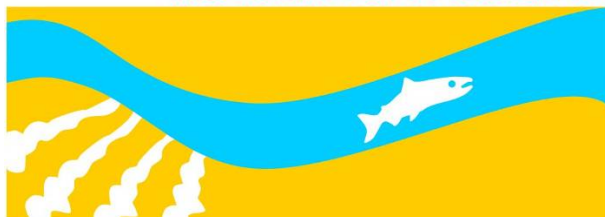


Water Quality Monitoring for San Joaquin River Seepage Management Projects

Water Quality Monitoring Report
Sample Collection: March, 2017

SAN JOAQUIN RIVER
RESTORATION PROGRAM



Mission Statement

The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

Water Quality Monitoring for San Joaquin River Seepage Management Projects

Water Quality Monitoring Report Sample Collection: March, 2017

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Water Quality Monitoring for SJR Seepage Management

The Water Quality Monitoring Project for Seepage Management Projects investigation is managed and conducted by the US Bureau of Reclamation (Reclamation) Environmental Monitoring Branch. This Water Quality Project is implemented in support of the San Joaquin River Restoration Program.

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Acronyms and Abbreviations

Blank	quality assurance sample composed of deionized water
°C	temperature in degrees Centigrade
Duplicate	quality assurance sample replicate
EC	electrical conductivity normalized to 25 °C
GW	ground water
HDPE	high-density polyethylene
µg/L	micrograms per liter
mg/L	milligrams per liter
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
Reclamation	United States Bureau of Reclamation
Ref	quality assurance sample composed of reference material of a known concentration
RL	reporting limit
SJR	San Joaquin River
SOP	standard operating procedure
Spike	quality assurance sample composed of environmental sample-water with added constituent(s) of known concentration(s)
SW	surface water
WQ	water quality

Introduction

The Water Quality Monitoring Study for Seepage Management Projects (Study) is a multi-year water quality monitoring study conducted by the US Bureau of Reclamation (Reclamation) with the primary goal of helping to determine how increased flows within the San Joaquin River (SJR) might affect the quality of ground water (GW) within adjacent lands. Study data is being used secondarily to help evaluate whether SJR seepage-water could be released to local irrigation canals without degrading existing canal water quality (WQ).

Data presented in this report was collected March 2017. These data reflect the quality of SJR surface water (SW), and SJR seepage GW, during a period of high SJR flow. Samples were collected during the wettest year in California since record keeping began (1895); at the time of sample collection, the river had been at flood stage for over a month. Data from previous monitoring events (December 2012, May 2013, and August 2015), was collected under significantly-lower SJR flow conditions.

Methods

Target analytes, analytical methods, quality assurance (QA) methods, and sample collection methods for the 2017 sampling event are identical to those used in previous Study events, with one exception. In 2012 and 2013, metals, calcium, magnesium, and boron concentrations were analyzed as “totals” (sample water was not filtered prior to analysis), while in 2015 and 2017, these analytes were analyzed as “dissolved” (water was filtered prior to analysis). Total concentrations, which capture both ionic and particulate concentrations, were initially measured because for some analytes, WQ standards were only available for total analyses, in addition, many irrigation suitability limits are based on total analyte concentrations. In 2015 and 2017, dissolved concentrations were analyzed in order to better evaluate WQ for the protection of fish and wildlife; in particular, aquatic organisms, are primarily exposed only to dissolved analytes.

QA and field methods are described in detail in previous Study reports (Reclamation, 2012a; Reclamation, 2013, Reclamation, 2015) and in the current Quality Assurance Project Plan (QAPP) for the Study (Reclamation, 2016). Analytical methods are described in published and widely accepted analytical methods documents and are available by request from Reclamation QA staff. A general overview of sampling and QA methods is given below.

Site Locations and Schedule

Ground water samples were collected March 13, 14, and 15, 2017; surface water samples were collected March 21 and March 22, 2017. Sample collection information is summarized in Table 1 (sample identification codes, sampling dates, and site locations).

Sample Collection and Storage

Field procedures were performed following Branch of Environmental Monitoring standard operating procedures (SOPs) for sample collection, handling and documentation. Step-by-step descriptions of these procedures (Reclamation, 2012b) are summarized below.

In order to minimize the potential for environmental contamination, and to minimize cross-contamination between samples, disposable materials were used when possible. Disposable sampling materials (e.g. nitrile gloves, sample containers, bailers, bailing twine) were selected new for each sample collected. Non-disposable equipment (e.g. Sonde, sample churn splitter, water level meter) was cleaned prior to each use. Items were cleaned using concentrated residue-free detergent (Liquinox®) diluted with de-ionized water, then triple rinsed with de-ionized water, and triple rinsed again, with environmental (site) water.

Surface water grab samples were collected using a clean, high-density polyethylene (HDPE) churn splitter, then dispensed from churn to sample bottles. Ground water was collected using two new HDPE bailers and new braided nylon twine for each well. Prior to GW collection, water-column height was determined, then at least three well-volumes of water were purged using one of the two new bailers designated for that well. When bailing, to prevent suspending potential accumulated sediment, care was taken to avoid hitting the bottom of the well. After purging, the second new bailer was used for sample collection. For most GW samples, water was dispensed directly from bailer to sample bottle. Duplicate and triplicate samples (used for QA purposes) were poured from bailer to a clean churn splitter, then dispensed into sample bottles following standard protocols for achieving replicate samples (Reclamation, 2017).

Sample bottles were kept cool and out of direct sunlight both prior to and during sample collection. Within five minutes of being filled, sample containers were placed in coolers packed with blue ice and stored in the shade. While samples were in the field, blue ice packs were tested for firmness at least every two hours; ice packs did not appear to soften significantly during use. Samples were stored in coolers for up to eight hours prior to arriving at the commercial analytical laboratory (organics), or to the Reclamation QA laboratory (inorganics). At the laboratories, samples were refrigerated and stored at approximately 4 °C.

Following completion of Reclamation QA procedures, inorganic samples were shipped via commercial courier (FedEx) from the Reclamation QA laboratory to the commercial analytical laboratory. Shipments were arranged for next-day delivery and samples were stored on blue ice during transport.

Sample volumes, container materials, chemical preservatives, and sample hold-times¹ are specified in analytical methods documents. Container, preservation and other method requirements were met for all samples.

Chemical Analyses

Chemical analyses were performed by commercial analytical laboratories in accordance with the analytical methods documents published for each method. Methods documents are available on-line and by request from Reclamation QA personnel. Specific methods used for each analysis are shown in analytical results summary tables (Table 2 –inorganic analytes and physical measurements, Table 3 – undetected organic chemicals, and Table 4 – detected organic chemicals). When possible, selected methods were chosen to yield reporting limits (RLs) three to five times lower than the lowest applicable water quality limit. Note that due to matrix affects and other sample-specific analytical complexities, achieved RLs did not always match method reporting limits. For similar reasons, RLs sometime differ between samples that were analyzed for the same constituent.

Water Quality Objectives and Limits

WQ Objectives (also termed “protections”) and numeric limits and criteria (for simplicity termed “limits” in this report) were chosen for the protection of fish and wildlife habit, irrigation, and watershed-specific concerns (Table 5).

To evaluate WQ for use by fish and wildlife, WQ objectives and numeric limits were drawn from the California State Water Resources Control Board (SWRCB) publication, “A Compilation of Water Quality Goals” (Marshack, 2017), which by reference also includes Ayers and Westcott (1985). Specific fish and wildlife protections do not exist, so objectives were selected for the protection of Fresh Water Aquatic Life (FWAL) and Poultry and Livestock (P&L).

- FWAL objectives are evaluated here through sub-objectives: the California and National Toxics Rules (CTR/NTR) and the National Recommended Water Quality Criteria (NRWQC). Non-binding NRWQC limits were used in cases where additional CTR/NTR limits do not exist. If both CTR/NTR and NRWQC limits exist for a single analyte, WQ was evaluated using the legally binding Toxics Rules.
- P&L limits are defined as “Agricultural Limits” by Marshack, but are used in this Study to evaluate water suitability for consumption by non-aquatic wildlife (birds and mammals).

WQ limits for the evaluation of irrigation suitability (IRRIG) were selected from Ayers and Westcott, 1985.

¹ Samples must be extracted or analyzed within the method-specified “hold time” (usually stated as hours, days or weeks) to ensure that chemical concentrations detected in the laboratory are representative of concentrations under field conditions.

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Limits for the protection of location-specific concerns (BP) were selected from the Water Quality Control Plan (Basin Plan) for the Sacramento and San Joaquin River Basins (SWRCB, 2017).

Consistent with Reclamation standard practice, to evaluate both FWAL and BP objectives, SW standards were used to evaluate GW quality. This practice is appropriate because current GW objectives are narrative, stating that GW, “shall not contain chemical constituents in concentrations that adversely affect beneficial uses” and that GW “shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal or aquatic life associated with designated beneficial use(s)” (SWRCB, 2017). These narrative standards cannot be evaluated quantitatively. SW standards are applicable for evaluating GW because once the water is pumped to the surface, it becomes available *as SW*. It should be noted however, that GW “objectives do not require improvement over naturally occurring background concentrations” and the objectives “are not required by the federal Clean Water Act.”

WQ is evaluated in this study by comparing analyte concentrations (results) with WQ limits that are applicable to relevant WQ objectives (e.g. IRRIG). If an analyte concentration is within the limits established for the stated WQ objective, the water “meets” WQ standards for that water use. Note that IRRIG limits unlike other WQ limits, which are meant to be fully protective of a certain water use, IRRIG limits can be nuanced and indicate restrictions on water use. For example, water with a certain sodium chloride concentration may be more suited to drip irrigation than to overhead sprinkling, or may be restricted to certain application rates in order to avoid leaf-burn in particular crops. For more information on the use-restrictions associated with particular analytes, see Ayers and Westcott, 1985.

Quality Assurance

The quality of the data presented in this report was evaluated through the commercial laboratory’s quality control (QC) system, and through Reclamation’s independent quality management system (QMS). Reclamation’s QMS increases confidence in data validity and legal defensibility and is summarized as follows.

- QA audits are conducted on-site to verify that field and laboratory procedures are consistent with stated SOPs.
- Reclamation “QA samples” (e.g. duplicates, blanks) are submitted “blind” (without identification) to the analytical laboratories alongside study samples in order to evaluate sample results for potential issues with precision, accuracy, and contamination.
- Commercial laboratory QA/QC reports are reviewed by Reclamation QA staff who highlight any potential data issues
- Analytical results that do not meet Reclamation QA acceptance criteria are flagged with an alpha code indicating possible data issues (e.g. a result flagged as “potentially biased low” is followed by an “L”)

Results and WQ Evaluation

Inorganic Chemicals and Physical Measurements

Results of inorganic analyses and physical measurements are shown in Table 2.

Surface Water

Five inorganic analytes (alkalinity, boron, copper, lead, and nickel) failed to meet one or more applicable WQ objectives in at least one of the three surface water samples collected.

- IRRIG limits for boron were exceeded in all surface water samples. Note that this boron limit is designed for unfiltered samples, but is applied here to filtered samples. Boron concentrations are likely lower in dissolved than in total samples.
- FWAL limits were exceeded at all surface water sites for copper. FWAL limits were also exceeded for lead, nickel, and alkalinity in water collected at the Bifurcation Structure. Due to insufficiently low reporting limits, FWAL limits couldn't be evaluated for lead at Sack Dam or Highway 152 and zinc couldn't be evaluated at any of the three sites.
- BP limits for boron were exceeded in samples collected at Sack Dam and Highway 152.

Ground Water

In ground water samples (16 wells total), eight conventional analytes (bicarbonate, boron, chloride, EC, nitrate, sodium, SAR, and TDS) and five metals (aluminum, copper, lead, selenium, and zinc) were commonly present in concentrations exceeding limits for the protection of one or more WQ objectives.

IRRIG limits were typically exceeded for boron and chloride (16/16 and 15/16 wells respectively); commonly exceeded for bicarbonate (7/16), EC (9/16), sodium (9/16), SAR (7/16) and TDS (8/16); and less commonly exceeded for nitrate (3/16). As noted above, the IRRIG boron limit is designed for unfiltered samples, but is applied here to filtered samples. Boron concentrations are likely lower in filtered than in total samples.

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FWAL limits were exceeded for chloride in water collected at four wells: MW-11-157, MW-12-169, MW-13-213 and MW-14-205. FWAL limits were also exceeded for aluminum, copper, lead, and zinc, as indicated below.

MW-12-185: copper
MW-12-187: copper, lead, zinc
MW-13-210: copper, lead, aluminum
MW-14-206: aluminum

The FWAL limit for aluminum is based on unfiltered water but is applied here to filtered samples. Aluminum concentrations are likely to be lower in filtered than in unfiltered samples.

Organic Chemicals

Most organic constituents that were analyzed in this study were not detected (42 detections in approximately 2700 analyses) and no organic chemicals were detected in surface water samples. Organic constituents that were not detected are listed in Table 3.

Organic chemicals (organics) were detected in water collected at six well sites (Table 4). Most organics were detected in water collected from MW-11-150 and this well contained 16 chemicals in concentrations exceeding applicable WQ limits (34 total organics detected; seven exceed BP limits, nine exceed FWAL limits). Organics were also present in concentrations exceeding applicable WQ limits in water collected at MW-11-157 (three organics detected, all exceed BP limits).

Organic chemicals were also detected in water collected at four additional wells (MW-11-150: five detections; MW-12-178: two detections; MW-13-213 and MW-14-205: one detection each). None of these detections exceeded WQ limits.

Semi-volatile organics results for MW-14-208 were not evaluated due to laboratory error.

Reference Citations

Ayers, R.S. and D.W. Westcot, 1985, Water Quality for Agriculture, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev.1, 107 p., Rome. Tables 1, 21, 28, and 30.

SWRCB, 2017, Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board Central Valley Region: The Sacramento River Basin and San Joaquin River Basin, Fourth Edition, Revised October 2011, with approved amendments and updates through July 2017, 148 p.

Marshack, J.B., 2017, A Compilation of Water Quality Goals. August 2003 with approved amendments and updates through July 2017: California Regional Water Quality Control Board, Central Valley Region.

Reclamation, 2015, *Water Quality Monitoring for San Joaquin River Seepage Management Projects – Water Quality Assessment and Quality Assurance Summary, Sample Collection: December, 2012*. United States Bureau of Reclamation, Mid Pacific Region, Division of Environmental Affairs, March, 8p. plus appendices.

