region show an increase over the past several decades?

- *Local sea level rise may be higher or lower than state, national, or continental projections.*

- *Planners can find information on local tidal gauges at*: http://tidesandcurrents.noaa.gov/sltrends/sltrends_states.shtml?region=ca.

No.

There are no coastal areas within the Region.

5 Flooding

5.1 Does critical infrastructure in your region lie within the 200-year floodplain? DWR's best available floodplain maps are available at:

http://www.water.ca.gov/floodmgmt/lrafmo/fmb/fes/best_available_maps/.

- *While it is unclear how average precipitation will change with temperature, it is generally agreed that storm severity will probably increase. More intense, severe storms may lead to higher peak flows and more severe floods.*

- *Refer to FEMA floodplain maps and any recent FEMA, US Army Corps of Engineers, or DWR studies that might help identify specific local vulnerabilities for your region. Other follow-up questions that might help answer this question:*

  1. *What public safety issues could be affected by increased flooding events or intensity? For example, evacuation routes, emergency personnel access, hospitals, water treatment and wastewater treatment plants, power generation plants and fire stations should be considered.*

  2. *Could key regional or economic functions be impacted from more frequent and/or intense flooding?*

Yes.

Due to steep terrain, hazards from flooding are relatively low in the Region; however, possible flood hazard areas within the Region include Mariposa, El Portal, Coulterville, Wawona, and Hornitos. In January 1997, the largest flood in over 80 years occurred on the Merced River. The flood damaged roads, sewer lines and campgrounds within Yosemite National Park. Future similar flood events could impact key economic functions, as Yosemite Valley is an iconic destination, visited by millions each summer. The Draft Merced Wild and Scenic River Comprehensive Management Plan and Environmental Impact Statement Alternative II includes plans to remove unessential infrastructure from floodplains in Yosemite Valley to minimize future impacts due to flooding. If this alternative is implemented, then this may reduce flooding impacts within the Valley. The County has experienced seven major flood events (as classified by the Mariposa County Local Hazard Mitigation Plan) over the past 19 years. The probability of continued flooding

events persists into the future and will be exacerbated by storms of increased severity as predicted by climate change studies.

In addition to flood events, intense or prolonged precipitation that causes flooding can also saturate slopes and cause failures leading to landslides. Highway 140 and other roadways in the Region are susceptible to damage and closure due to landslides. Every landslide event reported in Mariposa County has followed a winter storm/rain event therefore the probability of a future landslide event will be tied to winter storm/rain events. With increased storm intensity due to climate change, landslide events could become a more frequent issue in the Region. Additionally the Saxon Creek pump station which provides a source of drinking water for MPUD is within the 200 year flood plain. A project to move this out of the floodplain has been proposed by MPUD as part of the IRWM Plan.

Reference:

County of Mariposa General Plan – Volume III Technical Background Report Summary Guide for the Merced Wild and Scenic River Draft CMP & EIR, 2013 Mariposa County Local Hazard Mitigation Plan Draft, November 2013.

5.2 Does part of your region lie within the Sacramento-San Joaquin Drainage District?

- *The SSJDD contains lands that are susceptible to overflows from the Sacramento and San Joaquin Rivers, and are a key focus of the Central Valley Flood Protection Plan.* (http://www.water.ca.gov/cvfmp/program.cfm).

No.

The Region does not lie within the Sacramento-San Joaquin Drainage District.

5.3 Does aging critical flood protection infrastructure exist in your region?

- *Levees and other flood protection facilities across the state of California are aging and in need of repair. Due to their overall lowered resiliency, these facilities may be particularly vulnerable to climate change impacts.*

- *DWR is evaluating more than 300 miles of levees in the San Joaquin and Sacramento Rivers Valleys and the Delta (http://www.water.ca.gov/levees/).*

Yes. Various reservoirs in the Region were constructed primarily for the purpose of downstream flood control. This flood protection is primarily focused on areas below the Region that would receive greater flood flows than the Region itself. These dams include Bear, Mariposa, and Owens Dam owned by the Department of Water Resources and operated by the Army Corps of Engineers (ACOE). These dams are used to regulate and stem large flows during the rainy season (typically the beginning of November until the end of February). The DWR Division of Safety of Dams inspects dams on an annual basis to ensure dam safety. However, many dams in the Region were originally constructed several decades ago, and these facilities are aging. Levee repair projects conducted by DWR have not been identified within the Region.

Reference:

DWR Division of Safety and Dams, 2012

5.4 Have flood control facilities (such as impoundment structures) been insufficient in the past?

- *Reservoirs and other facilities with impoundment capacity may be insufficient for severe storms in the future. Facilities that have been insufficient in the past may be particularly vulnerable.*

No.

While there flood control facilities in the western portion of the Region, they exist to provide flood risk reduction to downstream areas. There are no flood control facilities that are intended for local benefit in the Region.

5.5 Are wildfires a concern in parts of your region?

- *Wildfires alter the landscape and soil conditions, increasing the risk of flooding within the burn and downstream areas. Some areas are expected to become more vulnerable to wildfires over time. To identify whether this is the case for parts of your region, the California Public Interest Energy Research Program (PIER) has posted wildfire susceptibility projections as a Google Earth application at: http://cal-adapt.org/fire/. These projections are the results of only a single study and are not intended for analysis, but can aid in qualitatively answering this question. Read the application's disclaimers carefully to be aware of its limitations.*

Yes.

See response to checklist item 3.1. Wildfires are a major concern throughout the entirety of the Region. Of specific concern are areas within:

- **Stanislaus National Forest**
- **Sierra National Forest**
- **Yosemite National Park**

6 Ecosystem and Habitat Vulnerability

6.1 Does your region include inland or coastal aquatic habitats vulnerable to erosion and sedimentation issues?

- *Erosion is expected to increase with climate change, and sedimentation is expected to shift. Habitats sensitive to these events may be particularly vulnerable to climate change.*

Yes.

Erosion from roads (especially dirt roads) and terrain exposed after a fire within the Region negatively impact aquatic habitats.

References:

Stanislaus Forest Plan
Draft Sierra National Forest Assessment

6.2 Does your region include estuarine habitats which rely on seasonal freshwater flow patterns?

- *Seasonal high and low flows, especially those originating from snowmelt, are already shifting in many locations.*

No. Although the Region does not contain estuarine habitats, it contains meadows and other wetlands which do rely on seasonal freshwater flows from snowmelt as described in Section 3 of the plan. This area of hydrology is being studied. In addition it should be noted that seasonal freshwater flow is essential for the aquatic habitats of migratory fish, such as the Chinook Salmon. Downstream flows from the Merced, Fresno and Chowchilla Rivers contribute to these important flow conditions.

The Region as a whole has adapted to seasonal flows due to snowmelt in the Sierra. Storage in the Region's meadows may become a more important feature in the Sierra and increased meadow rehabilitation of larger importance as snowpack decreases and flows shift to the earlier portion of the year. If storage in meadows increases, this could aid in maintaining flows later into the summer which will maintain a more natural hydrograph for the Region.

Reference:

Meadow Restoration on National Forests in California: A headwaters approach to water resources protection during climatic change, USFS.

6.3 Do climate-sensitive fauna or flora populations live in your region?

- *Some specific species are more sensitive to climate variations than others.*

Yes.

Resulting from the topography and higher elevations existing in the Region, many established ecosystems in the Region and the flora and fauna inhabiting these systems are particularly sensitive to climate change. Studies show that ecosystems at high elevations, including subalpine species of plants and animals, can be greatly impacted by climate change. For example, one species that has been identified to be particularly sensitive to temperature changes resulting from climate change is the alpine chipmunk, which is endemic to the Sierra Nevada and found throughout Yosemite National Park. Due to temperature changes, this species has been retracting its range.

On a broader scale, warming temperatures allow for species from lower elevations that are otherwise limited by short growing seasons and heavy snowpack to expand their range and potentially replace higher-elevation species. This has been seen with the lodgepole pine, which is rapidly establishing in higher elevation meadows in Yosemite National Park. Other species that have been found to be

sensitive and vulnerable to climate change include native amphibians and the American pika.

Of potentially greater concern is the lengthening of the growing season at higher elevations, where transpiration by forest vegetation is currently limited by cold winter temperatures. Warmer winters allow longer growing seasons and thus more annual water use in the forest. Trees, shrubs and grasses at some elevations are currently water limited in summer and fall, between the end of spring rain or snowmelt, and the beginning of fall precipitation. These ecosystems and the species in them are also vulnerable to seasonal moisture stress stemming from earlier depletion of water accessible to plant roots. However, predictions of how this will affect recruitment, disease, mortality and fire remain uncertain due to a lack of data and information across the landscape.

References:

http://www.sciencedaily.com/releases/2012/02/120219143319.htm
http://nrs.uri.edu/labs/invasive/PdfReprints/Chapter%204_National%20Parks.pdf
http://itsgettinghotoutthere.org/index.php?option=com_content&view=article&id=56

6.4 Do endangered or threatened species exist in your region? Are changes in species distribution already being observed in parts of your region?

- *Species that are already threatened or endangered may have a lowered capacity to adapt to climate change.*

Yes.

A list of endangered and threatened species within the Region are found in Section 3. Species such as the Yosemite toad and Yellow-Legged Frog are species identified within the Region that are susceptible to climate change. See response to 6.3 for additional information. A survey was conducted between 1911 and 1920 in Yosemite Park and neighboring areas in the Sierra Nevada. Some of these areas were re-surveyed between 2003 through 2006. It was found during this re-survey that there was an observed change in a number of species within the areas. This change is believed to be in part due to the effects of climate change.

References:

http://itsgettinghotoutthere.org
Moritz, C. Et al. Final Report: A Re-Survey of the Historic Grinnell-Storer Vertebrate Transect in Yosemite National Park, California, 2007.

6.5 Does the region rely on aquatic or water-dependent habitats for recreation or other economic activities?

- *Economic values associated with natural habitat can influence prioritization.*

Yes.

Water-based tourism and recreation are essential components of the economic viability of the Region. There are several sources of water-dependent recreation in the Region. The Merced River, Lake McClure, and Lake McSwain provide ample

opportunity for fishing, boating, rafting, kayaking, and house boating. Whitewater rafting is permitted throughout Merced River Canyon from the downstream half of Yosemite Valley to the entrance of Lake McClure. The streams and creeks are also a fishing source when in season.

The Yosemite National Park is home to many waterfalls and meadows that attract a number of visitors each year. These falls can range from a couple hundred feet to over two-thousand feet. Forests, meadows and other ecosystems that draw visitors to the region are also quite dependent on the seasonal and interannual availability of water, mainly precipitation and snowmelt.

6.6 Are there rivers in your region with quantified environmental flow requirements or known water quality/quantity stressors to aquatic life?

- *Constrained water quality and quantity requirements may be difficult to meet in the future*.

Yes.

There are rivers (e.g. Lower Merced River) with quantified environmental flow requirements associated with hydropower and irrigation storage as discussed in Item 1.6. As one of several upstream watersheds to the San Joaquin Sacramento River Delta with on-river storage, modifying the operations of these storage reservoirs (by entities outside the Region) by a range of regulatory processes will be significant to moderating the significant water quality/stressors to aquatic life.

6.7 Do estuaries, coastal dunes, wetlands, marshes, or exposed beaches exist in your region? If so, are coastal storms possible/frequent in your region?

- *Storm surges are expected to result in greater damage in the future due to sea level rise. This makes fragile coastal ecosystems vulnerable*.

No.

There are no coastal environments located within the Region.

6.8 Does your region include one or more of the habitats described in the Endangered Species Coalition's Top 10 habitats vulnerable to climate change *(http://www.itsgettinghotoutthere.org/)?*

- *These ecosystems are particularly vulnerable to climate change*.

Yes.

The Region is part of the California Sierra Nevada Mountains which has ecosystems that are vulnerable to climate change.

6.9 Are there areas of fragmented estuarine, aquatic, or wetland wildlife habitat within your region? Are there movement corridors for species to naturally migrate? Are there infrastructure projects planned that might preclude species movement?

- *These ecosystems are particularly vulnerable to climate change*.

Yes.

While there are large areas of public lands within the Region, opportunities to increase/improve wildlife migration corridors are continually being sought by both federal land managers as well as conservation groups. No infrastructure projects are planned that might preclude species movement as all projects identified to date are in areas that are already developed.

7 Hydropower

7.1 Is hydropower a source of electricity in your region?

- *As seasonal river flows shift, hydropower is expected to become less reliable in the future.*

Yes.

There are 2 hydroelectric projects within the Region, the Merced River Hydroelectric Project owned and operated by Merced ID and the Merced Falls Hydroelectric Project (located just outside of Mariposa County in Merced County) owned and operated by PG&E, with capacities of 103.5 and 1.7 MW respectively. The Merced ID project has flows of about 900-2,700 cfs in the dry season and 200-300 cfs in the wet season (USGS, 2013). The PG&E project has flows of about 1,371 cfs (MWH, 2003). Both facilities filed for relicense in February of 2012 (http://www.ferc.gov). These facilities are a major source of power for the Region and users in the Central Valley.

Since the Region is highly affected by changes in snowpack and resulting changes in flow regimes, hydropower production will be affected by climate change requiring changes to the timing and availability of water releases through changes in water storage operations. Changes in these water release patterns could impact the overall reliability of hydropower in the Region. Hydropower reliability could be enhanced through expanding the information available to accurately forecast the amounts of snowmelt and runoff available on a seasonal to daily basis.

7.2 Are energy needs in your region expected to increase in the future? If so, are there future plans for hydropower generation facilities or conditions for hydropower generation in your region?

- *Energy needs are expected to increase in many locations as the climate warms. This increase in electricity demand may compound decreases in hydropower production, increasing its priority for a region.*

Yes.

Within the Region, only marginal increases in energy demands are expected due to the low growth historically experienced in the Region and projected for the future. Energy demands outside of the Region, where electricity is currently transmitted, may increase more substantially. There are opportunities to enhance hydropower operation through optimal operation of dams.

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Appendix 7-A

Project Information Form

Appendix 7-A: Project Information Form

The Yosemite-Mariposa(Y-M) Region is accepting suggestions for projects for inclusion in the Y-M Integrated Regional Water Management (IRWM) Plan. Projects submitted for consideration should contribute to the attainment of the IRWM Plan Goals and Objectives. To have your project considered for inclusion, please complete this project information form in its entirety and **submit the completed form to RyanLippincott@KennedyJenks.com by March 28, 2014**. Submittal of this form is NOT sufficient information for an IRWM Implementation Grant application for funding which will occur later in 2014 and require significant additional information.

Please provide information in the tables below:

I. Project Proponent Information

Lead Agency/ Organization	
Name of Primary Contact	
Mailing Address	
E-mail	
Phone (###)###-####	
Other Cooperating Agencies/Organizations	
Can your agency complete the proposed project from start to finish? If not, please explain why and what concessions would be required to complete the project.	

II. General Project Information

Project Title	
Project Description (Briefly describe the project, in 300 words or less,)	

Project Location:	
Latitude:	
Longitude:	
Can you provide a map of the project location including boundaries upon request?	☐ Yes ☐ N/A ☐ No
Project Location Description:	
City/Community:	
Watershed:	
Groundwater Basin:	
Additional Comments:	
Project Status (If more than one are checked then explain) – See also Section IV	☐ Conceptual ☐ Planning ☐ CEQA/NEPA ☐ Permitting ☐ Design ☐ Construction/Implementation ☐ Study/Other ☐ Maintenance/Monitoring
	Explain:
Earliest expected start date (mm/dd/yr)	

III. Project Cost and Financing

Please provide any estimates of project cost, sources of funding, and operation and maintenance costs as well as the source of the project cost in the table below.

Project Costs	**Potential Grant Request**	**Cost Share: Non-State Fund Source (Local/Federal Funding Match)**	**Cost Share: Other State Fund Source**	**Total Cost**
1. Capital (2013 Dollars)		**$** **AND** ☐ **DAC**		
2. Annual Operations and Maintenance (O&M)				
Can the Project be phased?	☐ **Yes** ☐ **No**			

1. If so provide cost breakdown by phase(s)	Project Cost	O&M Cost	Description of Phase
Phase 1			
Phase 2			
Phase 3			
Phase 4			

	Source(s)	Amount
List secured source(s) of funding for Project cost (e.g. bonds, capital reserve, other grants, etc.)		
List proposed source(s) of unsecured funding and certainty of the sources for Project cost.		
Explain how operation and maintenance costs will be financed for the 25-year planning period for project implementation (not grant funded).		
Basis for project cost (e.g. conceptual, planning, bid, etc.)		
Has a Cost/Benefit or Cost Effectiveness analysis been completed?[1]	☐ Yes ☐ No	
Please describe what impact there may be if the project is not funded. (300 words or less)		
Can the project be leveraged to fund related projects? (e.g. land purchase and fuels management) If yes, describe in 100 words or less)		

1. Reference IRWM Grant Program Guidelines page 47 & 48, Section H. Economic Feasibility

IV. Project Status and Schedule

Please provide a status of the project, level of completion as well as a description of the activities planned for each project stage.