Reclamation, 2013, *Water Quality Monitoring for San Joaquin River Seepage Management Projects – Water Quality Assessment and Quality Assurance Summary, Sample Collection: December, 2012*. United States Bureau of Reclamation, Mid Pacific Region, Division of Environmental Affairs, March, 20p. plus appendices.

Reclamation, 2012a, *Water Quality Monitoring for San Joaquin River Seepage Management Projects – Water Quality Assessment and Quality Assurance Summary, Sample Collection: December, 2012*. United States Bureau of Reclamation, Mid Pacific Region, Division of Environmental Affairs, March, 20p. plus appendices.

Reclamation, 2012b, *Standard Operating Procedures for Environmental Monitoring*, United States Bureau of Reclamation, Mid Pacific Region, Division of Environmental Affairs, August, 133p.

Reclamation, 2012c, *Standard Operating Procedures for Quality Assurance 2012-07*, United States Bureau of Reclamation, Mid Pacific Region, Environmental Monitoring Branch, May, 61p. plus appendices.

Table 1. Sample Collection Summary

Sample ID	Collection Date	Matrix	Site Name	Latitude (N)	Longitude (W)
SCP-118	3/13/2017	Ground Water	Well MW-13-210	36° 56' 40.92"	120° 28' 33.60"
SCP-119	3/13/2017	Ground Water	Well MW-13-213	36° 57' 50.04"	120° 29' 01.32"
SCP-120	3/13/2017	Ground Water	Well MW-11-157	36° 57' 58.58"	120° 29' 14.35"
SCP-121	3/13/2017	Ground Water	Well MW-13-216	36° 58' 33.96"	120° 29' 24.00"
SCP-122	3/14/2017	Ground Water	Well MW-12-169	37° 06' 23.79"	120° 35' 09.80"
SCP-126	3/14/2017	Ground Water	Well MW-14-208	37° 05' 56.45"	120° 34' 37.19"
SCP-127	3/14/2017	Ground Water	Well MW-14-205	37° 04' 38.31"	120° 33' 45.05"
SCP-128	3/14/2017	Ground Water	Well MW-14-206	37° 05' 00.66"	120° 34' 02.05"
SCP-129	3/14/2017	Ground Water	Well MW-12-178	37° 04' 37.96"	120° 33' 51.76"
SCP-130	3/14/2017	Ground Water	Well MW-11-149	37° 03' 55.36"	120° 33' 24.58"
SCP-131	3/15/2017	Ground Water	Well MW-12-183	36° 58' 53.82"	120° 30' 01.23"
SCP-135	3/15/2017	Ground Water	Well MW-12-181	36° 58' 28.59"	120° 29' 40.27"
SCP-136	3/15/2017	Ground Water	Well MW-11-150	36° 58' 12.59"	120° 29' 10.00"
SCP-137	3/15/2017	Ground Water	Well MW-12-191	36° 50' 35.27"	120° 25' 39.18"
SCP-138	3/15/2017	Ground Water	Well MW-12-185	36° 49' 28.63"	120° 24' 08.64"
SCP-139	3/15/2017	Ground Water	Well MW-12-187	36° 49' 30.25"	120° 23' 21.68"
SCP-140	3/21/2017	Surface Water	Bifurcation Structure	36° 46' 23.88"	120° 17' 05.96"
SCP-144	3/21/2017	Surface Water	Sack Dam	36° 59' 01.08"	120° 30' 01.64"
SCP-145	3/22/2017	Surface Water	SJR at Hwy 152	37° 03' 24.62"	120° 32' 58.39"

Table 2. Results of Inorganic Analyses and Physical Measurements

ID	Date	Site	Analyte	Units	Result	QA	RL	WQ Limit	WQ Obj	WQ Evaluation	Method
SCP118	3/13/2017	MW-13-210	ALKALINITY	mg/l	91.6		2.0	> 20	FWAL	Meets	SM 2320B
SCP119	3/13/2017	MW-13-213	ALKALINITY	mg/l	95.5		2.0	> 20	FWAL	Meets	SM 2320B
SCP120	3/13/2017	MW-11-157	ALKALINITY	mg/l	135		2.0	> 20	FWAL	Meets	SM 2320B
SCP121	3/13/2017	MW-13-216	ALKALINITY	mg/l	147		2.0	> 20	FWAL	Meets	SM 2320B
SCP122	3/14/2017	MW-12-169	ALKALINITY	mg/l	296		2.0	> 20	FWAL	Meets	SM 2320B
SCP126	3/14/2017	MW-14-208	ALKALINITY	mg/l	65.4		2.0	> 20	FWAL	Meets	SM 2320B
SCP127	3/14/2017	MW-14-205	ALKALINITY	mg/l	141		2.0	> 20	FWAL	Meets	SM 2320B
SCP128	3/14/2017	MW-14-206	ALKALINITY	mg/l	59.7		2.0	> 20	FWAL	Meets	SM 2320B
SCP129	3/14/2017	MW-12-178	ALKALINITY	mg/l	90.4		2.0	> 20	FWAL	Meets	SM 2320B
SCP130	3/14/2017	MW-11-149	ALKALINITY	mg/l	38.5		2.0	> 20	FWAL	Meets	SM 2320B
SCP131	3/15/2017	MW-12-183	ALKALINITY	mg/l	118		2.0	> 20	FWAL	Meets	SM 2320B
SCP135	3/15/2017	MW-12-181	ALKALINITY	mg/l	109		2.0	> 20	FWAL	Meets	SM 2320B
SCP136	3/15/2017	MW-11-150	ALKALINITY	mg/l	88.2		2.0	> 20	FWAL	Meets	SM 2320B
SCP137	3/15/2017	MW-12-191	ALKALINITY	mg/l	59.2		2.0	> 20	FWAL	Meets	SM 2320B
SCP138	3/15/2017	MW-12-185	ALKALINITY	mg/l	60.2		2.0	> 20	FWAL	Meets	SM 2320B
SCP139	3/15/2017	MW-12-187	ALKALINITY	mg/l	29.5		2.0	> 20	FWAL	Meets	SM 2320B
SCP140	3/21/2017	SJR @ Bifurcation Structure	ALKALINITY	mg/l	16.3		2.0	> 20	FWAL	Fails	SM 2320B
SCP144	3/21/2017	SJR @ Sack Dam	ALKALINITY	mg/l	24.5		2.0	> 20	FWAL	Meets	SM 2320B
SCP145	3/22/2017	SJR @ Hwy 152	ALKALINITY	mg/l	24.9		2.0	> 20	FWAL	Meets	SM 2320B
SCP118	3/13/2017	MW-13-210	ALUMINUM (DISSOLVED)	ug/l	405		20.0	< 87	FWAL	Fails	EPA 200.8
SCP119	3/13/2017	MW-13-213	ALUMINUM (DISSOLVED)	ug/l	< 20		20.0	< 87	FWAL	Meets	EPA 200.8
SCP120	3/13/2017	MW-11-157	ALUMINUM (DISSOLVED)	ug/l	64.3		20.0	< 87	FWAL	Meets	EPA 200.8
SCP121	3/13/2017	MW-13-216	ALUMINUM (DISSOLVED)	ug/l	< 20		20.0	< 87	FWAL	Meets	EPA 200.8
SCP122	3/14/2017	MW-12-169	ALUMINUM (DISSOLVED)	ug/l	< 20		20.0	< 87	FWAL	Meets	EPA 200.8
SCP126	3/14/2017	MW-14-208	ALUMINUM (DISSOLVED)	ug/l	26.5		20.0	< 87	FWAL	Meets	EPA 200.8
SCP127	3/14/2017	MW-14-205	ALUMINUM (DISSOLVED)	ug/l	< 20		20.0	< 87	FWAL	Meets	EPA 200.8
SCP128	3/14/2017	MW-14-206	ALUMINUM (DISSOLVED)	ug/l	94.2		20.0	< 87	FWAL	Fails	EPA 200.8
SCP129	3/14/2017	MW-12-178	ALUMINUM (DISSOLVED)	ug/l	35.1		20.0	< 87	FWAL	Meets	EPA 200.8
SCP130	3/14/2017	MW-11-149	ALUMINUM (DISSOLVED)	ug/l	< 20		20.0	< 87	FWAL	Meets	EPA 200.8
SCP131	3/15/2017	MW-12-183	ALUMINUM (DISSOLVED)	ug/l	< 20		20.0	< 87	FWAL	Meets	EPA 200.8
SCP135	3/15/2017	MW-12-181	ALUMINUM (DISSOLVED)	ug/l	< 20		20.0	< 87	FWAL	Meets	EPA 200.8
SCP136	3/15/2017	MW-11-150	ALUMINUM (DISSOLVED)	ug/l	< 20		20.0	< 87	FWAL	Meets	EPA 200.8
SCP137	3/15/2017	MW-12-191	ALUMINUM (DISSOLVED)	ug/l	< 20		20.0	< 87	FWAL	Meets	EPA 200.8
SCP138	3/15/2017	MW-12-185	ALUMINUM (DISSOLVED)	ug/l	< 20		20.0	< 87	FWAL	Meets	EPA 200.8
SCP139	3/15/2017	MW-12-187	ALUMINUM (DISSOLVED)	ug/l	< 20		20.0	< 87	FWAL	Meets	EPA 200.8
SCP140	3/21/2017	SJR @ Bifurcation Structure	ALUMINUM (DISSOLVED)	ug/l	35.7		20.0	< 87	FWAL	Meets	EPA 200.8
SCP144	3/21/2017	SJR @ Sack Dam	ALUMINUM (DISSOLVED)	ug/l	29.3		20.0	< 87	FWAL	Meets	EPA 200.8
SCP145	3/22/2017	SJR @ Hwy 152	ALUMINUM (DISSOLVED)	ug/l	23.7		20.0	< 87	FWAL	Meets	EPA 200.8
SCP118	3/13/2017	MW-13-210	AMMONIA AS N	mg/l	< 0.5	T	0.5	< 1.2	FWAL	Meets	EPA 350.1
SCP119	3/13/2017	MW-13-213	AMMONIA AS N	mg/l	< 0.5	T	0.5	< 2.2	FWAL	Meets	EPA 350.1

Table 2. Results of Inorganic Analyses and Physical Measurements

ID	Date	Site	Analyte	Units	Result	QA	RL	WQ Limit	WQ Obj	WQ Evaluation	Method
SCP120	3/13/2017	MW-11-157	AMMONIA AS N	mg/l	2	T	0.5	< 2.4	FWAL	Meets	EPA 350.1
SCP121	3/13/2017	MW-13-216	AMMONIA AS N	mg/l	< 0.5	T	0.5	< 1.8	FWAL	Meets	EPA 350.1
SCP122	3/14/2017	MW-12-169	AMMONIA AS N	mg/l	< 0.5	T	0.5	< 1.7	FWAL	Meets	EPA 350.1
SCP126	3/14/2017	MW-14-208	AMMONIA AS N	mg/l	< 0.5	T	0.5	< 1.2	FWAL	Meets	EPA 350.1
SCP127	3/14/2017	MW-14-205	AMMONIA AS N	mg/l	< 0.5	T	0.5	< 2.3	FWAL	Meets	EPA 350.1
SCP128	3/14/2017	MW-14-206	AMMONIA AS N	mg/l	< 0.5	T	0.5	< 1.8	FWAL	Meets	EPA 350.1
SCP129	3/14/2017	MW-12-178	AMMONIA AS N	mg/l	< 0.5	T	0.5	< 1.9	FWAL	Meets	EPA 350.1
SCP130	3/14/2017	MW-11-149	AMMONIA AS N	mg/l	< 0.5		0.5	< 2.4	FWAL	Meets	EPA 350.1
SCP131	3/15/2017	MW-12-183	AMMONIA AS N	mg/l	< 0.5		0.5	< 1.7	FWAL	Meets	EPA 350.1
SCP135	3/15/2017	MW-12-181	AMMONIA AS N	mg/l	< 0.5		0.5	< 1.9	FWAL	Meets	EPA 350.1
SCP136	3/15/2017	MW-11-150	AMMONIA AS N	mg/l	< 0.5		0.5	< 2.0	FWAL	Meets	EPA 350.1
SCP137	3/15/2017	MW-12-191	AMMONIA AS N	mg/l	< 0.5		0.5	< 2.4	FWAL	Meets	EPA 350.1
SCP138	3/15/2017	MW-12-185	AMMONIA AS N	mg/l	< 0.5		0.5	< 3.2	FWAL	Meets	EPA 350.1
SCP139	3/15/2017	MW-12-187	AMMONIA AS N	mg/l	< 0.5		0.5	< 3.0	FWAL	Meets	EPA 350.1
SCP140	3/21/2017	SJR @ Bifurcation Structure	AMMONIA AS N	mg/l	< 0.5		0.5	< 1.6	FWAL	Meets	EPA 350.1
SCP144	3/21/2017	SJR @ Sack Dam	AMMONIA AS N	mg/l	< 0.5		0.5	< 2.3	FWAL	Meets	EPA 350.1
SCP145	3/22/2017	SJR @ Hwy 152	AMMONIA AS N	mg/l	< 0.5		0.5	< 2.5	FWAL	Meets	EPA 350.1
SCP118	3/13/2017	MW-13-210	ARSENIC (DISSOLVED)	ug/l	4.7		0.5	< 150	FWAL	Meets	EPA 200.8
SCP119	3/13/2017	MW-13-213	ARSENIC (DISSOLVED)	ug/l	0.7		0.5	< 150	FWAL	Meets	EPA 200.8
SCP120	3/13/2017	MW-11-157	ARSENIC (DISSOLVED)	ug/l	1.9		0.5	< 150	FWAL	Meets	EPA 200.8
SCP121	3/13/2017	MW-13-216	ARSENIC (DISSOLVED)	ug/l	3.6		0.5	< 150	FWAL	Meets	EPA 200.8
SCP122	3/14/2017	MW-12-169	ARSENIC (DISSOLVED)	ug/l	4.3		0.5	< 150	FWAL	Meets	EPA 200.8
SCP126	3/14/2017	MW-14-208	ARSENIC (DISSOLVED)	ug/l	2.4		0.5	< 150	FWAL	Meets	EPA 200.8
SCP127	3/14/2017	MW-14-205	ARSENIC (DISSOLVED)	ug/l	11		0.5	< 150	FWAL	Meets	EPA 200.8
SCP128	3/14/2017	MW-14-206	ARSENIC (DISSOLVED)	ug/l	6.2		0.5	< 150	FWAL	Meets	EPA 200.8
SCP129	3/14/2017	MW-12-178	ARSENIC (DISSOLVED)	ug/l	7.3		0.5	< 150	FWAL	Meets	EPA 200.8
SCP130	3/14/2017	MW-11-149	ARSENIC (DISSOLVED)	ug/l	3		0.5	< 150	FWAL	Meets	EPA 200.8
SCP131	3/15/2017	MW-12-183	ARSENIC (DISSOLVED)	ug/l	2.9		0.5	< 150	FWAL	Meets	EPA 200.8
SCP135	3/15/2017	MW-12-181	ARSENIC (DISSOLVED)	ug/l	13.1		0.5	< 150	FWAL	Meets	EPA 200.8
SCP136	3/15/2017	MW-11-150	ARSENIC (DISSOLVED)	ug/l	3		0.5	< 150	FWAL	Meets	EPA 200.8
SCP137	3/15/2017	MW-12-191	ARSENIC (DISSOLVED)	ug/l	0.62		0.5	< 150	FWAL	Meets	EPA 200.8
SCP138	3/15/2017	MW-12-185	ARSENIC (DISSOLVED)	ug/l	5.1		0.5	< 150	FWAL	Meets	EPA 200.8
SCP139	3/15/2017	MW-12-187	ARSENIC (DISSOLVED)	ug/l	2.3		0.5	< 150	FWAL	Meets	EPA 200.8
SCP140	3/21/2017	SJR @ Bifurcation Structure	ARSENIC (DISSOLVED)	ug/l	1.3		0.5	< 150	FWAL	Meets	EPA 200.8
SCP144	3/21/2017	SJR @ Sack Dam	ARSENIC (DISSOLVED)	ug/l	0.87		0.5	< 150	FWAL	Meets	EPA 200.8
SCP145	3/22/2017	SJR @ Hwy 152	ARSENIC (DISSOLVED)	ug/l	0.85		0.5	< 150	FWAL	Meets	EPA 200.8
SCP118	3/13/2017	MW-13-210	BICARBONATE AS CaCO3	mg/l	91.6		2.0	< 92	IRRIG	Meets	SM 2320B
SCP119	3/13/2017	MW-13-213	BICARBONATE AS CaCO3	mg/l	95.5		2.0	< 92	IRRIG	restriction on use	SM 2320B
SCP120	3/13/2017	MW-11-157	BICARBONATE AS CaCO3	mg/l	135		2.0	< 92	IRRIG	restriction on use	SM 2320B
SCP121	3/13/2017	MW-13-216	BICARBONATE AS CaCO3	mg/l	147		2.0	< 92	IRRIG	restriction on use	SM 2320B

Table 2. Results of Inorganic Analyses and Physical Measurements

ID	Date	Site	Analyte	Units	Result	QA	RL	WQ Limit	WQ Obj	WQ Evaluation	Method
SCP122	3/14/2017	MW-12-169	BICARBONATE AS CaCO3	mg/l	296		2.0	< 92	IRRIG	restriction on use	SM 2320B
SCP126	3/14/2017	MW-14-208	BICARBONATE AS CaCO3	mg/l	65.4		2.0	< 92	IRRIG	Meets	SM 2320B
SCP127	3/14/2017	MW-14-205	BICARBONATE AS CaCO3	mg/l	141		2.0	< 92	IRRIG	restriction on use	SM 2320B
SCP128	3/14/2017	MW-14-206	BICARBONATE AS CaCO3	mg/l	59.7		2.0	< 92	IRRIG	Meets	SM 2320B
SCP129	3/14/2017	MW-12-178	BICARBONATE AS CaCO3	mg/l	90.4		2.0	< 92	IRRIG	Meets	SM 2320B
SCP130	3/14/2017	MW-11-149	BICARBONATE AS CaCO3	mg/l	38.5		2.0	< 92	IRRIG	Meets	SM 2320B
SCP131	3/15/2017	MW-12-183	BICARBONATE AS CaCO3	mg/l	118		2.0	< 92	IRRIG	restriction on use	SM 2320B
SCP135	3/15/2017	MW-12-181	BICARBONATE AS CaCO3	mg/l	109		2.0	< 92	IRRIG	restriction on use	SM 2320B
SCP136	3/15/2017	MW-11-150	BICARBONATE AS CaCO3	mg/l	88.2		2.0	< 92	IRRIG	Meets	SM 2320B
SCP137	3/15/2017	MW-12-191	BICARBONATE AS CaCO3	mg/l	59.2		2.0	< 92	IRRIG	Meets	SM 2320B
SCP138	3/15/2017	MW-12-185	BICARBONATE AS CaCO3	mg/l	60.2		2.0	< 92	IRRIG	Meets	SM 2320B
SCP139	3/15/2017	MW-12-187	BICARBONATE AS CaCO3	mg/l	29.5		2.0	< 92	IRRIG	Meets	SM 2320B
SCP140	3/21/2017	SJR @ Bifurcation Structure	BICARBONATE AS CaCO3	mg/l	< 2		2.0	< 92	IRRIG	Meets	SM 2320B
SCP144	3/21/2017	SJR @ Sack Dam	BICARBONATE AS CaCO3	mg/l	24.5		2.0	< 92	IRRIG	Meets	SM 2320B
SCP145	3/22/2017	SJR @ Hwy 152	BICARBONATE AS CaCO3	mg/l	24.9		2.0	< 92	IRRIG	Meets	SM 2320B
SCP118	3/13/2017	MW-13-210	BORON (DISSOLVED)	ug/l	204		10.0	< 0.7	IRRIG	restriction on use	EPA 200.8
SCP119	3/13/2017	MW-13-213	BORON (DISSOLVED)	ug/l	288		10.0	< 0.7	IRRIG	restriction on use	EPA 200.8
SCP120	3/13/2017	MW-11-157	BORON (DISSOLVED)	ug/l	333		10.0	< 0.7	IRRIG	restriction on use	EPA 200.8
SCP121	3/13/2017	MW-13-216	BORON (DISSOLVED)	ug/l	277		10.0	< 0.7	IRRIG	restriction on use	EPA 200.8
SCP122	3/14/2017	MW-12-169	BORON (DISSOLVED)	ug/l	46.4		10.0	< 0.7	IRRIG	restriction on use	EPA 200.8
SCP126	3/14/2017	MW-14-208	BORON (DISSOLVED)	ug/l	112		10.0	< 0.7	IRRIG	restriction on use	EPA 200.8
SCP127	3/14/2017	MW-14-205	BORON (DISSOLVED)	ug/l	79		10.0	< 0.7	IRRIG	restriction on use	EPA 200.8
SCP128	3/14/2017	MW-14-206	BORON (DISSOLVED)	ug/l	95.7		10.0	< 0.7	IRRIG	restriction on use	EPA 200.8
SCP129	3/14/2017	MW-12-178	BORON (DISSOLVED)	ug/l	169		10.0	< 0.7	IRRIG	restriction on use	EPA 200.8
SCP130	3/14/2017	MW-11-149	BORON (DISSOLVED)	ug/l	56.5		10.0	< 0.7	IRRIG	restriction on use	EPA 200.8
SCP131	3/15/2017	MW-12-183	BORON (DISSOLVED)	ug/l	213		10.0	< 0.7	IRRIG	restriction on use	EPA 200.8
SCP135	3/15/2017	MW-12-181	BORON (DISSOLVED)	ug/l	156		10.0	< 0.7	IRRIG	restriction on use	EPA 200.8
SCP136	3/15/2017	MW-11-150	BORON (DISSOLVED)	ug/l	190		10.0	< 0.7	IRRIG	restriction on use	EPA 200.8
SCP137	3/15/2017	MW-12-191	BORON (DISSOLVED)	ug/l	244		10.0	< 0.7	IRRIG	restriction on use	EPA 200.8
SCP138	3/15/2017	MW-12-185	BORON (DISSOLVED)	ug/l	59.8		10.0	< 0.7	IRRIG	restriction on use	EPA 200.8
SCP139	3/15/2017	MW-12-187	BORON (DISSOLVED)	ug/l	25.3		10.0	< 0.7	IRRIG	restriction on use	EPA 200.8
SCP140	3/21/2017	SJR @ Bifurcation Structure	BORON (DISSOLVED)	ug/l	14.8		10.0	< 0.7	IRRIG	restriction on use	EPA 200.8
SCP144	3/21/2017	SJR @ Sack Dam	BORON (DISSOLVED)	ug/l	14.3		10.0	< 2	BP	Fails	EPA 200.8
SCP145	3/22/2017	SJR @ Hwy 152	BORON (DISSOLVED)	ug/l	13.4		10.0	< 2	BP	Fails	EPA 200.8
SCP118	3/13/2017	MW-13-210	CADMIUM (DISSOLVED)	ug/l	< 0.1		0.100	< 2.701	FWAL	Meets	EPA 1638
SCP119	3/13/2017	MW-13-213	CADMIUM (DISSOLVED)	ug/l	0.1		0.100	< 2.990	FWAL	Meets	EPA 1638
SCP120	3/13/2017	MW-11-157	CADMIUM (DISSOLVED)	ug/l	< 0.5		0.500	< 4.323	FWAL	Meets	EPA 1638
SCP121	3/13/2017	MW-13-216	CADMIUM (DISSOLVED)	ug/l	< 0.1		0.100	< 1.581	FWAL	Meets	EPA 1638
SCP122	3/14/2017	MW-12-169	CADMIUM (DISSOLVED)	ug/l	< 1		1.00	< 7.408	FWAL	Meets	EPA 1638
SCP126	3/14/2017	MW-14-208	CADMIUM (DISSOLVED)	ug/l	< 0.1		0.100	< 1.215	FWAL	Meets	EPA 1638

Table 2. Results of Inorganic Analyses and Physical Measurements

ID	Date	Site	Analyte	Units	Result	QA	RL	WQ Limit	WQ Obj	WQ Evaluation	Method
SCP127	3/14/2017	MW-14-205	CADMIUM (DISSOLVED)	ug/l	< 0.1		0.100	< 2.050	FWAL	Meets	EPA 1638
SCP128	3/14/2017	MW-14-206	CADMIUM (DISSOLVED)	ug/l	< 0.1		0.100	< 1.268	FWAL	Meets	EPA 1638
SCP129	3/14/2017	MW-12-178	CADMIUM (DISSOLVED)	ug/l	< 1		1.00	< 2.287	FWAL	Meets	EPA 1638
SCP130	3/14/2017	MW-11-149	CADMIUM (DISSOLVED)	ug/l	< 0.1		0.100	< 0.656	FWAL	Meets	EPA 1638
SCP131	3/15/2017	MW-12-183	CADMIUM (DISSOLVED)	ug/l	< 0.1		0.100	< 1.966	FWAL	Meets	EPA 1638
SCP135	3/15/2017	MW-12-181	CADMIUM (DISSOLVED)	ug/l	< 0.1		0.100	< 1.598	FWAL	Meets	EPA 1638
SCP136	3/15/2017	MW-11-150	CADMIUM (DISSOLVED)	ug/l	< 0.1		0.100	< 2.168	FWAL	Meets	EPA 1638
SCP137	3/15/2017	MW-12-191	CADMIUM (DISSOLVED)	ug/l	< 0.1		0.100	< 2.497	FWAL	Meets	EPA 1638
SCP138	3/15/2017	MW-12-185	CADMIUM (DISSOLVED)	ug/l	< 0.1		0.100	< 0.529	FWAL	Meets	EPA 1638
SCP139	3/15/2017	MW-12-187	CADMIUM (DISSOLVED)	ug/l	< 0.1		0.100	< 0.267	FWAL	Meets	EPA 1638
SCP140	3/21/2017	SJR @ Bifurcation Structure	CADMIUM (DISSOLVED)	ug/l	< 0.1		0.100	< 0.190	FWAL	Meets	EPA 1638
SCP144	3/21/2017	SJR @ Sack Dam	CADMIUM (DISSOLVED)	ug/l	< 0.1		0.100	< 0.221	FWAL	Meets	EPA 1638
SCP145	3/22/2017	SJR @ Hwy 152	CADMIUM (DISSOLVED)	ug/l	< 0.1		0.100	< 0.219	FWAL	Meets	EPA 1638
SCP118	3/13/2017	MW-13-210	CALCIUM (DISSOLVED)	mg/l	73.3		0.0400	< -	-	Meets	EPA 200.8
SCP119	3/13/2017	MW-13-213	CALCIUM (DISSOLVED)	mg/l	123		0.0400	< -	-	Meets	EPA 200.8
SCP120	3/13/2017	MW-11-157	CALCIUM (DISSOLVED)	mg/l	161		0.0400	< -	-	Meets	EPA 200.8
SCP121	3/13/2017	MW-13-216	CALCIUM (DISSOLVED)	mg/l	57.9		0.0400	< -	-	Meets	EPA 200.8
SCP122	3/14/2017	MW-12-169	CALCIUM (DISSOLVED)	mg/l	588		0.0400	< -	-	Meets	EPA 200.8
SCP126	3/14/2017	MW-14-208	CALCIUM (DISSOLVED)	mg/l	18.4		0.0400	< -	-	Meets	EPA 200.8
SCP127	3/14/2017	MW-14-205	CALCIUM (DISSOLVED)	mg/l	176		0.0400	< -	-	Meets	EPA 200.8
SCP128	3/14/2017	MW-14-206	CALCIUM (DISSOLVED)	mg/l	33		0.0400	< -	-	Meets	EPA 200.8
SCP129	3/14/2017	MW-12-178	CALCIUM (DISSOLVED)	mg/l	58.5		0.0400	< -	-	Meets	EPA 200.8
SCP130	3/14/2017	MW-11-149	CALCIUM (DISSOLVED)	mg/l	6.82		0.0400	< -	-	Meets	EPA 200.8
SCP131	3/15/2017	MW-12-183	CALCIUM (DISSOLVED)	mg/l	49.4		0.0400	< -	-	Meets	EPA 200.8
SCP135	3/15/2017	MW-12-181	CALCIUM (DISSOLVED)	mg/l	32.4		0.0400	< -	-	Meets	EPA 200.8
SCP136	3/15/2017	MW-11-150	CALCIUM (DISSOLVED)	mg/l	43		0.0400	< -	-	Meets	EPA 200.8
SCP137	3/15/2017	MW-12-191	CALCIUM (DISSOLVED)	mg/l	46.4		0.0400	< -	-	Meets	EPA 200.8
SCP138	3/15/2017	MW-12-185	CALCIUM (DISSOLVED)	mg/l	11.1		0.0400	< -	-	Meets	EPA 200.8
SCP139	3/15/2017	MW-12-187	CALCIUM (DISSOLVED)	mg/l	5.32		0.0400	< -	-	Meets	EPA 200.8
SCP140	3/21/2017	SJR @ Bifurcation Structure	CALCIUM (DISSOLVED)	mg/l	4.92		0.0400	< -	-	Meets	EPA 200.8
SCP144	3/21/2017	SJR @ Sack Dam	CALCIUM (DISSOLVED)	mg/l	6.69		0.0400	< -	-	Meets	EPA 200.8
SCP145	3/22/2017	SJR @ Hwy 152	CALCIUM (DISSOLVED)	mg/l	6.99		0.0400	< -	-	Meets	EPA 200.8
SCP118	3/13/2017	MW-13-210	CARBONATE AS CaCO3	mg/l	< 2		2.0	< -	-	Meets	SM 2320B
SCP119	3/13/2017	MW-13-213	CARBONATE AS CaCO3	mg/l	< 2		2.0	< -	-	Meets	SM 2320B
SCP120	3/13/2017	MW-11-157	CARBONATE AS CaCO3	mg/l	< 2		2.0	< -	-	Meets	SM 2320B
SCP121	3/13/2017	MW-13-216	CARBONATE AS CaCO3	mg/l	< 2		2.0	< -	-	Meets	SM 2320B
SCP122	3/14/2017	MW-12-169	CARBONATE AS CaCO3	mg/l	< 2		2.0	< -	-	Meets	SM 2320B
SCP126	3/14/2017	MW-14-208	CARBONATE AS CaCO3	mg/l	< 2		2.0	< -	-	Meets	SM 2320B
SCP127	3/14/2017	MW-14-205	CARBONATE AS CaCO3	mg/l	< 2		2.0	< -	-	Meets	SM 2320B
SCP128	3/14/2017	MW-14-206	CARBONATE AS CaCO3	mg/l	< 2		2.0	< -	-	Meets	SM 2320B