Project Stage	Completed (Yes/No)	Planned/Actual Start Date	Planned/Actual Completion Date
Conceptual	☐ Yes ☐ No		
Planning	☐ Yes ☐ No		
Environmental Documentation (CEQA/NEPA)	☐ Yes ☐ No		
Permitting	☐ Yes ☐ No		

Project Stage	Completed (Yes/No)	Planned/Actual Start Date	Planned/Actual Completion Date
Tribal Consultation	☐ Yes ☐ No		
Design	☐ Yes ☐ No		
Construction/Implementation	☐ Yes ☐ No		

V. Regional or Interregional Integration

Please provide any related documents (date, title, author, and page numbers) that describe and confirm the technical feasibility of the project.

Does the project encourage or support regional cooperation and collaboration? Explain why?	
Does the project have the potential to integrate with other projects? Explain why?	
Do multiple organizations or entities benefit from the project?	

VI. Project Technical Feasibility

Please provide any related documents (date, title, author, and page numbers) that describe and confirm the technical feasibility of the project.

List water planning documents that specifically identify this project.	
List the adopted planning documents the proposed project is consistent with (e.g. General Plans, UWMPs, GWMPs, Water Master Plans, Habitat Conservation Plans, etc.)	
List technical reports and studies supporting the feasibility of this project.	
What data gaps, if any, have been identified?	
Is there enough information available for the Region to realize the benefits claimed for this project?	

a. If the project is related to groundwater: **Has a GWMP been completed and submitted for the subject basin? If not will a GWMP be completed within 1 year of the grant submittal date? (Note: May only apply to the Yosemite Groundwater Basin)**	☐ Yes ☐ No ☐ N/A

VII. Plan Goals/Objectives Addressed

For each of the objectives addressed by the project, provide a one to two sentence description of how the project contributes to attaining the objective and how the project will be quantified. If the project does not address any of the draft IRWM plan objectives, provide a one to two sentence description of how the project relates to a challenge or opportunity of the Region.

Goals/Objectives:	**Will the project address the objective?**	**Import -ance**	**Urgency**	**Brief explanation of project linkage to selected Objective**	**Quantification of Benefits** (e.g. acres of streams/wetlands restored or enhanced)
Goal #1: Provide/Improve Reliable Water Supply within the Region					
Provide reliable water supplies to meet all domestic water needs in the Region by 2035	☐ Yes ☐ N/A	High	High		
Improve understanding of groundwater usage, quality, and reliability throughout key groundwater use areas the Region by 2020	☐ Yes ☐ N/A	High	Med		
Promote Water Use Efficiency (WUE) practices throughout the Region and educate 80% of households and businesses by 2020	☐ Yes ☐ N/A	Med	Med		
Identify by 2019 and manage and conserve forest, watershed, and range lands for enhancement of water supply by 2035	☐ Yes ☐ N/A	High	High		

Goal #2: Ensure Reliable Community Water and Wastewater Infrastructure					
Assess and identify the current condition of private and community water systems and their plans, if any, for future improvements by 2018	☐ Yes ☐ N/A	High	High		
Assess and identify the current condition of community wastewater systems and their plans, if any, for future improvements by 2020	☐ Yes ☐ N/A	High	Med		
Rehabilitate or replace aging and inadequate water and waste water distribution/collection, treatment, and disposal infrastructure by 2035	☐ Yes ☐ N/A	High	High		
Goal #3: Maintain or Improve Water Quality in the Region					
Identify and prioritize impacted watersheds by 2020	☐ Yes ☐ N/A	High	Med		
Conserve and restore 10,000 acres of watersheds through improved forest and rangeland management practices and appropriate land use by 2020. Conserve and restore 20,000 acres by 2035	☐ Yes ☐ N/A	High	High		
Implement water quality improvement activities where pollutants are identified by 2035	☐ Yes ☐ N/A	High	High		
Promote sustainable ecosystem and vegetation management on agricultural and production land, primarily near riparian corridors in the first five years of the IRWM Program	☐ Yes ☐ N/A	Med	Med		

Goal #4: Protect and Improve Wildlife Habitat					
Improve watershed health by preventing the establishment of or , reducing/eliminating aquatic and terrestrial invasive species in at least 2 locations per year starting in 2017	☐ Yes ☐ N/A	High	Med		
Protect special status and sensitive species and preserve and restore 10,000 acres by 2025 and 20,000 acres by 2035	☐ Yes ☐ N/A	High	Med		
Conserve and ensure the presence of unfragmented wildlife corridor habitats	☐ Yes ☐ N/A	High	Med		
Goal #5 – Assess and Enhance Recreational Opportunities in the Region					
Evaluate existing and potential recreational opportunities by 2019	☐ Yes ☐ N/A	Med	Med		
Enhance public access for recreation to waterways by 2035	☐ Yes ☐ N/A	High	Med		
Goal #6: Develop Collaborative and Sustainable Partnerships Both Within and in Adjacent Regions					
Identify, review and evaluate the effectiveness of ordinances and county planning related to water management in the Region by 2020	☐ Yes ☐ N/A	High	Med		
Develop opportunities/data management system so that current scientific data can be made available to make informed, collaborative choices regarding water resources and land use planning throughout the Planning Period	☐ Yes ☐ N/A	High	Med		

Goal #7: Reduce Risk of Catastrophic Fire					
Facilitate and coordinate fuel management policies and strategies in at least 2 locations per year of high hazard lands in the Region	☐ Yes ☐ N/A	High	High		
Goal #8: Educate Stakeholders and County Residents about Water Issues through the IRWM Process to Inspire Public Action					
Use education and outreach annually that maintains or increases watershed stewardship resulting in water quality and ecological improvements	☐ Yes ☐ N/A	High	Med		
Goal #9: Prepare for Impacts of Climate Change					
Educate the public regarding the findings of the Climate Change Vulnerability Checklist for the Region by 2015 and periodically update the checklist with updated information	☐ Yes ☐ N/A	Med	Med		
v. Mitigate impacts of climate change by implementing cost-effective renewable energy production in at least one location by 2035 and promoting energy/water use efficiency in the Region	☐ Yes ☐ N/A	Med	Med		
w. Mitigate flood risk associated with climate change by cooperating with Local Hazard Mitigation Planning flood risk updates and educating the public regarding flood prevention and mitigation measures	☐ Yes ☐ N/A	Med	Med		

If no objectives are addressed; describe how the project relates to a challenge or opportunity of the Region:

VIII. Resource Management Strategies

For each resource management strategy employed by the project, provide a one to two sentence description in the table below of how the project incorporates the strategy. A description of the Resource Management Strategies can be found in Volume 3 of the Draft 2013 California Water Plan Update here: http://www.waterplan.water.ca.gov/cwpu2013/prd/index.cfm

Reduce Water Demand		
Agricultural Water Use Efficiency	☐	
Urban Water Use Efficiency	☐	
Improve Flood Management		
Flood Risk Management	☐	
Improve Operational Efficiency and Transfers		
Conveyance - Regional / local	☐	
System Reoperation	☐	
Water Transfers	☐	
Increase Water Supply		
Conjunctive Management & Groundwater	☐	
Desalination (Brackish and Seawater)	☐	
Precipitation Enhancement	☐	
Municipal Recycled Water	☐	
Surface Storage -- Regional / Local	☐	
Improve Water Quality		
Drinking Water Treatment and Distribution	☐	
Groundwater/Aquifer Remediation	☐	
Matching Water Quality to Use	☐	
Pollution Prevention	☐	
Salt and Salinity Management	☐	
Urban Runoff Management	☐	
Practice Resources Stewardship		
Agricultural Lands Stewardship	☐	
Ecosystem Restoration	☐	
Forest Management	☐	
Land Use Planning and Management	☐	
Recharge Areas Protection	☐	
Sediment Management	☐	
Watershed Management	☐	
People and water		
Economic Incentives	☐	
Outreach and Engagement	☐	
Water and Culture	☐	
Water-Dependent Recreation	☐	
Other		
Other Resource Management Strategies	☐	

☐ Other RMS addressed and explanation:

Additional RMS not listed above: Conveyance – Delta, Surface Storage – CALFED/State

IX. Project Impacts and Benefits

Please provide a summary of the expected project benefits and impacts in the table below.

Describe any expected long term impacts of the project	
Describe short term construction impacts.	
If applicable, describe benefits or impacts of the project with respect to Native American Tribal Community considerations.	
If applicable, describe benefits or impacts of the project with respect to Disadvantaged Communities*.	
If applicable, describe benefits or impacts of the project with respect to Environmental Justice ** considerations.	
If applicable, describe how the project assists the region in adapting to effects of climate change.	
If applicable, describe the generation or reduction of greenhouse gas emissions associated with the project.	

*A Disadvantaged Community is defined as a community with an annual median household (MHI) income that is less than 80 percent of the Statewide annual MHI.

** Environmental Justice is defined as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation and enforcement of environmental laws, regulations and policies.

X. Statewide Program Preferences and Priorities

Please select the Program Preferences and Statewide Priorities that apply to the proposed project (choose all that apply).

Program Preferences

- ☐ Include regional projects or programs (CWC §10544)
- ☐ Effectively integrate water management programs and projects within a hydrologic region identified in the California Water Plan; the Regional Water Quality Control Board (RWQCB) region or subdivision; or other region or sub-region specifically identified by DWR
- ☐ Effectively resolve significant water-related conflicts within or between regions
- ☐ Contribute to attainment of one or more of the objectives of the CALFED Bay-Delta Program
- ☐ Address critical water supply or water quality needs of disadvantaged communities within the region
- ☐ Effectively integrate water management with land use planning
- ☐ For eligible SWFM funding, projects which: a) are not receiving State funding for flood control or flood prevention projects pursuant to PRC §5096.824 or §75034 or b) provide multiple benefits, including, but not limited to, water quality improvements, ecosystem benefits, reduction of instream erosion and sedimentation, and groundwater recharge.

Statewide Priorities

Drought Preparedness

- ☐ Promote water conservation, conjunctive use, reuse and recycling
- ☐ Improve landscape and agricultural irrigation efficiencies
- ☐ Achieve long term reduction of water use
- ☐ Efficient groundwater basin management
- ☐ System interties

Use and Reuse Water More Efficiently

- ☐ Increase urban and agricultural water use efficiency measures such as conservation and recycling
- ☐ Capture, store, treat, and use urban stormwater runoff (such as percolation to usable aquifers, underground storage beneath parks, small surface basins, domestic stormwater capture systems, or the creation of catch basins or sumps downhill of development
- ☐ Incorporate and implement low impact development (LID) design features, techniques, and practices to reduce or eliminate stormwater runoff

Climate Change Response Actions

- ☐ Adaptation to Climate Change: Advance and expand conjunctive management of multiple water supply sources

- ☐ Adaptation to Climate Change: Use and reuse water more efficiently
- ☐ Adaptation to Climate Change: Water management system modifications that address anticipated climate
- ☐ Adaptation to Climate Change: Establish migration corridors, re-establish river-floodplain hydrologic continuity, re-introduce anadromous fish populations to upper watersheds, enhance and protect upper watershed forests and meadow systems
- ☐ Reduction of Greenhouse Gas (GHG) Emissions: Reduce energy consumption of water systems and uses
- ☐ Reduction of Greenhouse Gas (GHG) Emissions: Use cleaner energy sources to move and treat water
- ☐ Reduce Energy Consumption: Water use efficiency
- ☐ Reduce Energy Consumption: Water recycling
- ☐ Reduce Energy Consumption: Water system energy efficiency

Expand Environmental Stewardship

- ☐ Expand Environmental Stewardship to protect and enhance the environment by improving watershed, floodplain, and instream functions and to sustain water and flood management ecosystems.

Practice Integrated Flood Management

- ☐ Better emergency preparedness and response
- ☐ Improved flood protection
- ☐ More sustainable flood and water management systems
- ☐ Enhanced floodplain ecosystems
- ☐ LID techniques that store and infiltrate runoff while protecting groundwater

Protect Surface Water and Groundwater Quality

- ☐ Protecting and restoring surface water and groundwater quality to safeguard public and environmental health and secure water supplies for beneficial uses
- ☐ Salt/nutrient management planning as a components of an IRWM Plan

Improve Tribal Water and Natural Resources

- ☐ Improve Tribal Water and Natural Resources and include the development of Tribal consultation, collaboration, and access to funding for water programs.

Ensure Equitable Distribution of Benefits

- ☐ Increase the participation of small and disadvantaged communities in the IRWM process.
- ☐ Develop multi-benefit projects with consideration of affected disadvantaged communities and vulnerable populations.
- ☐ Contain projects that address safe drinking water and wastewater treatment needs of DACs.
- ☐ Address critical water supply or water quality needs of local California Native American Tribes

Appendix 7-B

Summary of Project Descriptions and
Total Project Score Sorted by Project Type

Appendix 7-B-1: Summary of Project Descriptions

Project No.	Agency	Title	Project Description (Complete)
1	County of Mariposa	Replace Water Distribution Piping in Yosemite West Subdivision	The waterlines (14,000 feet 8" PVC; 5,000 feet 6" PVC; valves and fittings; 54 fire hydrants) which transport domestic water from the water treatment plant to residents were constructed in 1969 and are made of asbestos concrete pipe (known as transite). Transite is a very brittle material which cracks easily. Over the 45 years since the water pipes were installed, there has been an increasing loss of treated water. It is long past time to replace all water lines in the entire subdivision.
2	County of Mariposa	Develop Second Water Source for the Coulterville community	The California Department of Public Health requires two different water sources be developed for public water systems. The Coulterville community currently only has one well that supplies water to the subdivision's water treatment facility. This project proposes to develop a second source to meet state requirements. A second will in a different location is the preferred objective. New well to provide 120 gpm; 8" well 800' deep; down hole pump and control equipment; well house power, and back-up power
3	County of Mariposa	Water Treatment for Arsenic Exceedance	The Mariposa County Public Works Department well contains 20 parts per million of arsenic with the Maximum Contaminate Level (MCL 0 being 10 parts per million. The California Department of Public Health, has issued a compliance order, under the Clean Water Act, requiring a water treatment pan by July 2014 and compliance by July 2016.
4	County of Mariposa	Replace Sewage Collection Piping in Yosemite West Subdivision	The sewage collection piping which transports raw sewage from residences to the Yosemite West Wastewater Treatment Plan is made of asbestos concrete pipe known as Transite. Transite is a very brittle material which cracks easily. Over the 45 years since the sewer pipes were installed, there has been a steady increase in cracked sewer lines. This causes a loss of untreated sewage to the environment and also allows water to flow into the pipes resulting in increased sewage treatment costs. It is long past time to replace all sewer lines in the entire subdivision. (16,000 feet 6" PVC; 2,000 feet 4" PVC; 50 manholes) Approx. 30% infiltration; 150 customers
5	County of Mariposa	Develop Second Water Source for Yosemite West Subdivision	The California Department of Public Health requires two different water sources be developed for public water systems. Yosemite West Subdivision currently only has one well that supplies water to the subdivision's water treatment facility. This project proposes to develop a second source to meet state requirements. A second well in a different location is the preferred objective. List of improvements: 1. Obtain 100 gpm; 3-8" wells, 1,100 ' minimum (expected 33 gpm) 2. Pump, well houses, power and back-up power 3. SCADA controls and misc. piping
6	County of Mariposa	Expansion and Repair of Leachfields in the Yosemite West Subdivision	The historic performance of the leachfield and SDI systems at the Yosemite West Wastewater Treatment Facility has been unreliable. We have recently concluded a study of the existing leachfields and of area were potential new leachfields might be viable. This project would fund the repairs to current leachfields and the construction of new leachfields (11,000 feet of 6" PVC including underground drip irrigation; additional controls to monitor subsurface moisture).
7	County of Mariposa	Construct a septage collection and metering tank at the Lake Don Pedro Sewage Treatment Plant	This project proposes to install a holding tank to receive septage from companies who pump septic tanks and portable toilets. The tank would receive the septage from trucks, store the septage and meter it into the Don Pedro Wastewater Treatment Plant. The purpose of the project is to provide a reliable means of disposing of septage while still ensuring that the wastewater treatment plant is not overwhelmed by large loads all at one time which results in disruption of the wastewater treatment's effectiveness. 10,000 gallon non-corrosive holding tank located within a containment area; transfer pump and controls. Currently septage is pumped directly into the Don Pedro plant or out of the County.
8	County of Mariposa	Repairs and upgrades to Lake Don Pedro Wastewater Treatment System	The Lake Don Pedro Wastewater Treatment and Collection system are growing old and in need of substantial repairs and upgrades. The sewage collection pipes are very old and made of asbestos concrete pipe known as Transite. Transite pipe has a history of being very brittle and cracking easily. This causes sewage to not be controlled and allows groundwater to infiltrate collection pipes increasing wastewater treatment volume and costs. The seven (7) lift stations are also old and in need of repairs and replacement. (16,000 feet 8" PVC; 4,000 feet 4" PVC; 75 manholes)
9	County of Mariposa	Install back-up power at Mariposa Pines Sewage Treatment Plant	Currently, the Mariposa Pines Wastewater Treatment Plant does not have a back-up power source when PG&E power goes down. This project proposes to add back-up power to ensure operation of the plant at times of normal power disruption. The lift station has the capacity to hold approximately 1/2 day sewerage. Depending on the time of the year and the amount of effluent in the tank at the time of the failure determines the time before a spill. There has not been a spill but it has come very close.