Table 2. Results of Inorganic Analyses and Physical Measurements

ID	Date	Site	Analyte	Units	Result	QA	RL	WQ Limit	WQ Obj	WQ Evaluation	Method
SCP129	3/14/2017	MW-12-178	CARBONATE AS CaCO3	mg/l	< 2		2.0	< -	-	Meets	SM 2320B
SCP130	3/14/2017	MW-11-149	CARBONATE AS CaCO3	mg/l	< 2		2.0	< -	-	Meets	SM 2320B
SCP131	3/15/2017	MW-12-183	CARBONATE AS CaCO3	mg/l	< 2		2.0	< -	-	Meets	SM 2320B
SCP135	3/15/2017	MW-12-181	CARBONATE AS CaCO3	mg/l	< 2		2.0	< -	-	Meets	SM 2320B
SCP136	3/15/2017	MW-11-150	CARBONATE AS CaCO3	mg/l	< 2		2.0	< -	-	Meets	SM 2320B
SCP137	3/15/2017	MW-12-191	CARBONATE AS CaCO3	mg/l	< 2		2.0	< -	-	Meets	SM 2320B
SCP138	3/15/2017	MW-12-185	CARBONATE AS CaCO3	mg/l	< 2		2.0	< -	-	Meets	SM 2320B
SCP139	3/15/2017	MW-12-187	CARBONATE AS CaCO3	mg/l	< 2		2.0	< -	-	Meets	SM 2320B
SCP140	3/21/2017	SJR @ Bifurcation Structure	CARBONATE AS CaCO3	mg/l	< 2		2.0	< -	-	Meets	SM 2320B
SCP144	3/21/2017	SJR @ Sack Dam	CARBONATE AS CaCO3	mg/l	< 2		2.0	< -	-	Meets	SM 2320B
SCP145	3/22/2017	SJR @ Hwy 152	CARBONATE AS CaCO3	mg/l	< 2		2.0	< -	-	Meets	SM 2320B
SCP118	3/13/2017	MW-13-210	CHLORIDE (DISSOLVED)	mg/l	183		10.0	< <3-<40	IRRIG	restriction on use	EPA 300.0
SCP119	3/13/2017	MW-13-213	CHLORIDE (DISSOLVED)	mg/l	352		10.0	< <3-<41	IRRIG	restriction on use	EPA 300.0
SCP120	3/13/2017	MW-11-157	CHLORIDE (DISSOLVED)	mg/l	474		10.0	< <3-<42	IRRIG	restriction on use	EPA 300.0
SCP121	3/13/2017	MW-13-216	CHLORIDE (DISSOLVED)	mg/l	81		2.0	< <3-<43	IRRIG	restriction on use	EPA 300.0
SCP122	3/14/2017	MW-12-169	CHLORIDE (DISSOLVED)	mg/l	1930		200.0	< <3-<44	IRRIG	restriction on use	EPA 300.0
SCP126	3/14/2017	MW-14-208	CHLORIDE (DISSOLVED)	mg/l	37		2.0	< <3-<45	IRRIG	restriction on use	EPA 300.0
SCP127	3/14/2017	MW-14-205	CHLORIDE (DISSOLVED)	mg/l	349		10.0	< <3-<46	IRRIG	restriction on use	EPA 300.0
SCP128	3/14/2017	MW-14-206	CHLORIDE (DISSOLVED)	mg/l	46		2.0	< <3-<47	IRRIG	restriction on use	EPA 300.0
SCP129	3/14/2017	MW-12-178	CHLORIDE (DISSOLVED)	mg/l	114		5.0	< <3-<48	IRRIG	restriction on use	EPA 300.0
SCP130	3/14/2017	MW-11-149	CHLORIDE (DISSOLVED)	mg/l	7		1.0	< <3-<49	IRRIG	restriction on use	EPA 300.0
SCP131	3/15/2017	MW-12-183	CHLORIDE (DISSOLVED)	mg/l	107		5.0	< <3-<50	IRRIG	restriction on use	EPA 300.0
SCP135	3/15/2017	MW-12-181	CHLORIDE (DISSOLVED)	mg/l	46		2.0	< <3-<51	IRRIG	restriction on use	EPA 300.0
SCP136	3/15/2017	MW-11-150	CHLORIDE (DISSOLVED)	mg/l	82		5.0	< <3-<52	IRRIG	restriction on use	EPA 300.0
SCP137	3/15/2017	MW-12-191	CHLORIDE (DISSOLVED)	mg/l	155		5.0	< <3-<53	IRRIG	restriction on use	EPA 300.0
SCP138	3/15/2017	MW-12-185	CHLORIDE (DISSOLVED)	mg/l	3		1.0	< <3-<54	IRRIG	restriction on use	EPA 300.0
SCP139	3/15/2017	MW-12-187	CHLORIDE (DISSOLVED)	mg/l	2.6		1.0	< 3	IRRIG	Meets	EPA 300.0
SCP140	3/21/2017	SJR @ Bifurcation Structure	CHLORIDE (DISSOLVED)	mg/l	2.4		1.0	< 3	IRRIG	Meets	EPA 300.0
SCP144	3/21/2017	SJR @ Sack Dam	CHLORIDE (DISSOLVED)	mg/l	2.6		1.0	< 3	IRRIG	Meets	EPA 300.0
SCP145	3/22/2017	SJR @ Hwy 152	CHLORIDE (DISSOLVED)	mg/l	2.6		1.0	< 3	IRRIG	Meets	EPA 300.0
SCP118	3/13/2017	MW-13-210	COPPER (DISSOLVED)	ug/l	11.8		0.5	< 11.1	FWAL	Fails	EPA 200.8
SCP119	3/13/2017	MW-13-213	COPPER (DISSOLVED)	ug/l	< 0.5		0.5	< 12.5	FWAL	Meets	EPA 200.8
SCP120	3/13/2017	MW-11-157	COPPER (DISSOLVED)	ug/l	< 0.5		0.5	< 19.2	FWAL	Meets	EPA 200.8
SCP121	3/13/2017	MW-13-216	COPPER (DISSOLVED)	ug/l	0.57		0.5	< 6.0	FWAL	Meets	EPA 200.8
SCP122	3/14/2017	MW-12-169	COPPER (DISSOLVED)	ug/l	0.53		0.5	< 35.9	FWAL	Meets	EPA 200.8
SCP126	3/14/2017	MW-14-208	COPPER (DISSOLVED)	ug/l	3.3		0.5	< 4.4	FWAL	Meets	EPA 200.8
SCP127	3/14/2017	MW-14-205	COPPER (DISSOLVED)	ug/l	< 0.5		0.5	< 8.1	FWAL	Meets	EPA 200.8
SCP128	3/14/2017	MW-14-206	COPPER (DISSOLVED)	ug/l	< 0.5		0.5	< 4.6	FWAL	Meets	EPA 200.8
SCP129	3/14/2017	MW-12-178	COPPER (DISSOLVED)	ug/l	0.52		0.5	< 9.2	FWAL	Meets	EPA 200.8
SCP130	3/14/2017	MW-11-149	COPPER (DISSOLVED)	ug/l	1.4		0.5	< 2.2	FWAL	Meets	EPA 200.8

Table 2. Results of Inorganic Analyses and Physical Measurements

ID	Date	Site	Analyte	Units	Result	QA	RL	WQ Limit	WQ Obj	WQ Evaluation	Method
SCP131	3/15/2017	MW-12-183	COPPER (DISSOLVED)	ug/l	0.95		0.5	< 7.7	FWAL	Meets	EPA 200.8
SCP135	3/15/2017	MW-12-181	COPPER (DISSOLVED)	ug/l	< 0.5		0.5	< 6.1	FWAL	Meets	EPA 200.8
SCP136	3/15/2017	MW-11-150	COPPER (DISSOLVED)	ug/l	< 0.5		0.5	< 8.6	FWAL	Meets	EPA 200.8
SCP137	3/15/2017	MW-12-191	COPPER (DISSOLVED)	ug/l	8.6		0.5	< 10.2	FWAL	Meets	EPA 200.8
SCP138	3/15/2017	MW-12-185	COPPER (DISSOLVED)	ug/l	2.1		0.5	< 1.7	FWAL	Fails	EPA 200.8
SCP139	3/15/2017	MW-12-187	COPPER (DISSOLVED)	ug/l	1.1		0.5	< 0.8	FWAL	Fails	EPA 200.8
SCP140	3/21/2017	SJR @ Bifurcation Structure	COPPER (DISSOLVED)	ug/l	0.56		0.5	< 0.5	FWAL	Fails	EPA 200.8
SCP144	3/21/2017	SJR @ Sack Dam	COPPER (DISSOLVED)	ug/l	2.1		0.5	< 0.6	FWAL	Fails	EPA 200.8
SCP145	3/22/2017	SJR @ Hwy 152	COPPER (DISSOLVED)	ug/l	1.5		0.5	< 0.6	FWAL	Fails	EPA 200.8
SCP118	3/13/2017	MW-13-210	EC	µS/cm	1110		N/A	< 700	IRRIG	restriction on use	YSI 600XL Sonde
SCP119	3/13/2017	MW-13-213	EC	µS/cm	1545		N/A	< 700	IRRIG	restriction on use	YSI 600XL Sonde
SCP120	3/13/2017	MW-11-157	EC	µS/cm	2326		N/A	< 700	IRRIG	restriction on use	YSI 600XL Sonde
SCP121	3/13/2017	MW-13-216	EC	µS/cm	623		N/A	< 700	IRRIG	Meets	YSI 600XL Sonde
SCP122	3/14/2017	MW-12-169	EC	µS/cm	6244		N/A	< 700	IRRIG	restriction on use	YSI 600XL Sonde
SCP126	3/14/2017	MW-14-208	EC	µS/cm	315		N/A	< 700	IRRIG	Meets	YSI 600XL Sonde
SCP127	3/14/2017	MW-14-205	EC	µS/cm	1558		N/A	< 700	IRRIG	restriction on use	YSI 600XL Sonde
SCP128	3/14/2017	MW-14-206	EC	µS/cm	496		N/A	< 700	IRRIG	Meets	YSI 600XL Sonde
SCP129	3/14/2017	MW-12-178	EC	µS/cm	860		N/A	< 700	IRRIG	restriction on use	YSI 600XL Sonde
SCP130	3/14/2017	MW-11-149	EC	µS/cm	141		N/A	< 700	IRRIG	Meets	YSI 600XL Sonde
SCP131	3/15/2017	MW-12-183	EC	µS/cm	719		N/A	< 700	IRRIG	restriction on use	YSI 600XL Sonde
SCP135	3/15/2017	MW-12-181	EC	µS/cm	482		N/A	< 700	IRRIG	Meets	YSI 600XL Sonde
SCP136	3/15/2017	MW-11-150	EC	µS/cm	747		N/A	< 700	IRRIG	restriction on use	YSI 600XL Sonde
SCP137	3/15/2017	MW-12-191	EC	µS/cm	1013		N/A	< 700	IRRIG	restriction on use	YSI 600XL Sonde
SCP138	3/15/2017	MW-12-185	EC	µS/cm	149		N/A	< 700	IRRIG	Meets	YSI 600XL Sonde
SCP139	3/15/2017	MW-12-187	EC	µS/cm	79		N/A	< 700	IRRIG	Meets	YSI 600XL Sonde
SCP140	3/21/2017	SJR @ Bifurcation Structure	EC	µS/cm	48		N/A	< 700	IRRIG	Meets	YSI 600XL Sonde
SCP144	3/21/2017	SJR @ Sack Dam	EC	µS/cm	66		N/A	< 700	IRRIG	Meets	YSI 600XL Sonde
SCP145	3/22/2017	SJR @ Hwy 152	EC	µS/cm	65		N/A	< 700	IRRIG	Meets	YSI 600XL Sonde
SCP118	3/13/2017	MW-13-210	Hardness	N/A	129		N/A	< -	-	Meets	Calculation
SCP119	3/13/2017	MW-13-213	Hardness	N/A	148		N/A	< -	-	Meets	Calculation
SCP120	3/13/2017	MW-11-157	Hardness	N/A	244		N/A	< -	-	Meets	Calculation
SCP121	3/13/2017	MW-13-216	Hardness	N/A	63		N/A	< -	-	Meets	Calculation
SCP122	3/14/2017	MW-12-169	Hardness	N/A	507		N/A	< -	-	Meets	Calculation
SCP126	3/14/2017	MW-14-208	Hardness	N/A	44		N/A	< -	-	Meets	Calculation
SCP127	3/14/2017	MW-14-205	Hardness	N/A	89		N/A	< -	-	Meets	Calculation
SCP128	3/14/2017	MW-14-206	Hardness	N/A	46		N/A	< -	-	Meets	Calculation
SCP129	3/14/2017	MW-12-178	Hardness	N/A	103		N/A	< -	-	Meets	Calculation
SCP130	3/14/2017	MW-11-149	Hardness	N/A	19		N/A	< -	-	Meets	Calculation
SCP131	3/15/2017	MW-12-183	Hardness	N/A	84		N/A	< -	-	Meets	Calculation
SCP135	3/15/2017	MW-12-181	Hardness	N/A	63		N/A	< -	-	Meets	Calculation