Appendix 7-B-1: Summary of Project Descriptions

Project No.	Agency	Title	Project Description (Complete)
10	County of Mariposa	Replace Water Distribution Piping in Coulterville	The waterlines (1,500 feet 8" PVC w/21 8" valves; 11,000 feet 6" PVC w/64 6" valves; 41 dry barrel fire station which transport domestic water from the water treatment plant to residents were constructed in 1969 and are made of asbestos concrete pipe (known as transite). Transite is a very brittle material which cracks easily. Over the 45 years since the water pipes were installed, there have been an increasing loss of treated water. It is long past time to replace all water lines in the entire subdivision.
11	County of Mariposa	Replace Sewage Collection Piping in Coulterville	The sewage collection piping (5,700 feet 8"; 7,700 feet 6"; and 4,200 feet 4" + 48 manholes) which transports raw sewage from residences to the Coulterville Wastewater Treatment Plant is made of asbestos concrete pipe known as Transite. Transite is a very brittle material which cracks easily. Over the 45 years since the sewer pipes were installed, there has been a steady increase in cracked sewer lines. This causes a loss of untreated sewage to the environment and also allows water to flow into the pipes resulting in increased sewage treatment costs. It is long past time to replace all sewer lines in the entire subdivision. Approximately 300 residents served.
12	Economic Development Corporation	Mariposa Biomass / Biochar Facility	A biomass reactor facility in Mariposa County would use slash from nearby forests for the generation of bioenergy and commercial byproducts. Much of the impetus for this program is the recognition that we need to reduce the fuel load in our forests for the sake of forest health and fire safety. As we consider forest-thinning projects, however we also need to consider the effects on water quantity, quality and timing of the runoff. A properly thinned forest should not only improve public safety, but also allow the watershed to produce more water for agricultural and domestic use. This focus of this project is not fuel reduction per se, but creation of a facility to provide an ecologically sensitive way of dealing with the “slash” that results from any removal of timber or fuel from the forest. This project not only produces a revenue stream that would partially support forest thinning, it also removes concerns environmental groups have used to block such projects. This first biomass project in Mariposa County would be located at the County landfill or at a private location in an Industrial Park adjacent to the landfill. Currently the landfill is in the process of planning its future and location of a biomass facility there may be symbiotic with the facility’s short-term and potential long term needs. The facility is expected to attract new industries and create jobs in the County and generate revenue through production of clean, green energy as well as through the production of biochar. Biochar is a fine-grained charcoal like substance that can be sold as a soil amendment that improves agricultural productivity while effectively sequestering the carbon from the biomass in the ground for hundreds, if not thousands of years.
13	Lake Don Pedro Community Services District	Lake McClure Deep Water Intake Feasibility Study	This project studies the feasibility of constructing an entirely new intake structure and transmission pipeline at a new location on Lake McClure to serve the LDPCSD (a DAC). The intake would be constructed near the dam where it could extend to a much deeper lake level than is available at the existing intake and thereby be able to supply water during extreme drought. It would increase the reliability of the existing water system. The existing permanent Lake McClure intake structure at Barrett Cove extends to a water surface elevation of 701. During times of low water and drought, water level drops below 701 and an emergency floating pump is launched and pumps into the existing system. If the water level in the reservoir drops all the way to the original stream channel elevation at the current intake site, (the elevation is estimated to be 541), LDPCSD will be without water and trucking would be necessary. This almost happened in the previous drought of the early 1990s. The deep water intake project was conceived at that time to provide emergency supply during severe droughts. It was not pursued partially because of cost, but due to the recurrence of low water conditions and drought, and climate change, LDPCSD desires to investigate the feasibility of the project at this time.

Project No.	Agency	Title	Project Description (Complete)
14	MARIPOSA PUBLIC UTILITY DISTRICT	STOCKTON CREEK WATERSHED FUEL MODIFICATION PROJECT	The Mariposa Public Utility District (MPUD) provides public water wastewater and fire protection services within the town of Mariposa. The primary water source is a 440 acre foot reservoir in the Stockton Creek watershed. In 2011 in collaboration with the Sierra Nevada conservancy (SNC) and the Sierra Foothill Conservancy (SFC) MPUD acquired 410 acres of land adjacent to the reservoir property. The project title is "Stockton Creek Preserve and Trails". The general purpose of the acquisition was to manage the property to protect the water shed of the public water supply. To date the land management has resulted in; 1) Installed approximately 4 miles of public use trails 2) Construction of kiosks including public information about the preserve and public use trails located at two entry points. 3) Repaired a failed vegetation management project implemented by a previous land owner in 2000. 4) Protect unknown and discovery previously unknown significant historical, cultural and archaeological sites. 5) Preserves open space within land area previously subject to the development of 20 acer parcels In 2013 in collaboration with Cal Fire and a grant through the California Prop-40 funding program, MPUD implemented a fuel reduction project on the Preserve. the project included brush mastication on 160 acres of Preserve property. The 2013 project is a major improvement to fuel and habitat management on the preserve however more work is necessary to treat additional land area and prevent regrowth of high hazard fuel on treated areas. The project proposed in this application includes; A) Removal of brush and hazard trees on approximately 200 acres of land with mechanical mastication or dozer type equipment. B) Plant Ponderosa Pine, Blue Oak and other native trees that present less of a fire hazard and improve habitat in the treated areas. C) Improve trail head access D) Improve public access trails.
15	MARIPOSA PUBLIC UTILITY DISTRICT	MARIPOSA PUD WASTE WATERTREATMENT FCILITY IMPROVEMENTS	The Mariposa Public Utility District (MPUD) Provides Public Water Wastewater and Fire protection services within the Mariposa Town area. The existing Wastewater Treatment Facility (WWTF) was constructed in 1983. The WWTF provides secondary treatment of wastewater through extended aeration (oxidation ditch), settling/clarification, disinfection using chlorine, and dechlorination with sulfur dioxide. Treated waste water is discharged to Mariposa Creek. the discharge to surface water is permitted through the National Pollutant Discharge Elimination System (NPDES) administered by the Central Valley Regional Water Quality Control Board (RWQCB). The RWQCB also establishes Waste Discharge Requirements (WDRs) that include WWTF effluent limitations. The NPDES and WDRs are renewed every 5 years and typically include more stringent discharge limitations in each renewal. The current permit includes limitations for certain constituents at levels which are unattainable with the treatment process currently available. Specifically; Dichlorobromomethane (DCBM) Chlorodibromomethane (CDBM), Nitrate, Total Trihalomethanes (TTHM), lower Biochemical oxygen demand and lower total suspended solids. The permit also requires MPUD to install tertiary treatment (filtration) unit process after clarification and before disinfection before December of 2017. MPUD has had a facilities/engineering report prepared to evaluate alternatives and estimate the cost to comply with the current NPDES permit. The proposed project includes construction of the following unit processes; 1) Anoxic zone/equalization basin 2) Tertiary treatment (filters) 3) Replace chlorine disinfection system with alternate system such as UV 4) Install SCADA control 5) Replace emergency generator 6) Replace portions of electrical switchgear with more efficient systems 7) Replace interior cabinets and floors in control room and laboratory.

Project No.	Agency	Title	Project Description (Complete)
16	MARIPOSA PUBLIC UTILITY DISTRICT	Saxon Creek Pump Station Access and Ventilation System Improvements	The Mariposa Public Utility District owns and operates a water pumping system adjacent to Merced River. The The pump system is part of a project costructed sept 1995 to November 1997 consisting of the pump station with two 1,000 horse power pumps, 75 KVA to 4.2 KVA electrical substation, 8 mile pipeline and a one million gallon water storage tank. The project is titled the Saxon Creek Project due to the pump system proximity to the confluence of Saxon Creek and the Merced River. The entire pump system including clear-well, pump vault electrical vault and hydro-pneumatic surge tank are located under ground under the Yosemite railroad bed (now a dirt road access to BLM recreational areas). The pump station and electrical vault include large ventilation duct work with blowers to keep the electrical equipment cool and for personnel safety. The intake and exhaust ventilation duct openings were located what was determined at that time to be above the 100 year flood elevation. However before the pump station was commissioned both the electrical and pump vaults were flooded by the January 1997 Merced River Flood. The primary entry point for the flood water was the ventilation ducts and road level personnel access hatches. The damage to the pump station at that time was in excess of $400,000 and added 9 months to the construction completion time. Subsequent to the 1997 flood the 100 year flood plain has been adjusted through DWR flood plain awareness maps and FEMA 100 year flood zone maps. Clearly the access hatches and ventilation exhaust and intake openings are now below the established flood plain risking major damage to the pump station in the event f future flood events. The project proposal includes re construction of 4 access hatches with water proof doors and relocation of the ventilation intake and exhaust from the south side (fill slope) to the north side (cut slope) of the BLM road. The ventilation system modifications will require installation of approximately 130 feet of 30" ductile iron pipe and 150 feet of 20" ductile iron pipe.
17	Merced Irrigation District	Lake McClure Area Recreation Enhancements	Includes three project sites: 1) McSwain Reservoir Shoreline Trail - construct a 4-mile trail (non-motorized, native surface) from the informal day use area at McSwain Reservoir Recreation Area upstream near New Exchequer Dam at an existing dirt parking area; and install information kiosks at each end of the trail. 2) Bagby Area Shoreline Trail: Old Railroad Grade Trailhead and Connector Trail - in consultation with the BLM, construct a trailhead information kiosk on the shoulder of Highway 49 and a 0.5-mile connector trail (non-motorized) from the kiosk to the existing Old Railroad Grade trail (including a bridge crossing). 3) Sheperd's Point Whitewater Boating Takeout - construct an improved takeout facility to enhance commercial and private boating along the Merced River with the following elements: a gravel parking area with 10 spaces, including at least 2 spaces to accommodate a vehicle with a trailer (no more than 30 ft in length); a 2-unit vault restroom; a picnic site; and a hardened (gravel or other option) takeout trail (minimum 10 ft. wide) from the reservoir/river to the parking area.
18	Point Blue Conservation Science	Rangeland Watershed Intiative Partner Biologist	Point Blue Conservation Science (Point Blue) is collaborating with the Natural Resources Conservation Service (NRCS), ranchers and other partners to enhance Sacramento and San Joaquin Valley and Coastal rangelands for water, wildlife and economic bottom lines through our Rangeland Watershed Initiative (RWI). By applying prescribed grazing and other beneficial management practices, with support from NRCS Farm Bill incentive programs, Point Blue and partners will increase soil water retention and soil carbon sequestration in foothill watersheds, improve water supply reliability downstream, improve ranching productivity, and enhance habitat for migratory birds and other wildlife. While using prescribed grazing to increase soil water retention and carbon sequestration is not new, the Rangeland Watershed Initiative is unique because we are using an approach designed to transform rangeland practices through the use of locally “embedded” biologists. We are also using an innovative set of approaches to landowner engagement and resource management, including: (1) Using bird focal species (grassland, riparian, oak woodland, and mountain meadow birds from Partners in Flight conservation plans) to help inform management/target habitat conditions. (2) Working with producers to recognize and enhance Leopoldian land stewardship and husbandry. (3) Engaging UC Davis Rangeland Watershed lab to assess success of conservation measures on ranches using soil, vegetation, and wildlife measures. IRWM funding will: • Allow the existing Mariposa County Partner Biologist to build new and expand upon existing relationships with rangeland managers and local conservation organizations to gain their support for prescribed grazing; • Advise and assist in the implementation of grazing practices that will improve the soil’s capacity to retain water, improve downstream water supplies, and improve wildlife habitat; and • Continue important monitoring of habitat changes on rangelands and mountain meadows to evaluate success.

Project No.	Agency	Title	Project Description (Complete)
19	Lake Don Pedro Community Services District	Dead End Main Replacement Project	This project will replace existing 2" and 4" diameter water mains on dead end lines such as cul-de-sacs throughout LDPCSD. These pipes were constructed using thin walled PVC pipe which have been subject to increasing failure throughout LDPCSD. As well the 2" and 4" pipe diameters do not provide sufficient capacity for fire flows and many of these lines do not have hydrants or blow-offs that allow for flushing of the water in the dead end main that can lead to water quality issues. This project would call for replacement of all 2" and 4" mains with piping that meets current codes and standards for material and diameter, and would allow the addition of fire hydrants as needed. Therefore, this project has multiple benefits including improved water quality, fire safety and increased water conservation due to leak mitigation.
20	Lake Don Pedro Community Services District	Lake McClure Intake Improvement Project Phase III	Water supply reliability and drought preparedness project: Phases I and II are complete. Phase III consists of installation of a third inclined well and pump at the existing Lake McClure Barrett Cove intake site. The new pump will be installed to a lower elevation, roughly 80-100 feet lower than the existing intake. This pump would be permanent, be utilized at the lower lake levels which are increasingly common during the winter months and droughts, and be the first step in a replacement of the original intake structure which has reached the end of its service life (45 years old). Background information: LDPCSD currently experiences lake levels that drop below the bottom of their lake intake. This takes place during droughts and sometimes during non-drought winter months prior to snow melt. During these occurrences, LDPCSD operates an emergency floating pump system. The floating pump system is not a reliable permanent system, and is useful only in emergencies.
21	Lake Don Pedro Community Services District	Water Service Replacement Project	This project is part of LDPCSD's conservation goals to conserve water. Many of the District's service lines are over 40 years old and are subject to frequent leaks. Staff routinely is out repairing leaks on the service lines, and some lines now have more than one repair band. This project will include the replacement of approximately 1,500 service lines from the water main to the corp. stop and save an estimated 183.12 acre feet (59.6 million gallons) of water. This water loss is significant and wasteful, especially at a time of drought. In general, LDPCSD water mains are located under one edge of pavement, so some service line replacements will cross roads. Service lines will be replaced by trenching or trenchless methods as required by each distinct location.
22	Lake Don Pedro Community Services District	Treatment Plant Pump Replacement Project	This project has multiple benefits: It improves the water supply reliability for a DAC, improves the efficiency of water pumps saving energy and greenhouse gasses, and restores the capacity to adequately meet water demands of a DAC. The two existing water treatment plant pumps (which convey water from the untreated water storage through the filters and into the distribution system) were tested and appear to be operating off of their curve, indicating they are worn out. Both pumps are original (circa 1969). The worn out pumps operate very inefficiently, wasting power, and could fail at any time. This project is to replace both pumps and discharge piping if necessary to fit new pumps. Plant Design, Pump Performance, and Demand: Each of the two pumps were designed to provide 750 gpm. Recently, performances for Pump #1 and #2 were observed to be 600 gpm and 650 gpm, respectively, indicating pumps are worn. Plant Operation: In the cooler seasons when demand is down, the pumps operate in a lead-lag pattern (usage alternates). During the summer, there are periods where both pumps have been operated simultaneously to meet the maximum day demand. According to a usage study conducted in 2009, the maximum day demand is 906 gpm. During summer months, if one failed, the WTP would not be able to keep up with demand.
23	Lake Don Pedro Community Services District	New potable water well	Locate, drill, develop, and connect a new groundwater supply well. This project improves reliability and quantity of supply to a DAC. The primary water supply for LDPCSD is Lake McClure. Lake McClure is operated by MID. However, a portion of LDPCSD's service area is not within the MID place-of-use ("POU") for waters of Lake McClure, as filed with DWR, which means that some of LDPCSD's service area can not be provided water from Lake McClure. In 1992, LDPCSD drilled the "Ranchito Well" to serve groundwater outside the POU as no other feasible supplies had been located. The Ranchito Well bore hole extends to 300 feet in rock formations, has casing down to 125 feet, and the pump is set at 175 feet. It pumps into the existing untreated water main and is processed at the WTP. In 2011, the well was pumped for over one month and the 10-day yield found to be 70 gpm, however, the water level did not recover as required by the State Department of Health Waterworks Standards well test requirements. Therefore the long term sustainable yield may be lower. In 2011 the usage outside the place-of-use in the previous decade (34-36 active customers) was also analyzed, and the maximum day demand was found to be 72 gpm. There are also additional lots and land outside the POU but within the service area that could come forth and request water service at any time. The addition of a 2nd well would improve the quantity of supply and ability to serve water to the existing and future users outside the POU, and improve the reliability since at this time there is only one legal source for those customers. The intention is to locate a well site along the existing untreated water main so that significant new mains and/or wellhead treatment will not be required.

Project No.	Agency	Title	Project Description (Complete)
24	Upper Merced River Watershed Council (UMRWC)	Water Quality Monitoring Bioassessment in Upper Merced River Watershed	The Merced River is a vital resource for the economies of local communities and a significant tributary to the Bay Delta system. Residents, landowners and agency staff have expressed concerns over the status and maintenance of the quality of water resources in the watershed. In the upper watershed, concerns focus on recreational impacts, discharge from Yosemite National Park's waste water treatment plant and run-off from abandoned mines. This project proposes to build through educational outreach, on an existing NPS permitted Watershed Council project that utilizes "Citizen Scientists" to monitor water quality in the Upper Merced. Monitoring is conducted from El Portal downstream to the MID boundary. Water quality is monitored for temperature, pH, conductivity, turbidity, and dissolved oxygen. NatureBridge is a partner in this project, working within the YNP boundary. The Watershed Council proposes to add 3 more elements to its monitoring program. 1). Bacterial coliform; having water samples analyzed by a certified analytical lab. 2). An annual survey for benthic macro-invertebrates (BMI); and 3). the placement of 4 data recorders to record river flow and water temperature. The added information will provide a certified and accurate report on the river's health which can be used by fish population planners, and climate change researchers.
25	Upper Merced River Watershed Council	Merced River Watershed Wildfire Fuel Reduction Project	This project is designed to reduce vegetative fuel loading on two properties totaling 468 acres that lie within the Bear Creek and Merced River Watersheds. The two properties are contiguous; 321 acres are owned by the County of Mariposa, 152 acres belong to the Merced Community College District. The properties lie in the middle of the Midpines DAC. While fuel reduction is the primary objective, this project will also improve groundwater percolation, add water to local springs and creeks, improve watershed health, fish and wild life refuge, and augment invasive plant removal opportunities. This project is in the planning stage. The Upper Merced River Watershed Council (UMRWC) has been authorized by the Mariposa Board of Supervisors and the Merced Community College Dist. V.P. of Administration to act on their behalves. The UMRWC has filed with NRCS for Environmental Quality Incentives Program (EQIP) cost share funding to produce a Timber Management Plan in 2014. It is anticipated that in 2015 the project will qualify for EQIP implementation funding. Prop. 84 funding will be needed to complete the fuel reduction implementation and reforestation phases. By the time Prop 84 funding is available the project will be in the implementation stage.
26	National Park Service/Yosemite National Park	Supplement Wawona Water System with Biledo Spring	Yosemite National Park and operates and maintains the community drinking water system for the Wawona area. The surface water system diverts water from South Fork of the Merced River. In drought years the South Fork of the Merced can become critically low, triggering mandatory implementation of the Yosemite National Park Wawona Water Conservation Plan. In order to preserve and protect downstream aquatic environments, the conservation plan has set a permissible diversion rate from the river of 10% for the water system. In summer months the flow in the South Fork of the Merced River can reach as low as 1 cubic feet per second (cfs), leaving only 64,627 gallons per day diversion to the water system. The average daily domestic water supply demands for the Wawona community is 86,000 gallons. At these levels the river would not adequately meet the water supply demands during the late summer and autumn months. In 1930, Yosemite National Park obtained water rights to Biledo Spring, located on US Forest Service Land. The spring is currently the source water for the Mariposa Grove water system, suppling water to the Upper Grove restroom, Lower Grove restroom, South Entrance restroom and South Entrance ranger residence. This project would bring water from Biledo Spring to Wawona to supplement the Wawona water system, supplementing low flow water demands. The work would consist of replacing/rehabilitation of an estimated 7 miles of the original 1930 water line from Biledo Spring, through the Mariposa Grove to the South Entrance. At the South Entrance, new piping would be installed along Highway 41, for an estimated 5.5 miles to Wawona. In addition, the project would develop a water mass balance report that would inform other alternatives or combinations of alternatives. An increase of water storage through tank reservoir(s) would also be considered. The size, locations and quantities would be determined after the water mass balance was completed. The additional storage requirements could be up to 5 million gallons with an estimated cost of $7.5 million. The total estimated cost for this project is $24.5 million.

Project No.	Agency	Title	Project Description (Complete)
27	National Park Service/Yosemite National Park	Rehabilitate The Wawona Wastewater Treatment Plant	The Wawona Wastewater Treatment Plant was constructed in 1985 as an Activated Sludge Plant with a permitted daily flow capacity of 105K gallons per day (GPD). Current peak summer visitation inflows average 105K respectively, pushing the capacity and risking exceedance of permitted flows. There is also pressure to expand the plant to accept flows from nearby failing campground leachfields and undersized visitor restroom facilities. Identifying defects and repairing the aged Wawona system will reduce unpermitted discharge/sewage spills. This project will update processes to contemporary standards, replace outdated, inefficient equipment, improve plant capacity to meet current and future flows, and improve treatment to ensure compliance with current and anticipated higher treatment standards. Additionally, the new permit (2013) requires increased phosphorous, nitrate, and dichlorobromomethane removal. Since the plant is not currently able to achieve dichlorobromomethane removal the California Regional Water Quality Control Board issued a Time Schedule Order with a timeline for the plant to comply with the requirements. This will require either an alternate disinfection process or elimination of the river discharge and replace with new land discharge (new leachfields or sprayfields). Completing this project will result in significant protection for visitors and for water quality along the segment of the South Fork of the Wild and Scenic River, as well as water quality downstream of the Wawona community. One of the most important improvements will be to have reliable nitrification, ensuring that the plant will meet the permit requirements and that the plant effluent does not compromise the dissolved oxygen concentration downstream.
28	Sierra Foothill Conservancy	Bean Creek Meadow Restoration	The Bean Creek Preserve is an 80-acre property on a mid-sized meadow system North of Greeley Hill, CA. Due, in part, to mismanaged land practices, the banks of Bean Creek have been steeply eroded, the water table has dropped, and the meadow dehydrated. SFC is applying for funds from DWR to concurrently restore a low-elevation meadow and to maintain a working cattle ranch, a unique partnership of ecological and economical preservation. SFC is working to restore this property to its original meadow ecosystem. Functioning meadows provide many ecosystem services. During the spring run-off meadows capture and store water, providing flood and erosion control. As the water spreads throughout the meadow, it is filtered and cleaned. Meadows remove a large percent of sediment from the water: sediment overload can cause serious problems down steam in irrigation systems, hydroelectric plants, and for recreationists. During the warm summer months, meadows slowly release the cool, clear water that has been stored in the shallow groundwater reservoir beneath the meadow. These influxes of water late in the season increase the consistency of the water supply downstream, which benefits both the human users of the water and also the habitats and species that rely on it. As our climate patterns become more erratic and droughts more common, meadows will be critical as flood control and natural reservoirs. SFC is well into the planning and permitting phase of this project, and will have a shovel-ready project by Fall, 2015. We have already secured $172,000 for the planning, permitting, and a phase of the implementation. The IRWM grant will provide funds to implement several more acres of restore meadow surfaces.
29	Sierra Foothill Conservancy	Conservation Easement	Sierra Foothill Conservancy aims to protect Mariposa's water quality and quantity by placing conservation easements on critical land in the IRWM boundary. Conservation easements are a proven conservation tool that protects natural resources, such as water, air, and habitats, as well as supporting the local economy. SFC would conserve between 800-1,000 acres of critical watershed lands with the grant from Department of Water Resources. Sierra Foothill Conservancy, a regional land trust, holds over 25,000 acres in fee title and conservation easement land. We hold thirteen easements in Mariposa County, most on working ranches. Easements restrict the development of a property, while allowing the landowner to continue to manage the land. SFC prioritizes properties that are contiguous or nearby other conserved land, creating large landscape conservation corridors rather than fragmented habitat. Listed species, rare habitat, and high biodiversity are all factors we consider in our project selection. As this easement will be funded by DWR, riparian corridors, streams, springs, and/or other water resources will be conserved. SFC partners with willing landowners, and evaluates each property for its conservation values. We then work with the landowner to follow best management practices to improve habitat, water, and rangeland quality. We have several properties that are possibilities at this time, and will have to determine which project best fits with the IRWM goals and objectives. Ideally, we would select a property closer to the application deadline, as these deals are very time sensitive.

Project No.	Agency	Title	Project Description (Complete)
30	Sierra Foothill Conservancy	Conservation Planning, Phase 2	Many of the IRWM objectives include "identifying" impacted watersheds, polluted areas, critical resources, status of infrastructure, disadvantaged communities, and other important conditions of the Yosemite-Mariposa IRWM region. This project will help identify these conditions, region-wide, and create a database of geographically referenced data for all members of the RWAC to utilize. Sierra Foothill Conservancy completed initial conservation planning in our region in March 2014. We would like expand our work to specifically address the needs of the RWAC. This will help the advisory council prioritize projects and discover areas that are in need of attention. It would be a collaborative effort to pull data from many different areas, and possibly collect data that does not yet exist. This data would be easily accessible online, or through a central "library" that each member could access. Once the data is collected, we will be able to use arcGIS and similar software to query the data using perimeters that will answer region-wide questions and highlight priorities in the region.
31	Sierra Foothill Conservancy	Stockton Creek Preserve Expansion	The Stockton Creek Preserve Expansion Project, a partnership between Mariposa Public Utility District and Sierra Foothill Conservancy, will protect the water supply for Mariposa, CA. The Stockton Creek Preserve, a 410 acre preserve, provides domestic water supply protection, viewshed conservation, wildlife habitat, and fire hazard reduction. Several miles of trails offer recreational and educational opportunities to Mariposa High School, tourists, and the community at large. The Expansion Project would add 300-500 acres of critical watershed to this Preserve. Sierra Foothill Conservancy will use our expertise in land acquisition to acquire the property from the identified willing seller, and then transfer the property to MPUD for management. Keeping the land near the reservoir as open space will protect the high water quality found in the watershed. Development will negatively impact the water quality in the region by reducing permeability, increasing run off, and increasing point and non-point source pollution. Following the protection and management of the preserve expansion, water quantity will also increase in the region. MPUD has been actively managing the current preserve since its acquisition, and will continue to do so. Good management practices will reduce the risk of fire and increase water availability. The Stockton Creek Preserve is a diverse ecosystem made of oaks, chaparral species, and pines. The conservation of this land will provide habitat for many important species of flora and fauna. As the climate shifts, large conserved lands will be critical to allow for movement of species and continued genetic biodiversity. The Stockton Creek Trail is currently the only publically accessible trail near Mariposa. By expanding the trail, we will provide more recreation opportunities to the community.
32	PONDEROSA BASIN MUTUAL WATER COMPANY (PBMWC)	Rural Water Company Infrastructure Rehabilitation	PBMWC is a small private mutual water company that serves approximately 320 households in the southwestern portion of Mariposa county. Established fifty years ago, PBMWC is an aging water system. Its water source is wells, drilled to different levels. Water is stored in a series of tanks and is transmitted to users through water pipes primarily made of steel and PVC. These pipes are old, subject to corrosion, and not consistent with current code requirements. Increasingly over the past decade PBMWC's pipes have broken and required emergency repair. Breakages in pipes have become more frequent, and there have been recurrent breaks at different points along particular lines of pipe. It is neither feasible nor safe to rely on a water distribution system that has become more fragile and resistant to repair. This project will replace significant components of PBMWC's water distribution system, thereby ensuring that PBMWC's users will have access to continuous and safe drinking water now and in the future. Additionally, replacement of inferior and unreliable water pipes will reduce the likelihood of contamination of ground water.

Project No.	Agency	Title	Project Description (Complete)
33	Mariposa Resourse Conservation District (MCRCD)	Invasive Plant Species education and eradacation	Managing invasive plant species will enhance existing natural resources and watershed health. Mariposa County has been identified by the state as having over 25 invasive plant species. Of the 25 species indicated, the following seven are considered an immediate threat to watersheds and riparian areas in Mariposa County: Arundo donax (giant reed) Centaurea solstitialis (yellow starthistle) Centaurea stoebe ssp. micranthos (=Centaurea maculosa) (spotted knapweed) Cytisus scoparius (Scotch broom) Elymus caput-medusae (=Taeniatherum caput-medusae) (medusahead) Genista monspessulana (French broom) Rubus armeniacus (=Rubus discolor) (Himalayan blackberry) Working with Mariposa County agency partners, this 4-year project will update existing information to identify, map and monitor areas of emerging infestations of noxious weeds, and use approved removal and eradication practices in high infestation areas on both private and public lands and waterways. The project will also provide updated education materials to all residents of Mariposa County using mass mailers, workshops and school presentations.
34	Mariposa Resource Conservation Distict	Drought Preparedness for Landowners and Residents	During this time of extreme drought in Mariposa, there is an immediate need to conserve precious water resources. Most of Mariposa County relies on private water wells for residential, light industry, recreation and agricultural uses/needs. This project will address, through educational and awareness programs, the need to conserve and reduce water needs on private, commercial and public lands in Mariposa. The project team will work with county government to help develop and adopt new county codes related to gray water and rain catchment systems and their use in residential and commercial applications. Demonstration systems will be installed for public viewing and systems will be provided at no cost to residents of DAC's and tribal allotments. Landowners and residents will be offered systems with a 50%-50% cost share. Residents and landowners will be offered custom water-use audits that include water leak detection services at little or no cost, efficient irrigation system design and maintenance, drought tolerant landscapes, managing vegetation and forestland for enhanced water quality and quantity.
35	Mariposa County Resource Conservation District	Water & Energy Efficiency Incentives Assistance Program	This program is intended to assist low-income single and multiple family residences to access incentives (rebates) that implement water conservation and energy efficiency measures. Incentives usually require up front purchase of energy and water efficiency devices; some of which are beyond the means of low income residents. Without the ability to purchase devices, low income residents cannot realize the financial benefits of energy and water efficiency. IRWM grant funding can be combined with local funding AND existing rebates or incentive programs from PG&E, California Energy Commission, and California Solar Initiative to make energy and water efficiency devices affordable. The program is intended to make the following devices available over a period of up to 2 years: 1. 20 Solar Hot Water Heaters 2. 30 Solar Well pumps 3. 30 High Efficiency Clothes Washers 4. 50 High efficiency Toilets 5. 300 each of Water conserving showerheads, aerators and faucets 6. 25 Gray water reuse tanks An additional element which is not an efficiency device but which may be vital to some low income residents is a water storage tank (about 2,500 gallons) that could be filled by tanker truck to meet domestic needs, if a groundwater well were to go dry. 15 tanks are included in the budget. Some limited installation assistance is included in most of these devices. This project also includes start-up and administration of the program so that local residents can navigate the various programs and achieve the energy and water efficiency benefits of lower monthly utility costs.

Project No.	Agency	Title	Project Description (Complete)
36	Yosemite Area Audubon Society	Mariposa Creek Parkway Extensions	The project is to restore the riparian corridor and improve hydraulic capacity of Mariposa Creek. This riparian corridor is a rich wildlife habitat that runs through the town of Mariposa. Areas have become overrun with invasive plant species and other organic and inorganic debris. The scope includes clearing of non-native invasive species, overgrowth and trash then restoring the integrity of the waterway and native plant life. Additionally, public access recreational trail will be constructed through the town to the Fairgrounds. Extension 1 of the project consists of acquisition of portions of three privately owned parcels along a 1/2 mile stretch of Mariposa Creek to accomodate access to ~2.6 acre County land intended for park. It includes clearing existing non-native plants and construction of a recreational use walking and biking trail. Extension 2 of the project clears brush and provides trail through riparian habitat along Mariposa Creek for less than 1 mile parallel to Miller Rd. More than two-thirds of the property is owned by MPUD or Mariposa County. Private property can be circumvented with connection to Miller Rd if necessary. Extension 3 of the project connects the trail at Miller Rd and Old Highway to the Fairgrounds. A safe and viable route is yet to be determined for this expanse of less than 1/4 mile. Clearing of invasive brush has multiple benefits including removal of non-native plants and improved function of the channel. Improvement of the hydraulic capacity of the channel will help mitigate local flooding along the restoration area while retaining wildlife habitat. The recreational use trail will improve public access to the restored creek stretch and may allow use for local public education of native and tribal plants and the importance of restoration of local waterways. The project will include the following phases: Phase 1: Direct Project Administration including funding management Phase 2: Planning/Environmental Documentation Phase 2 will include all planning, trail access and design as well as coordination with other Partners and permitting of the project. Planning will include Environmental Documentation for both the restoration and proposed access ways- California Environmental Quality Act (CEQA) Mitigated Negative Declaration while permitting may include California Fish and Wildlife Permits, Regional Water Quality Control Board and US Army Corps of Engineers as well as any local permitting requirements. Phase 3a – Implementation: Phase 3 will include 3 years of maintenance and upkeep (e.g. removal of non-natives and supplemental plantings) to be conducted by local volunteers. Phase 3b - Construction Administration- this task includes assistance with the administrative needs required for implementation of trails. Phase 3c - Construction/Implementation Contingency- this is a line item to account for uncertainties in implementation at this early stage of planning.
37	Yosemite Alpine Community Services District	Water Meter Replacement	REPLACE all current water meters within YACSD and to have 9 more meters on hand for when the 9 lots are built out with Remote Read Meters. REPLACE the 2 meters currently on the 2 district wells with Remote Read Meters to better comply with CDPH requirements for reporting monthly water usage. Current wells are in a meadow that is covered in snow in the winter. Have an extra meter for a well site for future well to be drilled. RECEIVE 3 Remote Readers for the Remote Read Meters to allow for information downloading. RECEIVE and INSTALL software to allow to utilize the data from the Remote Read Meters. INSTALL the Remote Read Water Meters to manufacturer's specifications.