Table 2. Results of Inorganic Analyses and Physical Measurements

ID	Date	Site	Analyte	Units	Result	QA	RL	WQ Limit	WQ Obj	WQ Evaluation	Method
SCP136	3/15/2017	MW-11-150	Hardness	N/A	96		N/A	< -	-	Meets	Calculation
SCP137	3/15/2017	MW-12-191	Hardness	N/A	116		N/A	< -	-	Meets	Calculation
SCP138	3/15/2017	MW-12-185	Hardness	N/A	14		N/A	< -	-	Meets	Calculation
SCP139	3/15/2017	MW-12-187	Hardness	N/A	6		N/A	< -	-	Meets	Calculation
SCP140	3/21/2017	SJR @ Bifurcation Structure	Hardness	N/A	4		N/A	< -	-	Meets	Calculation
SCP144	3/21/2017	SJR @ Sack Dam	Hardness	N/A	4		N/A	< -	-	Meets	Calculation
SCP145	3/22/2017	SJR @ Hwy 152	Hardness	N/A	4		N/A	< -	-	Meets	Calculation
SCP118	3/13/2017	MW-13-210	LEAD (DISSOLVED)	ug/l	3.7		0.2	< 3.3	FWAL	FAILS	EPA 200.8
SCP119	3/13/2017	MW-13-213	LEAD (DISSOLVED)	ug/l	< 0.2		0.2	< 3.8	FWAL	Meets	EPA 200.8
SCP120	3/13/2017	MW-11-157	LEAD (DISSOLVED)	ug/l	< 0.2		0.2	< 6.5	FWAL	Meets	EPA 200.8
SCP121	3/13/2017	MW-13-216	LEAD (DISSOLVED)	ug/l	< 0.2		0.2	< 1.5	FWAL	Meets	EPA 200.8
SCP122	3/14/2017	MW-12-169	LEAD (DISSOLVED)	ug/l	< 0.2		0.2	< 13.9	FWAL	Meets	EPA 200.8
SCP126	3/14/2017	MW-14-208	LEAD (DISSOLVED)	ug/l	< 0.2		0.2	< 1.0	FWAL	Meets	EPA 200.8
SCP127	3/14/2017	MW-14-205	LEAD (DISSOLVED)	ug/l	< 0.2		0.2	< 2.2	FWAL	Meets	EPA 200.8
SCP128	3/14/2017	MW-14-206	LEAD (DISSOLVED)	ug/l	< 0.2		0.2	< 1.1	FWAL	Meets	EPA 200.8
SCP129	3/14/2017	MW-12-178	LEAD (DISSOLVED)	ug/l	< 0.2		0.2	< 2.6	FWAL	Meets	EPA 200.8
SCP130	3/14/2017	MW-11-149	LEAD (DISSOLVED)	ug/l	< 0.2		0.2	< 0.4	FWAL	Meets	EPA 200.8
SCP131	3/15/2017	MW-12-183	LEAD (DISSOLVED)	ug/l	< 0.2		0.2	< 2.1	FWAL	Meets	EPA 200.8
SCP135	3/15/2017	MW-12-181	LEAD (DISSOLVED)	ug/l	< 0.2		0.2	< 1.5	FWAL	Meets	EPA 200.8
SCP136	3/15/2017	MW-11-150	LEAD (DISSOLVED)	ug/l	0.21		0.2	< 2.4	FWAL	Meets	EPA 200.8
SCP137	3/15/2017	MW-12-191	LEAD (DISSOLVED)	ug/l	< 0.2		0.2	< 3.0	FWAL	Meets	EPA 200.8
SCP138	3/15/2017	MW-12-185	LEAD (DISSOLVED)	ug/l	< 0.2		0.2	< 0.3	FWAL	Meets	EPA 200.8
SCP139	3/15/2017	MW-12-187	LEAD (DISSOLVED)	ug/l	< 0.2		0.2	< 0.1	FWAL	insufficient RL	EPA 200.8
SCP140	3/21/2017	SJR @ Bifurcation Structure	LEAD (DISSOLVED)	ug/l	0.22		0.2	< 0.1	FWAL	FAILS	EPA 200.8
SCP144	3/21/2017	SJR @ Sack Dam	LEAD (DISSOLVED)	ug/l	< 0.2		0.2	< 0.1	FWAL	insufficient RL	EPA 200.8
SCP145	3/22/2017	SJR @ Hwy 152	LEAD (DISSOLVED)	ug/l	< 0.2		0.2	< 0.1	FWAL	insufficient RL	EPA 200.8
SCP118	3/13/2017	MW-13-210	MAGNESIUM (DISSOLVED)	mg/l	18.9		0.1000	< 250	IRRIG	Meets	EPA 200.8
SCP119	3/13/2017	MW-13-213	MAGNESIUM (DISSOLVED)	mg/l	35.2		0.1000	< 250	IRRIG	Meets	EPA 200.8
SCP120	3/13/2017	MW-11-157	MAGNESIUM (DISSOLVED)	mg/l	39.3		0.1000	< 250	IRRIG	Meets	EPA 200.8
SCP121	3/13/2017	MW-13-216	MAGNESIUM (DISSOLVED)	mg/l	8.36		0.1000	< 250	IRRIG	Meets	EPA 200.8
SCP122	3/14/2017	MW-12-169	MAGNESIUM (DISSOLVED)	mg/l	142		0.1000	< 250	IRRIG	Meets	EPA 200.8
SCP126	3/14/2017	MW-14-208	MAGNESIUM (DISSOLVED)	mg/l	5.08		0.1000	< 250	IRRIG	Meets	EPA 200.8
SCP127	3/14/2017	MW-14-205	MAGNESIUM (DISSOLVED)	mg/l	29.6		0.1000	< 250	IRRIG	Meets	EPA 200.8
SCP128	3/14/2017	MW-14-206	MAGNESIUM (DISSOLVED)	mg/l	6.81		0.1000	< 250	IRRIG	Meets	EPA 200.8
SCP129	3/14/2017	MW-12-178	MAGNESIUM (DISSOLVED)	mg/l	15.8		0.1000	< 250	IRRIG	Meets	EPA 200.8
SCP130	3/14/2017	MW-11-149	MAGNESIUM (DISSOLVED)	mg/l	2.6		0.1000	< 250	IRRIG	Meets	EPA 200.8
SCP131	3/15/2017	MW-12-183	MAGNESIUM (DISSOLVED)	mg/l	10.6		0.1000	< 250	IRRIG	Meets	EPA 200.8
SCP135	3/15/2017	MW-12-181	MAGNESIUM (DISSOLVED)	mg/l	7.75		0.1000	< 250	IRRIG	Meets	EPA 200.8
SCP136	3/15/2017	MW-11-150	MAGNESIUM (DISSOLVED)	mg/l	15.4		0.1000	< 250	IRRIG	Meets	EPA 200.8
SCP137	3/15/2017	MW-12-191	MAGNESIUM (DISSOLVED)	mg/l	18.9		0.1000	< 250	IRRIG	Meets	EPA 200.8

Table 2. Results of Inorganic Analyses and Physical Measurements

ID	Date	Site	Analyte	Units	Result	QA	RL	WQ Limit	WQ Obj	WQ Evaluation	Method
SCP138	3/15/2017	MW-12-185	MAGNESIUM (DISSOLVED)	mg/l	5.29		0.1000	< 250	IRRIG	Meets	EPA 200.8
SCP139	3/15/2017	MW-12-187	MAGNESIUM (DISSOLVED)	mg/l	3.23		0.1000	< 250	IRRIG	Meets	EPA 200.8
SCP140	3/21/2017	SJR @ Bifurcation Structure	MAGNESIUM (DISSOLVED)	mg/l	0.92		0.1000	< 250	IRRIG	Meets	EPA 200.8
SCP144	3/21/2017	SJR @ Sack Dam	MAGNESIUM (DISSOLVED)	mg/l	1.53		0.1000	< 250	IRRIG	Meets	EPA 200.8
SCP145	3/22/2017	SJR @ Hwy 152	MAGNESIUM (DISSOLVED)	mg/l	1.53		0.1000	< 250	IRRIG	Meets	EPA 200.8
SCP118	3/13/2017	MW-13-210	MERCURY	ng/l	12.3		2.00	< 770	FWAL	Meets	EPA 1631E
SCP119	3/13/2017	MW-13-213	MERCURY	ng/l	13.4		2.00	< 770	FWAL	Meets	EPA 1631E
SCP120	3/13/2017	MW-11-157	MERCURY	ng/l	< 2		2.00	< 770	FWAL	Meets	EPA 1631E
SCP121	3/13/2017	MW-13-216	MERCURY	ng/l	18.5		2.00	< 770	FWAL	Meets	EPA 1631E
SCP122	3/14/2017	MW-12-169	MERCURY	ng/l	< 10		10.0	< 770	FWAL	Meets	EPA 1631E
SCP126	3/14/2017	MW-14-208	MERCURY	ng/l	12.9		2.00	< 770	FWAL	Meets	EPA 1631E
SCP127	3/14/2017	MW-14-205	MERCURY	ng/l	3.71		2.00	< 770	FWAL	Meets	EPA 1631E
SCP128	3/14/2017	MW-14-206	MERCURY	ng/l	3.8		2.00	< 770	FWAL	Meets	EPA 1631E
SCP129	3/14/2017	MW-12-178	MERCURY	ng/l	3.59		2.00	< 770	FWAL	Meets	EPA 1631E
SCP130	3/14/2017	MW-11-149	MERCURY	ng/l	5.86		2.00	< 770	FWAL	Meets	EPA 1631E
SCP135	3/15/2017	MW-12-181	MERCURY	ng/l	3.14		2.00	< 770	FWAL	Meets	EPA 1631E
SCP136	3/15/2017	MW-11-150	MERCURY	ng/l	3.81		2.00	< 770	FWAL	Meets	EPA 1631E
SCP137	3/15/2017	MW-12-191	MERCURY	ng/l	3.9		2.00	< 770	FWAL	Meets	EPA 1631E
SCP138	3/15/2017	MW-12-185	MERCURY	ng/l	19.3		2.00	< 770	FWAL	Meets	EPA 1631E
SCP139	3/15/2017	MW-12-187	MERCURY	ng/l	14.1		10.0	< 770	FWAL	Meets	EPA 1631E
SCP140	3/21/2017	SJR @ Bifurcation Structure	MERCURY	ng/l	2.41		2.00	< 770	FWAL	Meets	EPA 1631E
SCP144	3/21/2017	SJR @ Sack Dam	MERCURY	ng/l	3.1		2.00	< 770	FWAL	Meets	EPA 1631E
SCP145	3/22/2017	SJR @ Hwy 152	MERCURY	ng/l	3.27		2.00	< 770	FWAL	Meets	EPA 1631E
SCP118	3/13/2017	MW-13-210	MOLYBDENUM (DISSOLVED)	ug/l	2.5		0.5	< -	-	Meets	EPA 200.8
SCP119	3/13/2017	MW-13-213	MOLYBDENUM (DISSOLVED)	ug/l	2		0.5	< -	-	Meets	EPA 200.8
SCP120	3/13/2017	MW-11-157	MOLYBDENUM (DISSOLVED)	ug/l	0.75		0.5	< -	-	Meets	EPA 200.8
SCP121	3/13/2017	MW-13-216	MOLYBDENUM (DISSOLVED)	ug/l	2		0.5	< -	-	Meets	EPA 200.8
SCP122	3/14/2017	MW-12-169	MOLYBDENUM (DISSOLVED)	ug/l	< 0.5		0.5	< -	-	Meets	EPA 200.8
SCP126	3/14/2017	MW-14-208	MOLYBDENUM (DISSOLVED)	ug/l	11.1		0.5	< -	-	Meets	EPA 200.8
SCP127	3/14/2017	MW-14-205	MOLYBDENUM (DISSOLVED)	ug/l	2.1		0.5	< -	-	Meets	EPA 200.8
SCP128	3/14/2017	MW-14-206	MOLYBDENUM (DISSOLVED)	ug/l	3.2		0.5	< -	-	Meets	EPA 200.8
SCP129	3/14/2017	MW-12-178	MOLYBDENUM (DISSOLVED)	ug/l	1.5		0.5	< -	-	Meets	EPA 200.8
SCP130	3/14/2017	MW-11-149	MOLYBDENUM (DISSOLVED)	ug/l	3.9		0.5	< -	-	Meets	EPA 200.8
SCP131	3/15/2017	MW-12-183	MOLYBDENUM (DISSOLVED)	ug/l	5		0.5	< -	-	Meets	EPA 200.8
SCP135	3/15/2017	MW-12-181	MOLYBDENUM (DISSOLVED)	ug/l	2.8		0.5	< -	-	Meets	EPA 200.8
SCP136	3/15/2017	MW-11-150	MOLYBDENUM (DISSOLVED)	ug/l	5.8		0.5	< -	-	Meets	EPA 200.8
SCP137	3/15/2017	MW-12-191	MOLYBDENUM (DISSOLVED)	ug/l	3.3		0.5	< -	-	Meets	EPA 200.8
SCP138	3/15/2017	MW-12-185	MOLYBDENUM (DISSOLVED)	ug/l	1.9		0.5	< -	-	Meets	EPA 200.8
SCP139	3/15/2017	MW-12-187	MOLYBDENUM (DISSOLVED)	ug/l	< 0.5		0.5	< -	-	Meets	EPA 200.8
SCP140	3/21/2017	SJR @ Bifurcation Structure	MOLYBDENUM (DISSOLVED)	ug/l	1.4		0.5	< -	-	Meets	EPA 200.8