Project No.	Agency	Title	Project Description (Complete)
38	Yosemite Alpine Community Services District	DRILL WELL on Yosemite Mtn. Ranch TPZ and pipe water to NEW TANKS.	PHASE 1 ENGINEER requirements for tank installation, drilling requirements and piping. INSTALL new rolled steel 2 - 45,000 gallon water tank(s) on gravel footing on YACSD property, as per AWWA and CDPH requirements and connect with YACSD system. LOCATE and drill well on Yosemite Mtn. Ranch property with the cooperation of the CA Dept of Conservation and property owner via an easement, so as to NOT violate Timber Harvest Preserve classification. EXTEND PG&E power lines (<1000') to supply new well and controls. RECEIVE easement from Sierra National Forest for water lines (<1500' of 4-6" pipe) under Summit Rd. and completer paperwork to do so. RECEIVE building permits from Mariposa County Building Dept. COMPLETE CEQA paperwork to comply with project. INSTALL controls, back flow preventers, disinfection ports and meter at new well as per AWWA and CDPH requirements. REPAVE portions of Summit Rd., Egan Way and Forest Drive. PHASE 2. ENGINEER requirements for tank installation, water piping, new fire hydrants, valves, meters, Ts, back flow preventers and controls. RECEIVE easement from Yosemite Mtn. Ranch owners and the CA Dept of Conservation for the installation of 1 or 2 large water tanks (+100,000 gallon capacity) so as to NOT violate the Timber Harvest Preserve classification. EXTEND PG&E power lines (<1000') to supply controls for tank(s). RECEIVE building permits from Mariposa County Building Dept. INSTALL 4" feed line up to tank(s) from well in Phase 1 at base of unnamed driveway, Ts and Valves at base of driveway installed in Phase 1. INSTALL 4" feed line from tank(s) down driveway to several fire hydrants on Summit Road and to allow for future water customers. REPAVE unnamed driveway, Summit Road, Egan Causeway and Forest Drive.
39	USFS, Sierra National Forest, Bass Lake Ranger District	Sierra National Forest Bass Lake Ranger District Fuels Reduction Project - Rush Timber Sale, near Wawona	Past management practices on SNF lands have left foothill and mountain watersheds in a hazardous condition. Intensive logging activities along with fire suppression since the early 1900's have resulted in heavily stocked forest stands with heavy ground and ladder fuel loadings (USDA-FS 2005a and 2005b). In addition, planted even-aged conifer plantations replaced harvested trees. Many of these plantations are overgrown to the point where they have become wildfire hazards and do not provide good habitat for important species such as the Pacific Fisher and Spotted Owls. This project will use prescribed burning, and/or mechanical and hand thinning followed by slash disposal by piling and burning to reduce understory tree density, fuel ladders and fuel loading to restore these areas to a more resilient state. Thinning will help these stands to better withstand drought and insect attack by increasing available water and nutrients. By removing excessive fuels, fire will be able to move through these stands with less intensity resulting in reduced tree mortality and ground charring. These lower intensity fires reduce natural fuels, restore nutrients to the soils, and produce small natural openings that allow for vegetative undergrowth and microclimates resulting in increased forest health, diversity and habitat (Apigian et al. 2006, Chen et al. 1999, Hessburg et al. 2007, Miller and Urban 1999, Moghaddas and Stephens 2007, and North et al. 2009). This project will reduce the potential for a large high-intensity wildfires such as the Rim Fire that can have a devastating impact on water resources and wildlife habitat (both aquatic and terrestrial). High intensity fires burn with such intensity that they can leave a watershed devoid of vegetation and ground cover resulting in degraded recreation opportunities, wildlife habitat, and increased surface runoff and erosion, increased sedimentation into aquatic habitat and reservoirs, and reduced hydrologic and biologic functions of soils.

Project No.	Agency	Title	Project Description (Complete)
40	USFS, Sierra National Forest, Bass Lake Ranger District	Sierra National Forest Bass Lake Ranger District Fuels Reduction Project -Hites-Feleciana Fuels Project , N of Mariposa Pines	Past management practices on SNF lands have left foothill and mountain watersheds in a hazardous condition. Intensive logging activities along with fire suppression since the early 1900's have resulted in heavily stocked forest stands with heavy ground and ladder fuel loadings (USDA-FS 2005a and 2005b). In addition, planted even-aged conifer plantations replaced harvested trees. Many of these plantations are overgrown to the point where they have become wildfire hazards and do not provide good habitat for important species such as the Pacific Fisher and Spotted Owls. This project will use prescribed burning, and/or mechanical and hand thinning followed by slash disposal by piling and burning to reduce understory tree density, fuel ladders and fuel loading to restore these areas to a more resilient state. Thinning will help these stands to better withstand drought and insect attack by increasing available water and nutrients. By removing excessive fuels, fire will be able to move through these stands with less intensity resulting in reduced tree mortality and ground charring. These lower intensity fires reduce natural fuels, restore nutrients to the soils, and produce small natural openings that allow for vegetative undergrowth and microclimates resulting in increased forest health, diversity and habitat (Apigian et al. 2006, Chen et al. 1999, Hessburg et al. 2007, Miller and Urban 1999, Moghaddas and Stephens 2007, and North et al. 2009). This project will reduce the potential for a large high-intensity wildfires such as the Rim Fire that can have a devastating impact on water resources and wildlife habitat (both aquatic and terrestrial). High intensity fires burn with such intensity that they can leave a watershed devoid of vegetation and ground cover resulting in degraded recreation opportunities, wildlife habitat, and increased surface runoff and erosion, increased sedimentation into aquatic habitat and reservoirs, and reduced hydrologic and biologic functions of soils.
41	To be determined. Anticipate National Park Service, Yosemite National Park	Wawona Water Supply and Wastewater Treatment Projects	The community of Wawona includes properties and improvements owned by the Federal Government under the management of the National Park Service (NPS) and private parties. Private properties are subject to joint jurisdiction by Mariposa County (County) and the NPS. Current water service to the community is via private well systems and an NPS water system utilizing flows from the South Fork of the Merced River. The combined systems are inadequate to meet community water needs during periods of drought. Wastewater treatment for the community is through a system owned and operated by the NPS, which is near capacity and insufficient to address the wastewater needs of the community at build out pursuant to the County's Specific Plan for the area. As a result, the potential for private septic systems are anticipated to accommodate future development on private lots. Pursuant to an MOU between the NPS and the County the NPS is responsible for providing potable water to the community. The proposed project is two-fold: 1.) Explore and pursue supplemental water sources for Wawona, including but not limited to increasing water storage capacity and sourcing water from Biledo Springs, and 2.) Improve and upgrade the existing wastewater treatment plant to accommodate community needs at build out of planned development by the NPS and private properties pursuant to the NPS Merced River Plan and County's Wawona Town Planning Area Specific Plan.
42	American Indian Council of Mariposa County	Bear Creek Tribal Water Storage Project	The Bear Creek Tribal Water Storage Project will include installation of approximately 15,000 gallons of storage for an area that serves approximately 25 members of a local tribe, located on a tribal allotment near MidPines, California. The project is located along Highway 140 and Colorado Road and is currently served by three private wells constructed by the Bureau of Indian Affairs. The area currently has no water storage and is subject to supply issues if there is an issue with one of the pumps. Additionally, the closest tank that can be used for fire suppression is located in Mariposa which is approximately a 10 mile drive. Installation of this facility will provide support for fire suppression in the event a fire occurs in the area. The project will install one 5,000 gallon storage tank, to be used for water supply equalization as well as a second 10,000 gallon storage tank to be used for fire suppression purposes. As well as storage, the project will include all piping and appurtenances as well as any additional pumping requirements.

Project No.	Agency	Title	Project Description (Complete)
43	American Indian Council of Mariposa County	Mariposa Creek Native Plants Restoration and Education Project	The project consists of planting native and tribal plant varietals and installing educational signs along a 1/2 mile stretch of Mariposa Creek upstream from 8th Street upstream to 11 th St or possibly Joe Howard Street. The project will be conducted in collaboration with another restoration project that will remove overgrowth, restore the channel, construct a recreational walking path, and provide native plants. The native plants restoration and education project will include plantings in and along the channel with tribal and/or cultural value plants which include plants used by local tribes for ceremonial purposes, medicine, consumption and basket weaving. The project will also include signs along the creek channel that will provide educational information regarding the cultural importance of the tribal plants. The project will include the following phases: Phase 1: Direct Project Administration including funding management Phase 2: Planning/Environmental Documentation - Phase 2 will include all planning, coordination with other Partners, tribal consultation, and permitting of the project. Planning will include recommendations for native and tribal plantings as well as the educational goals for the signage to be installed. Environmental Documentation for both the restoration and native plantings may include California Environmental Quality Act (CEQA) Mitigated Negative Declaration while permitting may include California Fish and Wildlife Permits, Regional Water Quality Control Board and US Army Corps of Engineers as well as any local permitting requirements. Phase 3a – Implementation: Phase 3 will include an initial planting and installation of the educational signs as well as from 3 to 5 years of maintenance and upkeep (e.g. removal of non-natives and supplemental plantings) to be conducted by local volunteers. Phase 3b - Construction Administration- this task includes assistance with the administrative needs required for implementation of plantings and educational signs. Phase 3c - Construction/Implementation Contingency- this is a line item to account for uncertainties in implementation at this early stage of planning.
44	American Indian Council of Mariposa County	Invasive Plant Eradication/Native Plant Enhancement, Wawona, Yosemite NP	This Project provides Native American involvement and support (e.g. partial funding and labor), to ongoing invasive plant eradication projects carried out by National Park Service (NPS) under its Invasive Plant Management (IPM) Plan in Yosemite National Park (NP). IPM also includes replanting with native plants. NPS actively pursues involvement from local Native American communities and individuals to promote the continued growth and effective management of native plant regimes. Initial focus areas are in the Wawona Meadow/Mariposa Grove areas with other areas of mutual interest. The project has been identified by representatives of the American Indian Council of Mariposa County/Southern Sierra Miwuk Nation, and discussed on a preliminary basis with Yosemite NP Vegetation Staff. Full concept and project planning is needed to integrate with ongoing NPS projects in the area, and schedule for Y-M IRWMP funding and implementation. Project will involve partial-volunteer work-force to do field work, to supplement NPS project. Invasive plant management in Yosemite NP is directed by IPM Plans, 2008, 2010, and 2013. The purpose of the IPM is to protect Yosemite's natural and cultural resources from displacement by non-native invasive plants. The preservation of native plants also allows for the promotion of native traditional-use and sacred plants. Local Native American groups desire to promote the increased quality of native plant habitats for traditional use and the promotion of natural habitat and watershed health. Invasive plants planned for removal include Velvet Grass, Bull Thistle, Blackberries, and other species. The projects allows for a phased approach as follows: I. Project Planning between Native American Groups and Yosemite NP II. Project Implementation Test Program - Selected Eradication and Native Plant Plots in Wawona/Mariposa Grove III. Project Evaluation IV. Continued Work and Monitoring of Eradication and Planting Plots. The project is planned to be carried out under the direction of Yosemite NP vegetation staff, with partial matching funds from NPS and in consultation with Native American representatives. Local Native American groups and individuals will provide partial funding support? and/or field labor. Project planning, invasive plant removal and native planting, field work supervision, monitoring, and project evaluation will be carried out under the direction of NPS personnel with the assistance of Native American representatives.
45	Fish Camp Volunteer Fire Association	Drought/Fire Storage with additional wells with distribution pipelines and hydrants	Phase I: Install a 140,000 gal. potable water tank adjacent to the existing 2 45,000 gal. tanks (CSD). Hook up to the Fish Camp Mutual Water Co. tanks. Install a propane fueled generator for pressurizing the system. Install necessary valves, meters, and pressure reducers. Hire a consultant to engineer the interconnections to the two existing water purveyors and design of main service lines including hydrants. The immediate goal is to provide additional domestic water storage for drought periods and fire suppression. Estimated cost:$2000,000. PHASE II: Develop additional water well(s) & pipeline to storage. Estimated Cost: $71,000. PHASE III: Mainline & hydrants into community. Estimated cost $320,000.

Project No.	Agency	Title	Project Description (Complete)
46	Mariposa Pines Water Company	Sounding Tube Installation	Install sounding tubes in wells to accurately measure the depth of water in wells.
47	Mariposa Pines Water Company	Tank 1 Replacement	Replace the original 65,000 water gallon water storage tank.
48	Mariposa Pines Water Company	Hazardous Tree and Brush Removal from Right-of-ways and Improvements	The project will remove hazardous trees and brush from supply lines and service lines. By removing brush and trees water line breaks can easily located and repaired that could fall across or have roots grow into the water supply lines.
49	Mariposa Pines Water Company	Install Power and Telephone Lines (for internet) to Water Tanks	To accurately monitor water storage levels and provide communications and power for other emergency situations.
50	Mariposa County Resource Conservation District	Private Land Water Storage Improvement Assistance Project	Identify potential ponds on private lands that have been; or have the potential to be, utilized for fire suppression and water storage in the Mariposa County area. Assist landowners who desire to increase water availability in their ponds with meeting regulatory requirements, project development and implementation of projects to remove accumulated sedimentation in their ponds and restore them to their permitted size to provide increased water storage capacity. Provide technical assistance with control of erosion upstream that is contributing sediment to these ponds. Removal of excess soil from ponds to increase storage capacity. Sale of soil from these projects to help cover costs. Establishment of dry hydrants to support water collection from ponds by fire engines and water trucks to be used for fire suppression activities. This project will directly and indirectly benefit soil, water, air plant and animal resources, as well as provide for public safety through increased water availability for fire suppression efforts.
51	Mariposa Public Utility District (MPUD)	Waste Water Collection System Improvements	MPUD provides wast water collection and treatment for the community of Mariposa. The collection system was first constructed in 1958. Some short sections of the collection system have been replaced and extensions have been completed over the years as funding is available. The existing collection system currently experiences significant infiltration of storm water during heavy rain which hydraulically overloads shallow slope and small diameter mains as well as the WWTF. The dry weather flow of the WWTF is about 0.2 million gallons per day (MGD). The wet weather flow during heavy rain increases flow to the WWTF up to 1.0 MGD. Even without storm water influence there are portions of collection mains with inadequate capacity to sustain the orderly development of the northern portion of the Mariposa Town Planning Area (MTPA). The southern portion of the MTPA does not currently have access to public sewer. Sewer disposal is Dependant upon on site septic tanks and leach fields. The orderly development consistent with the MTPA Specific Plan In this area requires the extension of Public sewer. There are indications of on site sewer disposal affecting water quality in the nearby Mariposa Creek and some drinking water wells in the area. The district proposes to replace approximately 8,000 lineal feet of 6" and 8" sewer main to reduce storm water infiltration and improve sewer service in the North portion of the MTPA. Construct a new 400 gpm sewer lift station in the south portion of the MTPA and construct approximately 9500 feet of force sewer main from the south lift station to the existing WWTF. Construction of additional 3500 feet of gravity sewer collection mains and 10 manholes to provide the more significant existing development access to public sewer in the south MTPA.

Appendix 7-B-2: Total Project Score Sorted by Project Type

Project #	Project Title	Agency	Project Type	Average (out of 22 pts)	Total Project Cost
39	Sierra National Forest Bass Lake Ranger District Fuels Reduction Project - Rush Timber Sale, near Wawona	USFS, Sierra National Forest, Bass Lake Ranger District	FIRE RISK REDUCTION	18	$ 1,733,000
40	Sierra National Forest Bass Lake Ranger District Fuels Reduction Project -Hites-Feleciana Fuels Project , N of Mariposa Pines	USFS, Sierra National Forest, Bass Lake Ranger District	FIRE RISK REDUCTION	16	$ 2,533,000
14	STOCKTON CREEK WATERSHED FUEL MODIFICATION PROJECT	MARIPOSA PUBLIC UTILITY DISTRICT	FIRE RISK REDUCTION	16	$ 240,000
50	Private Land Water Storage Improvement Assistance Project	Mariposa County Resource Conservation District	FIRE RISK REDUCTION	15	$ 225,000
25	Merced River Watershed Wildfire Fuel Reduction Project	Upper Merced River Watershed Council	FIRE RISK REDUCTION	13	$ 750,000
34	Drought Preparedness for Landowners and Residents	Mariposa Resource Conservation Distict	OTHER	15	$ 86,250
35	Water & Energy Efficiency Incentives Assistance Program	Mariposa County Resource Conservation District	OTHER	15	$ 645,000
12	Mariposa Biomass / Biochar Facility	Economic Development Corporation	OTHER	12	$ 5,000,000
17	Lake McClure Area Recreation Enhancements	Merced Irrigation District	RECREATION	11	$ 332,300
18	Rangeland Watershed Intiative Partner Biologist	Point Blue Conservation Science	RESTORATION	19	$ 180,000
31	Stockton Creek Preserve Expansion	Sierra Foothill Conservancy	RESTORATION	18	$ 1,500,000
28	Bean Creek Meadow Restoration	Sierra Foothill Conservancy	RESTORATION	16	$ 372,000
44	Invasive Plant Eradication/Native Plant Enhancement, Wawona, Yosemite NP	American Indian Council of Mariposa County	RESTORATION	15	$ 81,200
33	Invasive Plant Species education and eradacation	Mariposa Resourse Conservation District (MCRCD)	RESTORATION	15	$ 600,000
29	Conservation Easement	Sierra Foothill Conservancy	RESTORATION	15	$ 2,000,000
30	Conservation Planning, Phase 2	Sierra Foothill Conservancy	RESTORATION	14	$ 50,000
36	Mariposa Creek Parkway Extensions	Yosemite Area Audubon Society	RESTORATION	14	$ 932,000
43	Mariposa Creek Native Plants Restoration and Education Project	American Indian Council of Mariposa County	RESTORATION	13	$ 87,240
15	MARIPOSA PUD WASTE WATERTREATMENT FCILITY IMPROVEMENTS	MARIPOSA PUBLIC UTILITY DISTRICT	WASTEWATER INFRASTRUCTURE	13	$ 7,300,000
51	Waste Water Collection System Improvements	Mariposa Public Utility District (MPUD)	WASTEWATER INFRASTRUCTURE	13	$ 3,924,000
8	Repairs and upgrades to Lake Don Pedro Wastewater Treatment System	County of Mariposa	WASTEWATER INFRASTRUCTURE	11	$ 2,200,000
6	Expansion and Repair of Leachfields in the Yosemite West Subdivision	County of Mariposa	WASTEWATER INFRASTRUCTURE	11	$ 1,220,000
27	Rehabilitate The Wawona Wastewater Treatment Plant	National Park Service/Yosemite National Park	WASTEWATER INFRASTRUCTURE	11	$ 24,000,000
7	Construct a septage collection and metering tank at the Lake Don Pedro Sewage Treatment Plant	County of Mariposa	WASTEWATER INFRASTRUCTURE	11	$ 400,000
11	Replace Sewage Collection Piping in Coulterville	County of Mariposa	WASTEWATER INFRASTRUCTURE	11	$ 2,200,000
4	Replace Sewage Collection Piping in Yosemite West Subdivision	County of Mariposa	WASTEWATER INFRASTRUCTURE	10	$ 2,500,000
9	Install back-up power at Mariposa Pines Sewage Treatment Plant	County of Mariposa	WASTEWATER INFRASTRUCTURE	10	$ 225,000
41	Wawona Water Supply and Wastewater Treatment Projects	To be determined. Anticipate National Park Service, Yosemite National Park	WASTEWATER INFRASTRUCTURE	8	$ -
45	Drought/Fire Storage with additional wells with distribution pipelines and hydrants	Fish Camp Volunteer Fire Association	WATER INFRASTRUCTURE	14	$ 591,000
1	Replace Water Distribution Piping in Yosemite West Subdivision	County of Mariposa	WATER INFRASTRUCTURE	12	$ 2,900,000