Table 2. Results of Inorganic Analyses and Physical Measurements

ID	Date	Site	Analyte	Units	Result	QA	RL	WQ Limit	WQ Obj	WQ Evaluation	Method
SCP144	3/21/2017	SJR @ Sack Dam	MOLYBDENUM (DISSOLVED)	ug/l	1.3		0.5	< -	-	Meets	EPA 200.8
SCP145	3/22/2017	SJR @ Hwy 152	MOLYBDENUM (DISSOLVED)	ug/l	1.3		0.5	< -	-	Meets	EPA 200.8
SCP118	3/13/2017	MW-13-210	NICKEL (DISSOLVED)	ug/l	16.1		0.5	< 64.5	FWAL	Meets	EPA 200.8
SCP119	3/13/2017	MW-13-213	NICKEL (DISSOLVED)	ug/l	1.3		0.5	< 72.5	FWAL	Meets	EPA 200.8
SCP120	3/13/2017	MW-11-157	NICKEL (DISSOLVED)	ug/l	1.7		0.5	< 110.6	FWAL	Meets	EPA 200.8
SCP121	3/13/2017	MW-13-216	NICKEL (DISSOLVED)	ug/l	0.67		0.5	< 34.9	FWAL	Meets	EPA 200.8
SCP122	3/14/2017	MW-12-169	NICKEL (DISSOLVED)	ug/l	4.7		0.5	< 205.3	FWAL	Meets	EPA 200.8
SCP126	3/14/2017	MW-14-208	NICKEL (DISSOLVED)	ug/l	2.5		0.5	< 25.9	FWAL	Meets	EPA 200.8
SCP127	3/14/2017	MW-14-205	NICKEL (DISSOLVED)	ug/l	0.6		0.5	< 47.0	FWAL	Meets	EPA 200.8
SCP128	3/14/2017	MW-14-206	NICKEL (DISSOLVED)	ug/l	0.53		0.5	< 27.2	FWAL	Meets	EPA 200.8
SCP129	3/14/2017	MW-12-178	NICKEL (DISSOLVED)	ug/l	0.59		0.5	< 53.3	FWAL	Meets	EPA 200.8
SCP130	3/14/2017	MW-11-149	NICKEL (DISSOLVED)	ug/l	2.8		0.5	< 12.8	FWAL	Meets	EPA 200.8
SCP131	3/15/2017	MW-12-183	NICKEL (DISSOLVED)	ug/l	3.7		0.5	< 44.8	FWAL	Meets	EPA 200.8
SCP135	3/15/2017	MW-12-181	NICKEL (DISSOLVED)	ug/l	0.64		0.5	< 35.4	FWAL	Meets	EPA 200.8
SCP136	3/15/2017	MW-11-150	NICKEL (DISSOLVED)	ug/l	1		0.5	< 50.2	FWAL	Meets	EPA 200.8
SCP137	3/15/2017	MW-12-191	NICKEL (DISSOLVED)	ug/l	2.1		0.5	< 59.0	FWAL	Meets	EPA 200.8
SCP138	3/15/2017	MW-12-185	NICKEL (DISSOLVED)	ug/l	4.3		0.5	< 10.0	FWAL	Meets	EPA 200.8
SCP139	3/15/2017	MW-12-187	NICKEL (DISSOLVED)	ug/l	0.8		0.5	< 4.6	FWAL	Meets	EPA 200.8
SCP140	3/21/2017	SJR @ Bifurcation Structure	NICKEL (DISSOLVED)	ug/l	3.3		0.5	< 3.1	FWAL	FAILS	EPA 200.8
SCP144	3/21/2017	SJR @ Sack Dam	NICKEL (DISSOLVED)	ug/l	2.9		0.5	< 3.7	FWAL	Meets	EPA 200.8
SCP145	3/22/2017	SJR @ Hwy 152	NICKEL (DISSOLVED)	ug/l	3.1		0.5	< 3.7	FWAL	Meets	EPA 200.8
SCP118	3/13/2017	MW-13-210	NITRATE AS NO3 (DISSOLVED)	mg/l	12.6		0.5	< 30	IRRIG	Meets	EPA 300.0
SCP119	3/13/2017	MW-13-213	NITRATE AS NO3 (DISSOLVED)	mg/l	3.2		1.0	< 30	IRRIG	Meets	EPA 300.0
SCP120	3/13/2017	MW-11-157	NITRATE AS NO3 (DISSOLVED)	mg/l	11.6		1.0	< 30	IRRIG	Meets	EPA 300.0
SCP121	3/13/2017	MW-13-216	NITRATE AS NO3 (DISSOLVED)	mg/l	< 0.5		0.5	< 30	IRRIG	Meets	EPA 300.0
SCP122	3/14/2017	MW-12-169	NITRATE AS NO3 (DISSOLVED)	mg/l	43.4		2.5	< 30	IRRIG	FAILS	EPA 300.0
SCP126	3/14/2017	MW-14-208	NITRATE AS NO3 (DISSOLVED)	mg/l	5.9		0.5	< 30	IRRIG	Meets	EPA 300.0
SCP127	3/14/2017	MW-14-205	NITRATE AS NO3 (DISSOLVED)	mg/l	23.8		1.0	< 30	IRRIG	Meets	EPA 300.0
SCP128	3/14/2017	MW-14-206	NITRATE AS NO3 (DISSOLVED)	mg/l	39.2		0.5	< 30	IRRIG	FAILS	EPA 300.0
SCP129	3/14/2017	MW-12-178	NITRATE AS NO3 (DISSOLVED)	mg/l	58.1		0.5	< 30	IRRIG	FAILS	EPA 300.0
SCP130	3/14/2017	MW-11-149	NITRATE AS NO3 (DISSOLVED)	mg/l	3.6		0.5	< 30	IRRIG	Meets	EPA 300.0
SCP131	3/15/2017	MW-12-183	NITRATE AS NO3 (DISSOLVED)	mg/l	0.75		0.5	< 30	IRRIG	Meets	EPA 300.0
SCP135	3/15/2017	MW-12-181	NITRATE AS NO3 (DISSOLVED)	mg/l	9.6		0.5	< 30	IRRIG	Meets	EPA 300.0
SCP136	3/15/2017	MW-11-150	NITRATE AS NO3 (DISSOLVED)	mg/l	18.1		0.5	< 30	IRRIG	Meets	EPA 300.0
SCP137	3/15/2017	MW-12-191	NITRATE AS NO3 (DISSOLVED)	mg/l	22.9		0.5	< 30	IRRIG	Meets	EPA 300.0
SCP138	3/15/2017	MW-12-185	NITRATE AS NO3 (DISSOLVED)	mg/l	1.5		0.5	< 30	IRRIG	Meets	EPA 300.0
SCP139	3/15/2017	MW-12-187	NITRATE AS NO3 (DISSOLVED)	mg/l	1.5		0.5	< 30	IRRIG	Meets	EPA 300.0
SCP140	3/21/2017	SJR @ Bifurcation Structure	NITRATE AS NO3 (DISSOLVED)	mg/l	0.9		0.5	< 30	IRRIG	Meets	EPA 300.0
SCP144	3/21/2017	SJR @ Sack Dam	NITRATE AS NO3 (DISSOLVED)	mg/l	1.7		0.5	< 30	IRRIG	Meets	EPA 300.0
SCP145	3/22/2017	SJR @ Hwy 152	NITRATE AS NO3 (DISSOLVED)	mg/l	1.8		0.5	< 30	IRRIG	Meets	EPA 300.0

Table 2. Results of Inorganic Analyses and Physical Measurements

ID	Date	Site	Analyte	Units	Result	QA	RL	WQ Limit	WQ Obj	WQ Evaluation	Method
SCP140	3/21/2017	SJR @ Bifurcation Structure	ORTHOPHOSPHATE AS P (DISSOLVED)	mg/l	< 0.6		0.6	< -	-	Meets	EPA 300.0
SCP144	3/21/2017	SJR @ Sack Dam	ORTHOPHOSPHATE AS P (DISSOLVED)	mg/l	< 0.6		0.6	< -	-	Meets	EPA 300.0
SCP145	3/22/2017	SJR @ Hwy 152	ORTHOPHOSPHATE AS P (DISSOLVED)	mg/l	< 0.6		0.6	< -	-	Meets	EPA 300.0
SCP118	3/13/2017	MW-13-210	ORTHOPHOSPHATE AS PO4 (DISSOLVED)	mg/l	< 0.6		0.6	< -	-	Meets	EPA 300.0
SCP119	3/13/2017	MW-13-213	ORTHOPHOSPHATE AS PO4 (DISSOLVED)	mg/l	1.5		1.2	< -	-	Meets	EPA 300.0
SCP120	3/13/2017	MW-11-157	ORTHOPHOSPHATE AS PO4 (DISSOLVED)	mg/l	1.7		1.2	< -	-	Meets	EPA 300.0
SCP121	3/13/2017	MW-13-216	ORTHOPHOSPHATE AS PO4 (DISSOLVED)	mg/l	1.6		0.6	< -	-	Meets	EPA 300.0
SCP122	3/14/2017	MW-12-169	ORTHOPHOSPHATE AS PO4 (DISSOLVED)	mg/l	7.3		3.0	< -	-	Meets	EPA 300.0
SCP126	3/14/2017	MW-14-208	ORTHOPHOSPHATE AS PO4 (DISSOLVED)	mg/l	1.1		0.6	< -	-	Meets	EPA 300.0
SCP127	3/14/2017	MW-14-205	ORTHOPHOSPHATE AS PO4 (DISSOLVED)	mg/l	2.5		1.2	< -	-	Meets	EPA 300.0
SCP128	3/14/2017	MW-14-206	ORTHOPHOSPHATE AS PO4 (DISSOLVED)	mg/l	1.1		0.6	< -	-	Meets	EPA 300.0
SCP129	3/14/2017	MW-12-178	ORTHOPHOSPHATE AS PO4 (DISSOLVED)	mg/l	< 0.6		0.6	< -	-	Meets	EPA 300.0
SCP130	3/14/2017	MW-11-149	ORTHOPHOSPHATE AS PO4 (DISSOLVED)	mg/l	1.1		0.6	< -	-	Meets	EPA 300.0
SCP131	3/15/2017	MW-12-183	ORTHOPHOSPHATE AS PO4 (DISSOLVED)	mg/l	< 0.6		0.6	< -	-	Meets	EPA 300.0
SCP135	3/15/2017	MW-12-181	ORTHOPHOSPHATE AS PO4 (DISSOLVED)	mg/l	1.8		0.6	< -	-	Meets	EPA 300.0
SCP136	3/15/2017	MW-11-150	ORTHOPHOSPHATE AS PO4 (DISSOLVED)	mg/l	1.1		0.6	< -	-	Meets	EPA 300.0
SCP137	3/15/2017	MW-12-191	ORTHOPHOSPHATE AS PO4 (DISSOLVED)	mg/l	0.79		0.6	< -	-	Meets	EPA 300.0
SCP138	3/15/2017	MW-12-185	ORTHOPHOSPHATE AS PO4 (DISSOLVED)	mg/l	1.2		0.6	< -	-	Meets	EPA 300.0
SCP139	3/15/2017	MW-12-187	ORTHOPHOSPHATE AS PO4 (DISSOLVED)	mg/l	0.77		0.6	< -	-	Meets	EPA 300.0
SCP118	3/13/2017	MW-13-210	pH		7.5		-	< 6.5-8.4	IRRIG	Meets	YSI 600XL Sonde
SCP119	3/13/2017	MW-13-213	pH		6.5		-	< 6.5-8.5	IRRIG	Meets	YSI 600XL Sonde
SCP120	3/13/2017	MW-11-157	pH		6.6		-	< 6.5-8.6	IRRIG	Meets	YSI 600XL Sonde
SCP121	3/13/2017	MW-13-216	pH		7.1		-	< 6.5-8.7	IRRIG	Meets	YSI 600XL Sonde
SCP122	3/14/2017	MW-12-169	pH		7.3		-	< 6.5-8.8	IRRIG	Meets	YSI 600XL Sonde
SCP126	3/14/2017	MW-14-208	pH		8		-	< 6.5-8.9	IRRIG	Meets	YSI 600XL Sonde
SCP127	3/14/2017	MW-14-205	pH		6.7		-	< 6.5-8.10	IRRIG	Meets	YSI 600XL Sonde
SCP128	3/14/2017	MW-14-206	pH		7.6		-	< 6.5-8.11	IRRIG	Meets	YSI 600XL Sonde
SCP129	3/14/2017	MW-12-178	pH		6.8		-	< 6.5-8.12	IRRIG	Meets	YSI 600XL Sonde
SCP130	3/14/2017	MW-11-149	pH		6.9		-	< 6.5-8.13	IRRIG	Meets	YSI 600XL Sonde
SCP131	3/15/2017	MW-12-183	pH		7.3		-	< 6.5-8.14	IRRIG	Meets	YSI 600XL Sonde
SCP135	3/15/2017	MW-12-181	pH		7		-	< 6.5-8.15	IRRIG	Meets	YSI 600XL Sonde
SCP136	3/15/2017	MW-11-150	pH		7		-	< 6.5-8.16	IRRIG	Meets	YSI 600XL Sonde
SCP137	3/15/2017	MW-12-191	pH		6.7		-	< 6.5-8.17	IRRIG	Meets	YSI 600XL Sonde
SCP138	3/15/2017	MW-12-185	pH		6.7		-	< 6.5-8.18	IRRIG	Meets	YSI 600XL Sonde
SCP139	3/15/2017	MW-12-187	pH		6.9		-	< 6.5-8.19	IRRIG	Meets	YSI 600XL Sonde
SCP140	3/21/2017	SJR @ Bifurcation Structure	pH		7.8		-	< 6.5-8.20	IRRIG	Meets	YSI 600XL Sonde
SCP144	3/21/2017	SJR @ Sack Dam	pH		7.3		-	< 6.5-8.21	IRRIG	Meets	YSI 600XL Sonde
SCP145	3/22/2017	SJR @ Hwy 152	pH		7.3		-	< 6.5-8.22	IRRIG	Meets	YSI 600XL Sonde
SCP118	3/13/2017	MW-13-210	POTASSIUM (DISSOLVED)	mg/l	1.44		0.0400	< -	-	Meets	EPA 200.8
SCP119	3/13/2017	MW-13-213	POTASSIUM (DISSOLVED)	mg/l	4.62		0.0400	< -	-	Meets	EPA 200.8

Table 2. Results of Inorganic Analyses and Physical Measurements

ID	Date	Site	Analyte	Units	Result	QA	RL	WQ Limit	WQ Obj	WQ Evaluation	Method
SCP120	3/13/2017	MW-11-157	POTASSIUM (DISSOLVED)	mg/l	1.13		0.0400	< -	-	Meets	EPA 200.8
SCP121	3/13/2017	MW-13-216	POTASSIUM (DISSOLVED)	mg/l	0.76		0.0400	< -	-	Meets	EPA 200.8
SCP122	3/14/2017	MW-12-169	POTASSIUM (DISSOLVED)	mg/l	1.95		0.0400	< -	-	Meets	EPA 200.8
SCP126	3/14/2017	MW-14-208	POTASSIUM (DISSOLVED)	mg/l	0.63		0.0400	< -	-	Meets	EPA 200.8
SCP127	3/14/2017	MW-14-205	POTASSIUM (DISSOLVED)	mg/l	1.71		0.0400	< -	-	Meets	EPA 200.8
SCP128	3/14/2017	MW-14-206	POTASSIUM (DISSOLVED)	mg/l	0.79		0.0400	< -	-	Meets	EPA 200.8
SCP129	3/14/2017	MW-12-178	POTASSIUM (DISSOLVED)	mg/l	0.89		0.0400	< -	-	Meets	EPA 200.8
SCP130	3/14/2017	MW-11-149	POTASSIUM (DISSOLVED)	mg/l	0.75		0.0400	< -	-	Meets	EPA 200.8
SCP131	3/15/2017	MW-12-183	POTASSIUM (DISSOLVED)	mg/l	0.53		0.0400	< -	-	Meets	EPA 200.8
SCP135	3/15/2017	MW-12-181	POTASSIUM (DISSOLVED)	mg/l	0.57		0.0400	< -	-	Meets	EPA 200.8
SCP136	3/15/2017	MW-11-150	POTASSIUM (DISSOLVED)	mg/l	0.52		0.0400	< -	-	Meets	EPA 200.8
SCP137	3/15/2017	MW-12-191	POTASSIUM (DISSOLVED)	mg/l	2.64		0.0400	< -	-	Meets	EPA 200.8
SCP138	3/15/2017	MW-12-185	POTASSIUM (DISSOLVED)	mg/l	1.03		0.0400	< -	-	Meets	EPA 200.8
SCP139	3/15/2017	MW-12-187	POTASSIUM (DISSOLVED)	mg/l	1.07		0.0400	< -	-	Meets	EPA 200.8
SCP140	3/21/2017	SJR @ Bifurcation Structure	POTASSIUM (DISSOLVED)	mg/l	1.07		0.0400	< -	-	Meets	EPA 200.8
SCP144	3/21/2017	SJR @ Sack Dam	POTASSIUM (DISSOLVED)	mg/l	1.32		0.0400	< -	-	Meets	EPA 200.8
SCP145	3/22/2017	SJR @ Hwy 152	POTASSIUM (DISSOLVED)	mg/l	1.42		0.0400	< -	-	Meets	EPA 200.8
SCP118	3/13/2017	MW-13-210	SELENIUM	ug/l	0.96		0.4	< 5	BP	Meets	SM3500-Se-C
SCP119	3/13/2017	MW-13-213	SELENIUM	ug/l	< 0.4		0.4	< 5	BP	Meets	SM3500-Se-C
SCP120	3/13/2017	MW-11-157	SELENIUM	ug/l	3.48		0.4	< 5	BP	Meets	SM3500-Se-C
SCP121	3/13/2017	MW-13-216	SELENIUM	ug/l	< 0.4		0.4	< 5	BP	Meets	SM3500-Se-C
SCP122	3/14/2017	MW-12-169	SELENIUM	ug/l	< 0.4		0.4	< 5	BP	Meets	SM3500-Se-C
SCP126	3/14/2017	MW-14-208	SELENIUM	ug/l	0.67		0.4	< 5	BP	Meets	SM3500-Se-C
SCP127	3/14/2017	MW-14-205	SELENIUM	ug/l	1.23		0.4	< 5	BP	Meets	SM3500-Se-C
SCP128	3/14/2017	MW-14-206	SELENIUM	ug/l	2.02		0.4	< 5	BP	Meets	SM3500-Se-C
SCP129	3/14/2017	MW-12-178	SELENIUM	ug/l	0.98		0.4	< 5	BP	Meets	SM3500-Se-C
SCP130	3/14/2017	MW-11-149	SELENIUM	ug/l	0.63		0.4	< 5	BP	Meets	SM3500-Se-C
SCP131	3/15/2017	MW-12-183	SELENIUM	ug/l	< 0.4		0.4	< 5	BP	Meets	SM3500-Se-C
SCP135	3/15/2017	MW-12-181	SELENIUM	ug/l	1.2		0.4	< 5	BP	Meets	SM3500-Se-C
SCP136	3/15/2017	MW-11-150	SELENIUM	ug/l	2.25		0.4	< 5	BP	Meets	SM3500-Se-C
SCP137	3/15/2017	MW-12-191	SELENIUM	ug/l	< 0.4		0.4	< 5	BP	Meets	SM3500-Se-C
SCP138	3/15/2017	MW-12-185	SELENIUM	ug/l	< 0.4		0.4	< 5	BP	Meets	SM3500-Se-C
SCP139	3/15/2017	MW-12-187	SELENIUM	ug/l	< 0.4		0.4	< 5	BP	Meets	SM3500-Se-C
SCP140	3/21/2017	SJR @ Bifurcation Structure	SELENIUM	ug/l	< 0.4		0.4	< 5	BP	Meets	SM3500-Se-C
SCP144	3/21/2017	SJR @ Sack Dam	SELENIUM	ug/l	< 0.4		0.4	< 5	BP	Meets	SM3500-Se-C
SCP145	3/22/2017	SJR @ Hwy 152	SELENIUM	ug/l	< 0.4		0.4	< 5	BP	Meets	SM3500-Se-C
SCP118	3/13/2017	MW-13-210	SODIUM (DISSOLVED)	mg/l	129		0.1000	< 69	IRRIG	restriction on use	EPA 200.8
SCP119	3/13/2017	MW-13-213	SODIUM (DISSOLVED)	mg/l	148		0.1000	< 69	IRRIG	restriction on use	EPA 200.8
SCP120	3/13/2017	MW-11-157	SODIUM (DISSOLVED)	mg/l	244		0.1000	< 69	IRRIG	restriction on use	EPA 200.8
SCP121	3/13/2017	MW-13-216	SODIUM (DISSOLVED)	mg/l	62.5		0.1000	< 69	IRRIG	Meets	EPA 200.8

Table 2. Results of Inorganic Analyses and Physical Measurements

ID	Date	Site	Analyte	Units	Result	QA	RL	WQ Limit	WQ Obj	WQ Evaluation	Method
SCP122	3/14/2017	MW-12-169	SODIUM (DISSOLVED)	mg/l	507		0.1000	< 69	IRRIG	restriction on use	EPA 200.8
SCP126	3/14/2017	MW-14-208	SODIUM (DISSOLVED)	mg/l	43.8		0.1000	< 69	IRRIG	Meets	EPA 200.8
SCP127	3/14/2017	MW-14-205	SODIUM (DISSOLVED)	mg/l	88.8		0.1000	< 69	IRRIG	restriction on use	EPA 200.8
SCP128	3/14/2017	MW-14-206	SODIUM (DISSOLVED)	mg/l	46.4		0.1000	< 69	IRRIG	Meets	EPA 200.8
SCP129	3/14/2017	MW-12-178	SODIUM (DISSOLVED)	mg/l	103		0.1000	< 69	IRRIG	restriction on use	EPA 200.8
SCP130	3/14/2017	MW-11-149	SODIUM (DISSOLVED)	mg/l	19.1		0.1000	< 69	IRRIG	Meets	EPA 200.8
SCP131	3/15/2017	MW-12-183	SODIUM (DISSOLVED)	mg/l	83.9		0.1000	< 69	IRRIG	restriction on use	EPA 200.8
SCP135	3/15/2017	MW-12-181	SODIUM (DISSOLVED)	mg/l	63.4		0.1000	< 69	IRRIG	Meets	EPA 200.8
SCP136	3/15/2017	MW-11-150	SODIUM (DISSOLVED)	mg/l	95.8		0.1000	< 69	IRRIG	restriction on use	EPA 200.8
SCP137	3/15/2017	MW-12-191	SODIUM (DISSOLVED)	mg/l	116		0.1000	< 69	IRRIG	restriction on use	EPA 200.8
SCP138	3/15/2017	MW-12-185	SODIUM (DISSOLVED)	mg/l	14.3		0.1000	< 69	IRRIG	Meets	EPA 200.8
SCP139	3/15/2017	MW-12-187	SODIUM (DISSOLVED)	mg/l	5.69		0.1000	< 69	IRRIG	Meets	EPA 200.8
SCP140	3/21/2017	SJR @ Bifurcation Structure	SODIUM (DISSOLVED)	mg/l	3.6		0.1000	< 69	IRRIG	Meets	EPA 200.8
SCP144	3/21/2017	SJR @ Sack Dam	SODIUM (DISSOLVED)	mg/l	4.43		0.1000	< 69	IRRIG	Meets	EPA 200.8
SCP145	3/22/2017	SJR @ Hwy 152	SODIUM (DISSOLVED)	mg/l	4.36		0.1000	< 69	IRRIG	Meets	EPA 200.8
SCP118	3/13/2017	MW-13-210	Sodium Absorption Ratio (SAR)	mEq/L	3.47		N/A	< 3	IRRIG	restriction on use	
SCP119	3/13/2017	MW-13-213	Sodium Absorption Ratio (SAR)	mEq/L	3.02		N/A	< 3	IRRIG	restriction on use	
SCP120	3/13/2017	MW-11-157	Sodium Absorption Ratio (SAR)	mEq/L	4.46		N/A	< 3	IRRIG	restriction on use	
SCP121	3/13/2017	MW-13-216	Sodium Absorption Ratio (SAR)	mEq/L	2.03		N/A	< 3	IRRIG	Meets	
SCP122	3/14/2017	MW-12-169	Sodium Absorption Ratio (SAR)	mEq/L	4.85		N/A	< 3	IRRIG	restriction on use	
SCP126	3/14/2017	MW-14-208	Sodium Absorption Ratio (SAR)	mEq/L	2.32		N/A	< 3	IRRIG	Meets	
SCP127	3/14/2017	MW-14-205	Sodium Absorption Ratio (SAR)	mEq/L	1.63		N/A	< 3	IRRIG	Meets	
SCP128	3/14/2017	MW-14-206	Sodium Absorption Ratio (SAR)	mEq/L	1.92		N/A	< 3	IRRIG	Meets	
SCP129	3/14/2017	MW-12-178	Sodium Absorption Ratio (SAR)	mEq/L	3.08		N/A	< 3	IRRIG	restriction on use	
SCP130	3/14/2017	MW-11-149	Sodium Absorption Ratio (SAR)	mEq/L	1.57		N/A	< 3	IRRIG	Meets	
SCP131	3/15/2017	MW-12-183	Sodium Absorption Ratio (SAR)	mEq/L	2.82		N/A	< 3	IRRIG	Meets	
SCP135	3/15/2017	MW-12-181	Sodium Absorption Ratio (SAR)	mEq/L	2.59		N/A	< 3	IRRIG	Meets	
SCP136	3/15/2017	MW-11-150	Sodium Absorption Ratio (SAR)	mEq/L	3.18		N/A	< 3	IRRIG	restriction on use	
SCP137	3/15/2017	MW-12-191	Sodium Absorption Ratio (SAR)	mEq/L	3.61		N/A	< 3	IRRIG	restriction on use	
SCP138	3/15/2017	MW-12-185	Sodium Absorption Ratio (SAR)	mEq/L	0.88		N/A	< 3	IRRIG	Meets	
SCP139	3/15/2017	MW-12-187	Sodium Absorption Ratio (SAR)	mEq/L	0.48		N/A	< 3	IRRIG	Meets	
SCP140	3/21/2017	SJR @ Bifurcation Structure	Sodium Absorption Ratio (SAR)	mEq/L	0.39		N/A	< 3	IRRIG	Meets	
SCP144	3/21/2017	SJR @ Sack Dam	Sodium Absorption Ratio (SAR)	mEq/L	0.40		N/A	< 3	IRRIG	Meets	
SCP145	3/22/2017	SJR @ Hwy 152	Sodium Absorption Ratio (SAR)	mEq/L	0.39		N/A	< 3	IRRIG	Meets	
SCP118	3/13/2017	MW-13-210	SULFATE (DISSOLVED)	mg/l	139		10.0	< -	-	Meets	EPA 300.0
SCP119	3/13/2017	MW-13-213	SULFATE (DISSOLVED)	mg/l	226		10.0	< -	-	Meets	EPA 300.0
SCP120	3/13/2017	MW-11-157	SULFATE (DISSOLVED)	mg/l	335		10.0	< -	-	Meets	EPA 300.0
SCP121	3/13/2017	MW-13-216	SULFATE (DISSOLVED)	mg/l	32.3		2.0	< -	-	Meets	EPA 300.0
SCP122	3/14/2017	MW-12-169	SULFATE (DISSOLVED)	mg/l	68.8		5.0	< -	-	Meets	EPA 300.0
SCP126	3/14/2017	MW-14-208	SULFATE (DISSOLVED)	mg/l	50.2		2.0	< -	-	Meets	EPA 300.0