Appendix 7-B-2: Total Project Score Sorted by Project Type

Project #	Project Title	Agency	Project Type	Average (out of 22 pts)	Total Project Cost
22	Treatment Plant Pump Replacement Project	Lake Don Pedro Community Services District	WATER INFRASTRUCTURE	12	$ 100,000
38	DRILL WELL on Yosemite Mtn. Ranch TPZ and pipe water to NEW TANKS.	Yosemite Alpine Community Services District	WATER INFRASTRUCTURE	12	$ 500,000
10	Replace Water Distribution Piping in Coulterville	County of Mariposa	WATER INFRASTRUCTURE	11	$ 1,480,000
21	Water Service Replacement Project	Lake Don Pedro Community Services District	WATER INFRASTRUCTURE	11	$ 3,750,000
19	Dead End Main Replacement Project	Lake Don Pedro Community Services District	WATER INFRASTRUCTURE	11	$ 6,500,000
26	Supplement Wawona Water System with Biledo Spring	National Park Service/Yosemite National Park	WATER INFRASTRUCTURE	11	$ 17,000,000
16	Saxon Creek Pump Station Access and Ventilation System Improvements	MARIPOSA PUBLIC UTILITY DISTRICT	WATER INFRASTRUCTURE	10	$ 150,000
23	New potable water well	Lake Don Pedro Community Services District	WATER INFRASTRUCTURE	10	$ 125,000
32	Rural Water Company Infrastructure Rehabilitation	PONDEROSA BASIN MUTUAL WATER COMPANY (PBMWC)	WATER INFRASTRUCTURE	10	$ 600,000
37	Water Meter Replacement	Yosemite Alpine Community Services District	WATER INFRASTRUCTURE	10	$ 50,000
20	Lake McClure Intake Improvement Project Phase III	Lake Don Pedro Community Services District	WATER INFRASTRUCTURE	10	$ 700,000
5	Develop Second Water Source for Yosemite West Subdivision	County of Mariposa	WATER INFRASTRUCTURE	10	$ 1,600,000
13	Lake McClure Deep Water Intake Feasibility Study	Lake Don Pedro Community Services District	WATER INFRASTRUCTURE	10	$ 30,000
42	Bear Creek Tribal Water Storage Project	American Indian Council of Mariposa County	WATER INFRASTRUCTURE	10	$ 90,500
2	Develop Second Water Source for the Coulterville community	County of Mariposa	WATER INFRASTRUCTURE	9	$ 700,000
3	Water Treatment for Arsenic Exceedance	County of Mariposa	WATER INFRASTRUCTURE	9	$ 500,000
47	Tank 1 Replacement	Mariposa Pines Water Company	WATER INFRASTRUCTURE	9	$ 40,000
46	Sounding Tube Installation	Mariposa Pines Water Company	WATER INFRASTRUCTURE	8	$ 2,500
48	Hazardous Tree and Brush Removal from Right-of-ways and Improvements	Mariposa Pines Water Company	WATER INFRASTRUCTURE	7	$ 160,000
49	Install Power and Telephone Lines (for internet) to Water Tanks	Mariposa Pines Water Company	WATER INFRASTRUCTURE	5	$ 50,000
24	Water Quality Monitoring Bioassessment in Upper Merced River Watershed	Upper Merced River Watershed Council (UMRWC)	WATER QUALITY	14	$ 25,000
			Average[1]	12	$ 98,959,990

Appendix 9-A

Sample Objectives Tracking Table

Appendix 9-A: Sample Objectives Tracking Table

Date Updated:	Updated by:									
Plan Goal	**Objective**	**Quanti-tative**	**Quali-tative**	**Related Projects (Project No.)**	**20AA Progress**	**20XX Progress**	**20yy Progress**	**Completed Projects**	**Target Met?**	**Contributing Organization (s)**
Provide/Improve Reliable Water Supply within the Region	**1.A** Provide reliable water supplies to meet all domestic water needs in the Region by 2035.		X	1, 2, 5, 10, 12, 13, 14, 16, 19, 20, 21, 22, 23, 26, 28, 29, 31, 32, 33, 34, 35, 38, 41, 42, 45, 46, 47, 48, 49						Mariposa Pines Water Company, Fish Camp Volunteer Fire Association, American Indian Council of Mariposa County, To be determined. Anticipate National Park Service, Yosemite National Park, Yosemite Alpine Community Services District, Mariposa County Resource Conservation District, Mariposa County Resource Conservation District, Ponderosa Basin Mutual Water Company, Sierra Foothill Conservancy, National Park Service/Yosemite National Park, Mariposa Public Utility District, Lake Don Pedro Community Services District, Economic Development Corporation, County of Mariposa
	1.B Improve understanding of groundwater usage, quality, and reliability throughout key groundwater use areas in the Region by 2020.		X	2, 3, 5, 23, 28, 30, 32, 34, 37, 38, 41, 45, 46, 47, 48						Mariposa Pines Water Company, Fish Camp Volunteer Fire Association, To be determined. Anticipate National Park Service, Yosemite National Park, Yosemite Alpine Community Services District, Mariposa County Resource Conservation District, Ponderosa Basin Mutual Water Company, Sierra Foothill Conservancy, Lake Don Pedro Community Services District, County of Mariposa
	1.C Promote Water Use Efficiency (WUE) practices throughout the Region and educate 80% of households and businesses by 2020	X		1, 14, 27, 34, 35, 37, 38, 41, 45, 46, 47, 48						Mariposa Pines Water Company, Fish Camp Volunteer Fire Association, To be determined. Anticipate National Park Service, Yosemite National Park, Yosemite Alpine Community Services District, Mariposa County Resource Conservation District, Mariposa County Resource Conservation District, National Park Service/Yosemite National Park, Mariposa Public Utility District, County of Mariposa
	1.D Identify by 2019 and manage and conserve forest, wetlands, and range lands for enhancement of water supply by 2035	X		12, 14, 15, 17, 18, 25, 28, 29, 30, 31, 33, 34, 38, 39, 40, 41, 44, 45, 47, 50						Mariposa Pines Water Company, Fish Camp Volunteer Fire Association, American Indian Council of Mariposa County, To be determined. Anticipate National Park Service, Yosemite National Park, USFS, Sierra National Forest, Bass Lake Ranger District, Yosemite Alpine Community Services District, Mariposa County Resource Conservation District, Mariposa County Resource Conservation District, Sierra Foothill Conservancy, Upper Merced River Watershed Council, Point Blue Conservation Science, Merced Irrigation District, Mariposa Public Utility District, Economic Development Corporation
Ensure Reliable Community Water and Wastewater Infrastructure	**2.E** Assess and identify the current condition of private and community water systems and their plans, if any, for future improvements by 2018	X		1, 2, 3, 5, 10, 13, 14, 16, 24, 26, 30, 32, 37, 38, 45, 48						Mariposa Pines Water Company, Fish Camp Volunteer Fire Association, Yosemite Alpine Community Services District, Ponderosa Basin Mutual Water Company, Sierra Foothill Conservancy, National Park Service/Yosemite National Park, Upper Merced River Watershed Council, Mariposa Public Utility District, Lake Don Pedro Community Services District, County of Mariposa
	2.F Assess and identify the current condition of community wastewater systems and their plans, if any, for future improvements by 2020	X		4, 6, 7, 8, 9, 11, 15, 24, 27, 30, 41, 51						To be determined. Anticipate National Park Service, Yosemite National Park, Sierra Foothill Conservancy, National Park Service/Yosemite National Park, Upper Merced River Watershed Council, Mariposa Public Utility District, County of Mariposa
	2.G Rehabilitate or replace aging and inadequate water and waste water distribution/collection, treatment, and disposal infrastructure by 2035	X		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 15, 19, 20, 21, 22, 23, 26, 27, 32, 37, 38, 41, 42, 45, 47, 48, 51						Mariposa Pines Water Company, Fish Camp Volunteer Fire Association, American Indian Council of Mariposa County, To be determined. Anticipate National Park Service, Yosemite National Park, Yosemite Alpine Community Services District, Ponderosa Basin Mutual Water Company, National Park Service/Yosemite National Park, Mariposa Public Utility District, Lake Don Pedro Community Services District, County of Mariposa
Maintain or Improve Water Quality in the Region	**3.H** Identify and prioritize impacted watersheds by 2020	X		12, 14, 15, 24, 25, 28, 29, 30, 31, 33, 38, 46						Mariposa Pines Water Company, Yosemite Alpine Community Services District, Mariposa County Resource Conservation District, Sierra Foothill Conservancy, Upper Merced River Watershed Council, Mariposa Public Utility District, Economic Development Corporation
	3.I Conserve and restore 10,000 acres of watersheds through improved forest and rangeland management practices and appropriate land use by 2020. Conserve and restore 20,000 acres by 2035	X		12, 14, 18, 25, 28, 29, 31, 33, 36, 38, 39, 40, 43, 44, 48, 50						Mariposa Pines Water Company, American Indian Council of Mariposa County, USFS, Sierra National Forest, Bass Lake Ranger District, Yosemite Alpine Community Services District, Yosemite Area Audubon Society, Mariposa County Resource Conservation District, Sierra Foothill Conservancy, Upper Merced River Watershed Council, Point Blue Conservation Science, Mariposa Public Utility District, Economic Development Corporation
	3.J Implement water quality improvement activities where pollutants are identified by 2035	X		1, 4, 6, 7, 8, 9, 11, 14, 15, 24, 26, 27, 28, 31, 41, 51						To be determined. Anticipate National Park Service, Yosemite National Park, Sierra Foothill Conservancy, National Park Service/Yosemite National Park, Upper Merced River Watershed Council, Mariposa Public Utility District, County of Mariposa
	3.K Promote sustainable ecosystem and vegetation management on agricultural and production land, primarily near riparian corridors in the first five years of the IRWM Program		X	7, 12, 14, 15, 18, 24, 25, 28, 29, 31, 33, 34, 36, 39, 40, 43, 44, 47, 50						Mariposa Pines Water Company, American Indian Council of Mariposa County, USFS, Sierra National Forest, Bass Lake Ranger District, Yosemite Area Audubon Society, Mariposa County Resource Conservation District, Mariposa County Resource Conservation District, Sierra Foothill Conservancy, Upper Merced River Watershed Council, Point Blue Conservation Science, Mariposa Public Utility District, Economic Development Corporation, County of Mariposa

Appendix 9-A: Sample Objectives Tracking Table

Plan Goal	Objective	Quanti-tative	Quali-tative	Related Projects (Project No.)	20AA Progress	20XX Progress	20yy Progress	Completed Projects	Target Met?	Contributing Organization (s)
Protect and Improve Wildlife Habitat	**4.L** Improve watershed health by preventing the establishment of or, reducing/eliminating aquatic and terrestrial invasive species in at least 2 locations per year starting in 2017		X	12, 14, 18, 25, 28, 29, 30, 31, 33, 36, 43, 44, 45, 50						Fish Camp Volunteer Fire Association, American Indian Council of Mariposa County, Yosemite Area Audubon Society, Mariposa County Resource Conservation District, Sierra Foothill Conservancy, Upper Merced River Watershed Council, Point Blue Conservation Science, Mariposa Public Utility District, Economic Development Corporation
	4.M Protect special status and sensitive species and preserve and restore 10,000 acres by 2025 and 20,000 acres by 2035	X		12, 18, 26, 28, 29, 30, 31, 33, 36, 39, 40, 43, 44, 50						American Indian Council of Mariposa County, USFS, Sierra National Forest, Bass Lake Ranger District, Yosemite Area Audubon Society, Mariposa County Resource Conservation District, Sierra Foothill Conservancy, National Park Service/Yosemite National Park, Point Blue Conservation Science, Economic Development Corporation
	4.N Conserve and ensure the presence of unfragmented wildlife corridor habitats		X	12, 14, 18, 24, 25, 28, 29, 30, 31, 33, 36, 39, 40, 44, 50						American Indian Council of Mariposa County, USFS, Sierra National Forest, Bass Lake Ranger District, Yosemite Area Audubon Society, Mariposa County Resource Conservation District, Sierra Foothill Conservancy, Upper Merced River Watershed Council, Point Blue Conservation Science, Mariposa Public Utility District, Economic Development Corporation
Assess and Enhance Recreational Opportunities in the Region	**5.O** Evaluate existing and potential recreational opportunities by 2019	X		12, 14, 15, 17, 24, 25, 30, 31, 33, 34						Mariposa County Resource Conservation District, Mariposa County Resource Conservation District, Sierra Foothill Conservancy, Upper Merced River Watershed Council, Merced Irrigation District, Mariposa Public Utility District, Economic Development Corporation
	5.P Enhance public access for recreation to waterways by 2035	X		12, 15, 17, 27, 28, 33, 36						Yosemite Area Audubon Society, Mariposa County Resource Conservation District, Sierra Foothill Conservancy, National Park Service/Yosemite National Park, Merced Irrigation District, Mariposa Public Utility District, Economic Development Corporation
Develop Collaborative and Sustainable Partnerships Both Within and in Adjacent Regions	**6.Q** Identify, review and evaluate the effectiveness of ordinances and county planning related to water management in the Region by 2020		X	15, 17, 24, 26, 32, 33, 34, 45						Fish Camp Volunteer Fire Association, Mariposa County Resource Conservation District, Mariposa County Resource Conservation District, Ponderosa Basin Mutual Water Company, National Park Service/Yosemite National Park, Upper Merced River Watershed Council, Merced Irrigation District, Mariposa Public Utility District
	6.R Develop opportunities/data management system so that current scientific data can be made available to make informed, collaborative choices regarding water resources and land use planning throughout the Planning Period		X	12, 14, 15, 18, 24, 30, 33, 34, 37, 44, 48						Mariposa Pines Water Company, American Indian Council of Mariposa County, Yosemite Alpine Community Services District, Mariposa County Resource Conservation District, Mariposa County Resource Conservation District, Sierra Foothill Conservancy, Upper Merced River Watershed Council, Point Blue Conservation Science, Mariposa Public Utility District, Economic Development Corporation
Reduce Risk of Catastrophic Fire	**7.S** Facilitate and coordinate fuel management policies and strategies in at least two locations per year of high hazard lands in the Region		X	12, 14, 25, 31, 32, 39, 40, 45						Fish Camp Volunteer Fire Association, USFS, Sierra National Forest, Bass Lake Ranger District, Ponderosa Basin Mutual Water Company, Sierra Foothill Conservancy, Upper Merced River Watershed Council, Mariposa Public Utility District, Economic Development Corporation
Educate Stakeholders and County Residents about Water Issues through the IRWM Process to Inspire Public Action	**8.T** Use education and outreach annually that maintains or increases watershed stewardship resulting in water quality and ecological improvements		X	12, 14, 18, 24, 28, 30, 32, 33, 34, 36, 37, 41, 43, 44, 45						Fish Camp Volunteer Fire Association, American Indian Council of Mariposa County, To be determined. Anticipate National Park Service, Yosemite National Park, Yosemite Alpine Community Services District, Yosemite Area Audubon Society, Mariposa County Resource Conservation District, Mariposa County Resource Conservation District, Ponderosa Basin Mutual Water Company, Sierra Foothill Conservancy, Upper Merced River Watershed Council, Point Blue Conservation Science, Mariposa Public Utility District, Economic Development Corporation
Prepare for Impacts of Climate Change	**9.U** Educate the public regarding the findings of the Climate Change Vulnerability Checklist for the Region by 2015 and periodically update the checklist with updated information	X		12, 18, 24, 30, 34, 38						Yosemite Alpine Community Services District, Mariposa County Resource Conservation District, Sierra Foothill Conservancy, Upper Merced River Watershed Council, Point Blue Conservation Science, Economic Development Corporation
	9.V Mitigate impacts of climate change by implementing cost-effective renewable energy production in at least one location by 2035 and promoting energy/water use efficiency in the Region	X		1, 4, 5, 10, 11, 12, 27, 34, 35						Mariposa County Resource Conservation District, Mariposa County Resource Conservation District, National Park Service/Yosemite National Park, Economic Development Corporation, County of Mariposa
	9.W Mitigate flood risk associated with climate change by cooperating with Local Hazard Mitigation Planning flood risk updates and educating the public regarding flood prevention and mitigation measures		X	16, 28, 36						Yosemite Area Audubon Society, Sierra Foothill Conservancy, Mariposa Public Utility District

Appendix 9-B

State Databases and Stakeholder Website Links

Appendix 9-B-1: State Databases Links

1. SWRCB (State Water Resources Control Board) – Main water quality data weblink
   http://www.waterboards.ca.gov/resources/data_databases/

   a. Surface Water

      SWAMP (Surface Water Ambient Monitoring Program) is tasked with assessing water quality in all of California's surface waters. The program conducts monitoring directly and through collaborative partnerships; and provides numerous information products, all designed to support water resource management in California.

      http://www.waterboards.ca.gov/water_issues/programs/swamp/

   b. Groundwater

      GAMA - Groundwater Ambient Monitoring & Assessment Program
      http://www.waterboards.ca.gov/water_issues/programs/gama/

      The GAMA Program is California's comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. GAMA compiles these test results with existing groundwater quality data from several agencies into a publicly-accessible internet database which is embedded in GeoTracker

      GeoTracker
      http://www.waterboards.ca.gov/water_issues/programs/gama/geotracker_gama.shtml

      GeoTracker-GAMA which is a data management system for managing sites that impact groundwater, especially those that require groundwater cleanup as well as permitted facilities such as operating USTs and land disposal sites. Fact Sheet - pub. April 2010

   c. Environmental

      CEDEN California Environmental Data Exchange Network http://www.ceden.org/

      The California Environmental Data Exchange Network (CEDEN) is a central location to find and share information about California's water bodies, including streams, lakes, rivers, and the coastal ocean. Many groups (federal, state, county and private organizations) in California monitor water quality, aquatic habitat, and wildlife health to ensure good stewardship of our ecological resources. Facilitates the integration and sharing of water and environmental data with the purpose of making this data accessible to the public in a simple and standardized manner.

2. Department of Water Resources

   a. California Water Data Library http://www.water.ca.gov/waterdatalibrary/index.cfm which is a map based system with the following:

      - Groundwater levels http://www.water.ca.gov/waterdatalibrary/groundwater/index.cfm
      - Water quality - http://www.water.ca.gov/waterdatalibrary/waterquality/index.cfm
      - Continuous data by County http://www.water.ca.gov/waterdatalibrary/docs/Hydstra/index.cfm
      - Historic DWR Bulletins and Publications http://www.water.ca.gov/waterdatalibrary/docs/historic/bulletins.cfm

   b. **CDEC** - http://cdec.water.ca.gov/

      The California Data Exchange Center (CDEC) installs, maintains, and operates an extensive hydrologic data collection network including automatic snow reporting gages for the Cooperative Snow Surveys Program and precipitation and river stage sensors for flood forecasting.

   c. **CIMIS** (California Irrigation Management Information System) http://wwwcimis.water.ca.gov/cimis/welcome.jsp

      CIMIS is a program in the Office of Water Use Efficiency (OWUE), California Department of Water Resources (DWR) that manages a network of over 120 automated weather stations in the state of California. CIMIS was developed in 1982 by the California Department of Water Resource and the University of California at Davis to assist California's irrigators manage their water resources efficiently.

   d. **IWRIS** - Integrated Water Resources Information System http://www.water.ca.gov/iwris/

      IWRIS is a data management tool for water resources data. It is a web based GIS application that allows you to access, integrate, query, and visualize multiple sets of data. Some of the databases include DWR Water Data Library, California Data Exchange Center (CDEC), USGS streamflow, Local Groundwater Assistance Grants (AB303), and data from local agencies.

Appendix 9-B-2: Stakeholder and Coordinating Agency Links

Participating Stakeholders	
Economic Development Corporation of Mariposa County (EDC)	http://www.mariposaedc.com/
Fish Camp Fire/Rescue Association	http://fishcampca.org/services-organizations/fish-camp-fire-rescue-association
Lake Don Pedro Community Services District (LDPCSD)	http://www.ldpcsd.org/
Mariposa County Water Agency	http://www.mariposacounty.org/
Mariposa County Resource Conservation District (MCRCD)	http://www.mcrcd.net/Pages/default.aspx
Mariposa Pines Mutual Water Company	http://mariposapineswater.webs.com/
Mariposa Public Utility District (MPUD)	http://mariposapud.org/
Mariposans for the Environment and Responsible Government (MERG)	http://www.merg-mariposa.org/
Merced Irrigation District (Merced ID)	http://mercedid.com/
Ponderosa Basin Mutual Water Company (PBMWC)	No website
Sierra Foothill Conservancy (SFC)	http://www.sierrafoothill.org/
Upper Merced River Watershed Council (UMRWC)	http://www.merced-river.org/
Yosemite Alpine Community Services District (YACSD)	http://fishcampca.org/services-organizations/yosemite-alpine-community-services-district
Yosemite Area Audubon Society (YAAS)	http://www.yosemiteaudubon.org/
Mariposa County Water Agency Advisory Board	http://www.mariposacounty.org/
Central Sierra Watershed Committee	http://www.fresnoriver.org/orgs/central-sierra-watershed-committee
Mariposa County	http://www.mariposacounty.org/
Yosemite West Maintenance District	http://yosemitewest.org/index.html
American Indian Council of Mariposa	No website
National Park Service (NPS)	http://www.nps.gov/index.htm
United States Forest Service (USFS)	http://www.fs.fed.us/
Bureau of Land Management (BLM)	http://www.blm.gov/wo/st/en.html
USDA Natural Resources Conservation Service	http://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home/
Department of Water Resources (DWR)	http://www.water.ca.gov/
Cal Fire (Department of Forestry and Fire Protection)	http://www.calfire.ca.gov/
Office of Emergency Services-Mariposa County	http://www.mariposacounty.org/
U.S. Department of Fish and Wildlife	https://www.wildlife.ca.gov/
Acuerdo con Dios HOA	No website
Catheys Valley	http://www.mariposacounty.org/
Coulterville	http://www.mariposacounty.org/
Fish Camp	http://fishcampca.org/
Greeley Hill	http://www.mariposacounty.org/
Hornitos	No website
Midpines	http://www.mariposacounty.org/
Mariposa	http://www.mariposacounty.org/
Point Blue Conservation Science	http://pointblue.org/
Sierra Club Tehipite Chapter	http://www.tehipitesierraclub.org/
Madera RWMG	http://www.madera-county.com/index.php/forms-and-documents/category/167-the-integrated-regional-water-management-plan-irwmp
Merced Regional Advisory Council	http://mercedirwmp.org/
Mariposa County Fire Department	Mariposa County Website
Sierra Water Workgroup	http://www.sierrawaterworkgroup.org/
Mariposa County Fire Safe Council	http://www.mariposafiresafe.net/
Inyo-Mono IRWMP	http://inyo-monowater.org/
Wawona Area Property Owners Association	No website
Wawona Town Planning Advisory Committee	No website

Appendix 9-B-2: Stakeholder and Coordinating Agency Links

Participating Stakeholders	
Other State and Local Agencies	
U.S. Department of Fish and Wildlife	https://www.wildlife.ca.gov/
Cal Fire (Department of Forestry and Fire Protection)	http://www.calfire.ca.gov/
Department of Water Resources (DWR)	http://www.water.ca.gov/
Sierra Nevada Conservancy	http://www.sierranevada.ca.gov/
Office of Emergency Services	http://www.calema.ca.gov/Pages/default.aspx
University of California, Merced – Sierra Nevada Research Institute	http://snri.ucmerced.edu/
Bureau of Land Management	http://www.blm.gov/wo/st/en.html
USDA Natural Resources Conservation Service	http://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home/
United States Forest Service (USFS)	http://www.fs.fed.us/
National Park Service (NPS)	http://www.nps.gov/index.htm
Neighboring IRWMs	
Tuolumne-Stanislaus	http://www.tcrcd.org/
Merced	http://mercedirwmp.org/
Madera	http://www.madera-county.com/index.php/forms-and-documents/category/167-the-integrated-regional-water-management-plan-irwmp
East Stanislaus	http://www.eaststanirwm.org/
Inyo-Mono	http://inyo-monowater.org/

Appendix 9-C

Sample Project Tracking Tables

Appendix 9-C-1: Sample Project Tracking Table Sorted by Agency

Date Updated:		Updated by:									
Project Number	**Project Representative Contact**	**Date Project Completed/Removed**	**Lead Agency Organization**	**Project Title**	**Total Cost - Capital 2013 Dollars**	**Current Funding Status**	**Current Project Status**	**Project Status Notes**	**Anticipated Project Construction/ Implementation**	**Anticipated Project Completion**	**Objectives/Goals Linked To Project**
49	Harold Hibpshman		American Indian Council of Mariposa County	Bear Creek Tribal Water Storage Project	$90,500		Conceptual		6/1/2015	12/1/2015	1-A, 2-G
50	Frannie Gann		American Indian Council of Mariposa County	Mariposa Creek Native Plants Restoration and Education Project	$87,240		Conceptual		7/1/2015	12/1/2015	3-I, 3-K, 4-L, 4-M, 8-T
51	Frannie Gann		American Indian Council of Mariposa County	Invasive Plant Eradication/Native Plant Enhancement, Wawona, Yosemite NP	$81,200		Conceptual		9/1/2014	9/1/2016	1-D, 3-I, 3-K, 4-L, 4-M, 4-N, 6-R, 8-T
1	Peter Rei		County of Mariposa	Replace Water Distribution Piping in Yosemite West Subdivision	$2,900,000		Conceptual		3/1/2016	3/1/2018	1-A, 1-C, 2-E, 2-G, 3-J, 9-V
2	Peter Rei		County of Mariposa	Develop Second Water Source for the Coulterville Community	$700,000		Planning		7/1/2015	10/1/2015	1-A, 1-B, 2-E, 2-G
3	Peter Rei		County of Mariposa	Water Treatment for Arsenic Exceedance	$500,000		Conceptual		8/1/2014	8/1/2015	1-B, 2-E, 2-G
4	Peter Rei		County of Mariposa	Replace Sewage Collection Piping in Yosemite West Subdivision	$2,500,000		Conceptual		3/1/2016	3/1/2018	2-F, 2-G, 3-J, 9-V
5	Peter Rei		County of Mariposa	Develop Second Water Source for Yosemite West Subdivision	$1,600,000		Planning		7/1/2015	10/1/2015	1-A, 1-B, 2-E, 2-G, 9-V
6	Peter Rei		County of Mariposa	Expansion and Repair of Leachfields in the Yosemite West Subdivision	$1,220,000		CEQA/NEPA, Design		7/1/2014	9/1/2014	2-F, 2-G, 3-J
7	Peter Rei		County of Mariposa	Construct a septage collection and metering tank at the Lake Don Pedro Sewage Treatment Plant	$400,000		Planning		7/1/2015	7/1/2017	2-F, 2-G, 3-J, 3-K
8	Peter Rei		County of Mariposa	Repairs and upgrades to Lake Don Pedro Wastewater Treatment System	$2,200,000		Conceptual		2/1/2016	2/1/2018	2-F, 2-G, 3-J
9	Peter Rei		County of Mariposa	Install back-up power at Mariposa Pines Sewage Treatment Plant	$225,000		Conceptual				2-F, 2-G, 3-J
10	Peter Rei		County of Mariposa	Replace Water Distribution Piping in Coulterville	$1,480,000		Conceptual				1-A, 2-E, 2-G, 9-V
11	Peter Rei		County of Mariposa	Replace Sewage Collection Piping in Coulterville	$2,200,000		Conceptual				2-F, 2-G, 3-J, 9-V
12	Barry Brouillette		Economic Development Corporation	Mariposa Biomass / Biochar Facility	$4.5 to 5 Million		Conceptual				1-A, 1-D, 3-H, 3-I, 3-K, 4-L, 4-M, 4-N, 5-O, 5-P, 6-R, 7-S, 8-T, 9-U, 9-V
13	Donn Harter		Fish Camp Volunteer Fire Association	Drought/Fire Storage with additional wells with distribution pipelines and hydrants	$200,000		Conceptual, Planning, CEQA/NEPA, Permitting, Construction/Implementation				1-A, 1-B, 1-C, 1-D, 2-E, 2-G, 4-L, 6-Q, 7-S, 8-T
14	Ralph Felix		Lake Don Pedro Community Services District	Lake McClure Deep Water Intake Feasibility Study	$30,000		Conceptual				1-A, 2-E, 2-G
15	Ralph Felix		Lake Don Pedro Community Services District	Dead End Main Replacement Project	$6,500,000		Conceptual		6/1/2016	6/1/2024	1-A, 2-G
16	Ralph Felix		Lake Don Pedro Community Services District	Lake McClure Intake Improvement Project Phase III	$700,000		Conceptual		9/1/2016	3/1/2017	1-A, 2-G
17	Ralph Felix		Lake Don Pedro Community Services District	Water Service Replacement Project	$3,750,000		Conceptual		6/1/2016	6/1/2024	1-A, 2-G
18	Ralph Felix		Lake Don Pedro Community Services District	Treatment Plant Pump Replacement Project	$100,000		Conceptual		3/1/2015	4/1/2015	1-A, 2-G
19	Ralph Felix		Lake Don Pedro Community Services District	New Potable Water Well	$125,000		Conceptual		5/1/2015	8/1/2015	1-A, 1-B, 2-G
20	Glenn Franklin		Mariposa County Resource Conservation District	Drought Preparedness for Landowners and Residents			Conceptual				1-A, 1-B, 1-C, 1-D, 3-K, 5-O, 6-Q, 6-R, 8-T, 9-U, 9-V
21	Pat Garcia		Mariposa County Resource Conservation District	Water & Energy Efficiency Incentives Assistance Program	$645,000		Conceptual		6/1/2015	6/1/2017	1-A, 1-C, 9-V
22	Robyn Smith		Mariposa County Resource Conservation District	Private Land Water Storage Improvement Assistance Project	$225,000		Planning		9/14 Ongoing	12/1/2014	1-D, 3-I, 3-K, 4-L, 4-M, 4-N
23	Glenn Franklin		Mariposa County Resource Conservation District	Invasive Plant Species education and eradication	$600,000		Conceptual, Planning, Study/Other				1-A, 1-D, 3-H, 3-I, 3-K, 4-L, 4-M, 4-N, 5-O, 5-P, 6-Q, 6-R, 8-T
24	Tom Aktins		Mariposa Pines Water Company	Sounding Tube Installation			Conceptual, Planning				1-A, 1-B, 1-C, 3-H
25	Tom Aktins		Mariposa Pines Water Company	Tank 1 Replacement			Planning				1-A, 1-B, 1-C, 1-D, 2-G, 3-K
26	Tom Aktins		Mariposa Pines Water Company	Hazardous Tree and Brush Removal from Right-of-ways and Improvements			Planning				1-A, 1-B, 1-C, 2-E, 2-G, 3-I, 6-R
28	Tom Aktins		Mariposa Pines Water Company	Install Power and Telephone Lines (for internet) to Water Tanks			Conceptual, Planning				1-A
30	Mark Rowney		Mariposa Public Utility District	Stockton Creek Watershed Fuel Modification Project	$240,000		CEQA/NEPA, Construction/Implementation		Contingent on funding		1-A, 1-C, 1-D, 2-E, 3-H, 3-I, 3-J, 3-K, 4-L, 4-N, 5-O, 6-R, 7-S, 8-T
32	Mark Rowney		Mariposa Public Utility District	Mariposa PUD Wastewater Treatment Facility Improvements	$7,300,000		CEQA/NEPA, Design, Construction/Implementation		3/1/2016	12/1/2017	1-D, 2-F, 2-G, 3-H, 3-J, 3-K, 5-O, 5-P, 6-Q, 6-R
34	Mark Rowney		Mariposa Public Utility District	Saxon Creek Pump Station Access and Ventilation System Improvements	$150,000		Conceptual, Study/Other		9/1/2015	1/1/2016	1-A, 2-E, 9-W
36	Mark Rowney		Mariposa Public Utility District	Waste Water Collection System Improvements	$3,924,000		Study/Other		7/1/2016	6/1/2017	2-F, 2-G, 3-J
38	Bryan Kelly		Merced Irrigation District	Lake McClure Area Recreation Enhancements	$332,300		Conceptual, Planning				1-D, 5-O, 5-P, 6-Q
27	Paul Laymon		National Park Service/Yosemite National Park	Supplement Wawona Water System with Biledo Spring	$17,000,000		Conceptual				1-A, 2-E, 2-G, 3-J, 4-M, 6-Q
29	Paul Laymon		National Park Service/Yosemite National Park	Rehabilitate The Wawona Wastewater Treatment Plant	$44,000,000		Planning				1-C, 2-F, 2-G, 3-J, 5-P, 9-V
31	Geoff Geupel		Point Blue Conservation Science	Rangeland Watershed Initiative Partner Biologist	$160,000 +		Planning, Design, Study/Other, Maintenance/Monitoring				1-D, 3-I, 3-K, 4-L, 4-M, 4-N, 6-R, 8-T, 9-U
33	Steve Wright		Ponderosa Basin Mutual Water Company	Rural Water Company Infrastructure Rehabilitation	$600,000		Conceptual		1/1/2016	12/1/2016	1-A, 1-B, 2-E, 2-G, 6-Q, 7-S, 8-T

Appendix 9-C-1: Sample Project Tracking Table Sorted by Agency

Project Number	Project Representative Contact	Date Project Completed/Removed	Lead Agency Organization	Project Title	Total Cost - Capital 2013 Dollars	Current Funding Status	Current Project Status	Project Status Notes	Anticipated Project Construction/ Implementation	Anticipated Project Completion	Objectives/Goals Linked To Project
35	Bridget Fithian		Sierra Foothill Conservancy	Bean Creek Meadow Restoration	$372,000		Construction/Implementation		Fall 2014	Fall 2015	1-A, 1-B, 1-D, 3-H, 3-I, 3-J, 3-K, 4-L, 4-M, 4-N, 5-P, 8-T, 9-W
37	Bridget Fithian		Sierra Foothill Conservancy	Conservation Easement	$2,000,000		Conceptual		1/1/2015	1/1/2017	1-A, 1-D, 3-H, 3-I, 3-K, 4-L, 4-M, 4-N
39	Bridget Fithian		Sierra Foothill Conservancy	Conservation Planning, Phase 2	$50,000		Conceptual				1-B, 1-D, 2-E, 2-F, 3-H, 4-L, 4-M, 4-N, 5-O, 6-R, 8-T, 9-U
40	Bridget Fithian		Sierra Foothill Conservancy	Stockton Creek Preserve Expansion	$1,500,000		Construction/Implementation		1/1/2015	1/1/2017	1-A, 1-D, 3-H, 3-I, 3-J, 3-K, 4-L, 4-M, 4-N, 5-O, 7-S
41	Gene Spindler		To be determined. Anticipate National Park Service, Yosemite National Park	Wawona Water Supply and Wastewater Treatment Projects			Conceptual				1-A, 1-B, 1-C, 1-D, 2-F, 2-G, 3-J, 8-T
42	Ed Temple		Upper Merced River Watershed Council	Water Quality Monitoring Bioassessment in Upper Merced River Watershed	$25,000		Permitting				2-E, 2-F, 3-H, 3-J, 3-K, 4-N, 5-O, 6-Q, 6-R, 8-T, 9-U
43	Ed Temple		Upper Merced River Watershed Council	Merced River Watershed Wildfire Fuel Reduction Project	$750,000		Planning				1-D, 3-H, 3-I, 3-K, 4-L, 4-N, 5-O, 7-S
44	Elwood Raley		USFS, Sierra National Forest, Bass Lake Ranger District	Sierra National Forest Bass Lake Ranger District Fuels Reduction Project - Rush Timber Sale, near Wawona	$1,733,000		Construction/Implementation				1-D, 3-I, 3-K, 4-M, 4-N, 7-S
45	Elwood Raley		USFS, Sierra National Forest, Bass Lake Ranger District	Sierra National Forest Bass Lake Ranger District Fuels Reduction Project -Hites-Feleciana Fuels Project , N of Mariposa Pines	$2,533,000		Conceptual, Planning				1-D, 3-I, 3-K, 4-M, 4-N, 7-S
46	Karen Glendenning		Yosemite Alpine Community Services District	Water Meter Replacement	$50,000		Planning			5/1/2015	1-B, 1-C, 2-E, 2-G, 6-R, 8-T
47	Karen Glendenning		Yosemite Alpine Community Services District	Drill Well on Yosemite Mtn. Ranch TPZ and Pipe Water to New Tanks.			Conceptual				1-A, 1-B, 1-C, 1-D, 2-E, 2-G, 3-H, 3-I, 9-U
48	Bill Downey		Yosemite Area Audubon Society	Mariposa Creek Parkway Extensions			Conceptual, Planning		8/1/2015	12/1/2016	3-I, 3-K, 4-L, 4-M, 4-N, 5-P, 8-T, 9-W

Appendix 9-C-2: Sample Project Tracking Table Sorted by Project Number

Date Updated:		Updated by:									
Project Number	**Project Representative Contact**	**Date Project Completed/Removed**	**Lead Agency Organization**	**Project Title**	**Total Cost - Capital 2013 Dollars**	**Current Funding Status**	**Current Project Status**	**Project Status Notes**	**Anticipated Project Construction/ Implementation**	**Anticipated Project Completion**	**Objectives/Goals Linked To Project**
1	Peter Rei		County of Mariposa	Replace Water Distribution Piping in Yosemite West Subdivision	$2,900,000		Conceptual		3/1/2016	3/1/2018	1-A, 1-C, 2-E, 2-G, 3-J, 9-V
2	Peter Rei		County of Mariposa	Develop Second Water Source for the Coulterville Community	$700,000		Planning		7/1/2015	10/1/2015	1-A, 1-B, 2-E, 2-G
3	Peter Rei		County of Mariposa	Water Treatment for Arsenic Exceedance	$500,000		Conceptual		8/1/2014	8/1/2015	1-B, 2-E, 2-G
4	Peter Rei		County of Mariposa	Replace Sewage Collection Piping in Yosemite West Subdivision	$2,500,000		Conceptual		3/1/2016	3/1/2018	2-F, 2-G, 3-J, 9-V
5	Peter Rei		County of Mariposa	Develop Second Water Source for Yosemite West Subdivision	$1,600,000		Planning		7/1/2015	10/1/2015	1-A, 1-B, 2-E, 2-G, 9-V
6	Peter Rei		County of Mariposa	Expansion and Repair of Leachfields in the Yosemite West Subdivision	$1,220,000		CEQA/NEPA, Design		7/1/2014	9/1/2014	2-F, 2-G, 3-J
7	Peter Rei		County of Mariposa	Construct a septage collection and metering tank at the Lake Don Pedro Sewage Treatment Plant	$400,000		Planning		7/1/2015	7/1/2017	2-F, 2-G, 3-J, 3-K
8	Peter Rei		County of Mariposa	Repairs and upgrades to Lake Don Pedro Wastewater Treatment System	$2,200,000		Conceptual		2/1/2016	2/1/2018	2-F, 2-G, 3-J
9	Peter Rei		County of Mariposa	Install back-up power at Mariposa Pines Sewage Treatment Plant	$225,000		Conceptual				2-F, 2-G, 3-J
10	Peter Rei		County of Mariposa	Replace Water Distribution Piping in Coulterville	$1,480,000		Conceptual				1-A, 2-E, 2-G, 9-V
11	Peter Rei		County of Mariposa	Replace Sewage Collection Piping in Coulterville	$2,200,000		Conceptual				2-F, 2-G, 3-J, 9-V
12	Barry Brouillette		Economic Development Corporation	Mariposa Biomass / Biochar Facility	$4.5 to 5 Million		Conceptual				1-A, 1-D, 3-H, 3-I, 3-K, 4-L, 4-M, 4-N, 5-O, 5-P, 6-R, 7-S, 8-T, 9-U, 9-V
13	Ralph Felix		Lake Don Pedro Community Services District	Lake McClure Deep Water Intake Feasibility Study	$30,000		Conceptual				1-A, 2-E, 2-G
14	Mark Rowney		Mariposa Public Utility District	Stockton Creek Watershed Fuel Modification Project	$240,000		CEQA/NEPA, Construction/Implementation		Contingent on funding		1-A, 1-C, 1-D, 2-E, 3-H, 3-I, 3-J, 3-K, 4-L, 4-N, 5-O, 6-R, 7-S, 8-T
15	Mark Rowney		Mariposa Public Utility District	Mariposa PUD Wastewater Treatment Facility Improvements	$7,300,000		CEQA/NEPA, Design, Construction/Implementation		3/1/2016	12/1/2017	1-D, 2-F, 2-G, 3-H, 3-J, 3-K, 5-O, 5-P, 6-Q, 6-R
16	Mark Rowney		Mariposa Public Utility District	Saxon Creek Pump Station Access and Ventilation System Improvements	$150,000		Conceptual, Study/Other		9/1/2015	1/1/2016	1-A, 2-E, 9-W
17	Bryan Kelly		Merced Irrigation District	Lake McClure Area Recreation Enhancements	$332,300		Conceptual, Planning				1-D, 5-O, 5-P, 6-Q
18	Geoff Geupel		Point Blue Conservation Science	Rangeland Watershed Initiative Partner Biologist	$160,000 +		Planning, Design, Study/Other, Maintenance/Monitoring				1-D, 3-I, 3-K, 4-L, 4-M, 4-N, 6-R, 8-T, 9-U
19	Ralph Felix		Lake Don Pedro Community Services District	Dead End Main Replacement Project	$6,500,000		Conceptual		6/1/2016	6/1/2024	1-A, 2-G
20	Ralph Felix		Lake Don Pedro Community Services District	Lake McClure Intake Improvement Project Phase III	$700,000		Conceptual		9/1/2016	3/1/2017	1-A, 2-G
21	Ralph Felix		Lake Don Pedro Community Services District	Water Service Replacement Project	$3,750,000		Conceptual		6/1/2016	6/1/2024	1-A, 2-G
22	Ralph Felix		Lake Don Pedro Community Services District	Treatment Plant Pump Replacement Project	$100,000		Conceptual		3/1/2015	4/1/2015	1-A, 2-G
23	Ralph Felix		Lake Don Pedro Community Services District	New Potable Water Well	$125,000		Conceptual		5/1/2015	8/1/2015	1-A, 1-B, 2-G
24	Ed Temple		Upper Merced River Watershed Council	Water Quality Monitoring Bioassessment in Upper Merced River Watershed	$25,000		Permitting				2-E, 2-F, 3-H, 3-J, 3-K, 4-N, 5-O, 6-Q, 6-R, 8-T, 9-U
25	Ed Temple		Upper Merced River Watershed Council	Merced River Watershed Wildfire Fuel Reduction Project	$750,000		Planning				1-D, 3-H, 3-I, 3-K, 4-L, 4-N, 5-O, 7-S
26	Paul Laymon		National Park Service/Yosemite National Park	Supplement Wawona Water System with Biledo Spring	$17,000,000		Conceptual				1-A, 2-E, 2-G, 3-J, 4-M, 6-Q
27	Paul Laymon		National Park Service/Yosemite National Park	Rehabilitate The Wawona Wastewater Treatment Plant	$44,000,000		Planning				1-C, 2-F, 2-G, 3-J, 5-P, 9-V
28	Bridget Fithian		Sierra Foothill Conservancy	Bean Creek Meadow Restoration	$372,000		Construction/Implementation		Fall 2014	Fall 2015	1-A, 1-B, 1-D, 3-H, 3-I, 3-J, 3-K, 4-L, 4-M, 4-N, 5-P, 8-T, 9-W
29	Bridget Fithian		Sierra Foothill Conservancy	Conservation Easement	$2,000,000		Conceptual		1/1/2015	1/1/2017	1-A, 1-D, 3-H, 3-I, 3-K, 4-L, 4-M, 4-N
30	Bridget Fithian		Sierra Foothill Conservancy	Conservation Planning, Phase 2	$50,000		Conceptual				1-B, 1-D, 2-E, 2-F, 3-H, 4-L, 4-M, 4-N, 5-O, 6-R, 8-T, 9-U
31	Bridget Fithian		Sierra Foothill Conservancy	Stockton Creek Preserve Expansion	$1,500,000		Construction/Implementation		1/1/2015	1/1/2017	1-A, 1-D, 3-H, 3-I, 3-J, 3-K, 4-L, 4-M, 4-N, 5-O, 7-S
32	Steve Wright		Ponderosa Basin Mutual Water Company	Rural Water Company Infrastructure Rehabilitation	$600,000		Conceptual		1/1/2016	12/1/2016	1-A, 1-B, 2-E, 2-G, 6-Q, 7-S, 8-T
33	Glenn Franklin		Mariposa County Resource Conservation District	Invasive Plant Species education and eradication	$600,000		Conceptual, Planning, Study/Other				1-A, 1-D, 3-H, 3-I, 3-K, 4-L, 4-M, 4-N, 5-O, 5-P, 6-Q, 6-R, 8-T
34	Glenn Franklin		Mariposa County Resource Conservation District	Drought Preparedness for Landowners and Residents			Conceptual				1-A, 1-B, 1-C, 1-D, 3-K, 5-O, 6-Q, 6-R, 8-T, 9-U, 9-V
35	Pat Garcia		Mariposa County Resource Conservation District	Water & Energy Efficiency Incentives Assistance Program	$645,000		Conceptual		6/1/2015	6/1/2017	1-A, 1-C, 9-V
36	Bill Downey		Yosemite Area Audubon Society	Mariposa Creek Parkway Extensions			Conceptual, Planning		8/1/2015	12/1/2016	3-I, 3-K, 4-L, 4-M, 4-N, 5-P, 8-T, 9-W
37	Karen Glendenning		Yosemite Alpine Community Services District	Water Meter Replacement	$50,000		Planning			5/1/2015	1-B, 1-C, 2-E, 2-G, 6-R, 8-T
38	Karen Glendenning		Yosemite Alpine Community Services District	Drill Well on Yosemite Mtn. Ranch TPZ and Pipe Water to New Tanks.			Conceptual				1-A, 1-B, 1-C, 1-D, 2-E, 2-G, 3-H, 3-I, 9-U
39	Elwood Raley		USFS, Sierra National Forest, Bass Lake Ranger District	Sierra National Forest Bass Lake Ranger District Fuels Reduction Project - Rush Timber Sale, near Wawona	$1,733,000		Construction/Implementation				1-D, 3-I, 3-K, 4-M, 4-N, 7-S

Appendix 9-C-2: Sample Project Tracking Table Sorted by Project Number

Project Number	Project Representative Contact	Date Project Completed/Removed	Lead Agency Organization	Project Title	Total Cost - Capital 2013 Dollars	Current Funding Status	Current Project Status	Project Status Notes	Anticipated Project Construction/ Implementation	Anticipated Project Completion	Objectives/Goals Linked To Project
40	Elwood Raley		USFS, Sierra National Forest, Bass Lake Ranger District	Sierra National Forest Bass Lake Ranger District Fuels Reduction Project -Hites-Feleciana Fuels Project , N of Mariposa Pines	$2,533,000		Conceptual, Planning				1-D, 3-I, 3-K, 4-M, 4-N, 7-S
41	Gene Spindler		To be determined. Anticipate National Park Service, Yosemite National Park	Wawona Water Supply and Wastewater Treatment Projects			Conceptual				1-A, 1-B, 1-C, 1-D, 2-F, 2-G, 3-J, 8-T
42	Harold Hibpshman		American Indian Council of Mariposa County	Bear Creek Tribal Water Storage Project	$90,500		Conceptual		6/1/2015	12/1/2015	1-A, 2-G
43	Frannie Gann		American Indian Council of Mariposa County	Mariposa Creek Native Plants Restoration and Education Project	$87,240		Conceptual		7/1/2015	12/1/2015	3-I, 3-K, 4-L, 4-M, 8-T
44	Frannie Gann		American Indian Council of Mariposa County	Invasive Plant Eradication/Native Plant Enhancement, Wawona, Yosemite NP	$81,200		Conceptual		9/1/2014	9/1/2016	1-D, 3-I, 3-K, 4-L, 4-M, 4-N, 6-R, 8-T
45	Donn Harter		Fish Camp Volunteer Fire Association	Drought/Fire Storage with additional wells with distribution pipelines and hydrants	$200,000		Conceptual, Planning, CEQA/NEPA, Permitting, Construction/Implementation				1-A, 1-B, 1-C, 1-D, 2-E, 2-G, 4-L, 6-Q, 7-S, 8-T
46	Tom Aktins		Mariposa Pines Water Company	Sounding Tube Installation			Conceptual, Planning				1-A, 1-B, 1-C, 3-H
47	Tom Aktins		Mariposa Pines Water Company	Tank 1 Replacement			Planning				1-A, 1-B, 1-C, 1-D, 2-G, 3-K
48	Tom Aktins		Mariposa Pines Water Company	Hazardous Tree and Brush Removal from Right-of-ways and Improvements			Planning				1-A, 1-B, 1-C, 2-E, 2-G, 3-I, 6-R
49	Tom Aktins		Mariposa Pines Water Company	Install Power and Telephone Lines (for internet) to Water Tanks			Conceptual, Planning				1-A
50	Robyn Smith		Mariposa County Resource Conservation District	Private Land Water Storage Improvement Assistance Project	$225,000		Planning		9/14 Ongoing	12/1/2014	1-D, 3-I, 3-K, 4-L, 4-M, 4-N
51	Mark Rowney		Mariposa Public Utility District	Waste Water Collection System Improvements	$3,924,000		Study/Other		7/1/2016	6/1/2017	2-F, 2-G, 3-J