Table 2. Results of Inorganic Analyses and Physical Measurements

ID	Date	Site	Analyte	Units	Result	QA	RL	WQ Limit	WQ Obj	WQ Evaluation	Method
SCP127	3/14/2017	MW-14-205	SULFATE (DISSOLVED)	mg/l	43		10.0	< -	-	Meets	EPA 300.0
SCP128	3/14/2017	MW-14-206	SULFATE (DISSOLVED)	mg/l	48.6		2.0	< -	-	Meets	EPA 300.0
SCP129	3/14/2017	MW-12-178	SULFATE (DISSOLVED)	mg/l	91.1		5.0	< -	-	Meets	EPA 300.0
SCP130	3/14/2017	MW-11-149	SULFATE (DISSOLVED)	mg/l	11.6		1.0	< -	-	Meets	EPA 300.0
SCP131	3/15/2017	MW-12-183	SULFATE (DISSOLVED)	mg/l	51		5.0	< -	-	Meets	EPA 300.0
SCP135	3/15/2017	MW-12-181	SULFATE (DISSOLVED)	mg/l	41.6		2.0	< -	-	Meets	EPA 300.0
SCP136	3/15/2017	MW-11-150	SULFATE (DISSOLVED)	mg/l	122		5.0	< -	-	Meets	EPA 300.0
SCP137	3/15/2017	MW-12-191	SULFATE (DISSOLVED)	mg/l	181		5.0	< -	-	Meets	EPA 300.0
SCP138	3/15/2017	MW-12-185	SULFATE (DISSOLVED)	mg/l	5.5		1.0	< -	-	Meets	EPA 300.0
SCP139	3/15/2017	MW-12-187	SULFATE (DISSOLVED)	mg/l	4.2		1.0	< -	-	Meets	EPA 300.0
SCP140	3/21/2017	SJR @ Bifurcation Structure	SULFATE (DISSOLVED)	mg/l	1.8		1.0	< -	-	Meets	EPA 300.0
SCP144	3/21/2017	SJR @ Sack Dam	SULFATE (DISSOLVED)	mg/l	3.4		1.0	< -	-	Meets	EPA 300.0
SCP145	3/22/2017	SJR @ Hwy 152	SULFATE (DISSOLVED)	mg/l	< 1		1.0	< -	-	Meets	EPA 300.0
SCP118	3/13/2017	MW-13-210	TDS	mg/l	696		10	< 450	IRRIG	restriction on use	SM2540C
SCP119	3/13/2017	MW-13-213	TDS	mg/l	1130		10	< 450	IRRIG	restriction on use	SM2540C
SCP120	3/13/2017	MW-11-157	TDS	mg/l	1340		20	< 450	IRRIG	restriction on use	SM2540C
SCP121	3/13/2017	MW-13-216	TDS	mg/l	389		10	< 450	IRRIG	Meets	SM2540C
SCP122	3/14/2017	MW-12-169	TDS	mg/l	6010		50	< 450	IRRIG	restriction on use	SM2540C
SCP126	3/14/2017	MW-14-208	TDS	mg/l	301		10	< 450	IRRIG	Meets	SM2540C
SCP127	3/14/2017	MW-14-205	TDS	mg/l	1300		10	< 450	IRRIG	restriction on use	SM2540C
SCP128	3/14/2017	MW-14-206	TDS	mg/l	295		10	< 450	IRRIG	Meets	SM2540C
SCP129	3/14/2017	MW-12-178	TDS	mg/l	523		10	< 450	IRRIG	restriction on use	SM2540C
SCP130	3/14/2017	MW-11-149	TDS	mg/l	200		20	< 450	IRRIG	Meets	SM2540C
SCP131	3/15/2017	MW-12-183	TDS	mg/l	423		10	< 450	IRRIG	Meets	SM2540C
SCP135	3/15/2017	MW-12-181	TDS	mg/l	299		10	< 450	IRRIG	Meets	SM2540C
SCP136	3/15/2017	MW-11-150	TDS	mg/l	465		10	< 450	IRRIG	restriction on use	SM2540C
SCP137	3/15/2017	MW-12-191	TDS	mg/l	598		10	< 450	IRRIG	restriction on use	SM2540C
SCP138	3/15/2017	MW-12-185	TDS	mg/l	128		10	< 450	IRRIG	Meets	SM2540C
SCP139	3/15/2017	MW-12-187	TDS	mg/l	63		10	< 450	IRRIG	Meets	SM2540C
SCP140	3/21/2017	SJR @ Bifurcation Structure	TDS	mg/l	49		10	< 450	IRRIG	Meets	SM2540C
SCP144	3/21/2017	SJR @ Sack Dam	TDS	mg/l	62		10	< 450	IRRIG	Meets	SM2540C
SCP145	3/22/2017	SJR @ Hwy 152	TDS	mg/l	64		10	< 450	IRRIG	Meets	SM2540C
SCP118	3/13/2017	MW-13-210	Temperature	C	22.4		-	< -	-	Meets	YSI 600XL Sonde
SCP119	3/13/2017	MW-13-213	Temperature	C	19.5		-	< -	-	Meets	YSI 600XL Sonde
SCP120	3/13/2017	MW-11-157	Temperature	C	17.9		-	< -	-	Meets	YSI 600XL Sonde
SCP121	3/13/2017	MW-13-216	Temperature	C	20.3		-	< -	-	Meets	YSI 600XL Sonde
SCP122	3/14/2017	MW-12-169	Temperature	C	19		-	< -	-	Meets	YSI 600XL Sonde
SCP126	3/14/2017	MW-14-208	Temperature	C	13.5		-	< -	-	Meets	YSI 600XL Sonde
SCP127	3/14/2017	MW-14-205	Temperature	C	18.6		-	< -	-	Meets	YSI 600XL Sonde
SCP128	3/14/2017	MW-14-206	Temperature	C	15		-	< -	-	Meets	YSI 600XL Sonde

Table 2. Results of Inorganic Analyses and Physical Measurements

ID	Date	Site	Analyte	Units	Result	QA	RL	WQ Limit	WQ Obj	WQ Evaluation	Method	
SCP129	3/14/2017	MW-12-178	Temperature	C	20.6		-	<	-	-	Meets	YSI 600XL Sonde
SCP130	3/14/2017	MW-11-149	Temperature	C	16.9		-	<	-	-	Meets	YSI 600XL Sonde
SCP131	3/15/2017	MW-12-183	Temperature	C	19		-	<	-	-	Meets	YSI 600XL Sonde
SCP135	3/15/2017	MW-12-181	Temperature	C	19.8		-	<	-	-	Meets	YSI 600XL Sonde
SCP136	3/15/2017	MW-11-150	Temperature	C	19.2		-	<	-	-	Meets	YSI 600XL Sonde
SCP137	3/15/2017	MW-12-191	Temperature	C	17.3		-	<	-	-	Meets	YSI 600XL Sonde
SCP138	3/15/2017	MW-12-185	Temperature	C	13.2		-	<	-	-	Meets	YSI 600XL Sonde
SCP139	3/15/2017	MW-12-187	Temperature	C	13.4		-	<	-	-	Meets	YSI 600XL Sonde
SCP140	3/21/2017	SJR @ Bifurcation Structure	Temperature	C	12.6		-	<	-	-	Meets	YSI 600XL Sonde
SCP144	3/21/2017	SJR @ Sack Dam	Temperature	C	14.5		-	<	-	-	Meets	YSI 600XL Sonde
SCP145	3/22/2017	SJR @ Hwy 152	Temperature	C	13.4		-	<	-	-	Meets	YSI 600XL Sonde
SCP118	3/13/2017	MW-13-210	TKN	mg/l	< 0.5		0.50	<	-	-	Meets	EPA 351.2
SCP119	3/13/2017	MW-13-213	TKN	mg/l	< 0.5		0.50	<	-	-	Meets	EPA 351.2
SCP120	3/13/2017	MW-11-157	TKN	mg/l	< 0.5		0.50	<	-	-	Meets	EPA 351.2
SCP121	3/13/2017	MW-13-216	TKN	mg/l	< 0.5		0.50	<	-	-	Meets	EPA 351.2
SCP122	3/14/2017	MW-12-169	TKN	mg/l	< 0.5		0.50	<	-	-	Meets	EPA 351.2
SCP126	3/14/2017	MW-14-208	TKN	mg/l	< 0.5		0.50	<	-	-	Meets	EPA 351.2
SCP127	3/14/2017	MW-14-205	TKN	mg/l	< 0.5		0.50	<	-	-	Meets	EPA 351.2
SCP128	3/14/2017	MW-14-206	TKN	mg/l	< 0.5		0.50	<	-	-	Meets	EPA 351.2
SCP129	3/14/2017	MW-12-178	TKN	mg/l	< 0.5		0.50	<	-	-	Meets	EPA 351.2
SCP130	3/14/2017	MW-11-149	TKN	mg/l	< 0.5		0.50	<	-	-	Meets	EPA 351.2
SCP131	3/15/2017	MW-12-183	TKN	mg/l	< 0.5		0.50	<	-	-	Meets	EPA 351.2
SCP135	3/15/2017	MW-12-181	TKN	mg/l	< 0.5		0.50	<	-	-	Meets	EPA 351.2
SCP136	3/15/2017	MW-11-150	TKN	mg/l	< 0.5		0.50	<	-	-	Meets	EPA 351.2
SCP137	3/15/2017	MW-12-191	TKN	mg/l	0.53		0.50	<	-	-	Meets	EPA 351.2
SCP138	3/15/2017	MW-12-185	TKN	mg/l	< 0.5		0.50	<	-	-	Meets	EPA 351.2
SCP139	3/15/2017	MW-12-187	TKN	mg/l	< 0.5		0.50	<	-	-	Meets	EPA 351.2
SCP140	3/21/2017	SJR @ Bifurcation Structure	TKN	mg/l	< 0.5		0.50	<	-	-	Meets	EPA 351.2
SCP144	3/21/2017	SJR @ Sack Dam	TKN	mg/l	< 0.5		0.50	<	-	-	Meets	EPA 351.2
SCP145	3/22/2017	SJR @ Hwy 152	TKN	mg/l	< 0.5		0.50	<	-	-	Meets	EPA 351.2
SCP118	3/13/2017	MW-13-210	Turbidity	NTU	74		N/A	<	-	-	Meets	Hach Meter
SCP119	3/13/2017	MW-13-213	Turbidity	NTU	9.6		N/A	<	-	-	Meets	Hach Meter
SCP120	3/13/2017	MW-11-157	Turbidity	NTU	9.6		N/A	<	-	-	Meets	Hach Meter
SCP121	3/13/2017	MW-13-216	Turbidity	NTU	110		N/A	<	-	-	Meets	Hach Meter
SCP122	3/14/2017	MW-12-169	Turbidity	NTU	3.5		N/A	<	-	-	Meets	Hach Meter
SCP126	3/14/2017	MW-14-208	Turbidity	NTU	59.8		N/A	<	-	-	Meets	Hach Meter
SCP127	3/14/2017	MW-14-205	Turbidity	NTU	59.8		N/A	<	-	-	Meets	Hach Meter
SCP128	3/14/2017	MW-14-206	Turbidity	NTU	44.1		N/A	<	-	-	Meets	Hach Meter
SCP129	3/14/2017	MW-12-178	Turbidity	NTU	15.8		N/A	<	-	-	Meets	Hach Meter
SCP130	3/14/2017	MW-11-149	Turbidity	NTU	456		N/A	<	-	-	Meets	Hach Meter

Table 2. Results of Inorganic Analyses and Physical Measurements

ID	Date	Site	Analyte	Units	Result	QA	RL	WQ Limit	WQ Obj	WQ Evaluation	Method
SCP131	3/15/2017	MW-12-183	Turbidity	NTU	4		N/A	< -	-	Meets	Hach Meter
SCP135	3/15/2017	MW-12-181	Turbidity	NTU	26.3		N/A	< -	-	Meets	Hach Meter
SCP136	3/15/2017	MW-11-150	Turbidity	NTU	24.7		N/A	< -	-	Meets	Hach Meter
SCP137	3/15/2017	MW-12-191	Turbidity	NTU	18.5		N/A	< -	-	Meets	Hach Meter
SCP138	3/15/2017	MW-12-185	Turbidity	NTU	30.7		N/A	< -	-	Meets	Hach Meter
SCP139	3/15/2017	MW-12-187	Turbidity	NTU	111		N/A	< -	-	Meets	Hach Meter
SCP140	3/21/2017	SJR @ Bifurcation Structure	Turbidity	NTU	12.9		N/A	< -	-	Meets	Hach Meter
SCP144	3/21/2017	SJR @ Sack Dam	Turbidity	NTU	15.2		N/A	< -	-	Meets	Hach Meter
SCP145	3/22/2017	SJR @ Hwy 152	Turbidity	NTU	16.3		N/A	< -	-	Meets	Hach Meter
SCP118	3/13/2017	MW-13-210	ZINC (DISSOLVED)	ug/l	< 20		20.0	< 146.6	FWAL	Meets	EPA 200.8
SCP119	3/13/2017	MW-13-213	ZINC (DISSOLVED)	ug/l	< 20		20.0	< 164.7	FWAL	Meets	EPA 200.8
SCP120	3/13/2017	MW-11-157	ZINC (DISSOLVED)	ug/l	< 20		20.0	< 251.6	FWAL	Meets	EPA 200.8
SCP121	3/13/2017	MW-13-216	ZINC (DISSOLVED)	ug/l	< 20		20.0	< 79.3	FWAL	Meets	EPA 200.8
SCP122	3/14/2017	MW-12-169	ZINC (DISSOLVED)	ug/l	< 20		20.0	< 467.5	FWAL	Meets	EPA 200.8
SCP126	3/14/2017	MW-14-208	ZINC (DISSOLVED)	ug/l	< 20		20.0	< 58.7	FWAL	Meets	EPA 200.8
SCP127	3/14/2017	MW-14-205	ZINC (DISSOLVED)	ug/l	< 20		20.0	< 106.8	FWAL	Meets	EPA 200.8
SCP128	3/14/2017	MW-14-206	ZINC (DISSOLVED)	ug/l	< 20		20.0	< 61.6	FWAL	Meets	EPA 200.8
SCP129	3/14/2017	MW-12-178	ZINC (DISSOLVED)	ug/l	< 20		20.0	< 121.1	FWAL	Meets	EPA 200.8
SCP130	3/14/2017	MW-11-149	ZINC (DISSOLVED)	ug/l	< 20		20.0	< 29.1	FWAL	Meets	EPA 200.8
SCP131	3/15/2017	MW-12-183	ZINC (DISSOLVED)	ug/l	< 20		20.0	< 101.8	FWAL	Meets	EPA 200.8
SCP135	3/15/2017	MW-12-181	ZINC (DISSOLVED)	ug/l	< 20		20.0	< 80.3	FWAL	Meets	EPA 200.8
SCP136	3/15/2017	MW-11-150	ZINC (DISSOLVED)	ug/l	< 20		20.0	< 113.9	FWAL	Meets	EPA 200.8
SCP137	3/15/2017	MW-12-191	ZINC (DISSOLVED)	ug/l	< 20		20.0	< 134.0	FWAL	Meets	EPA 200.8
SCP138	3/15/2017	MW-12-185	ZINC (DISSOLVED)	ug/l	< 20		20.0	< 22.7	FWAL	Meets	EPA 200.8
SCP139	3/15/2017	MW-12-187	ZINC (DISSOLVED)	ug/l	< 20		20.0	< 10.4	FWAL	insufficient RL	EPA 200.8
SCP140	3/21/2017	SJR @ Bifurcation Structure	ZINC (DISSOLVED)	ug/l	< 20		20.0	< 7.1	FWAL	insufficient RL	EPA 200.8
SCP144	3/21/2017	SJR @ Sack Dam	ZINC (DISSOLVED)	ug/l	< 20		20.0	< 8.4	FWAL	insufficient RL	EPA 200.8
SCP145	3/22/2017	SJR @ Hwy 152	ZINC (DISSOLVED)	ug/l	< 20		20.0	< 8.3	FWAL	insufficient RL	EPA 200.8

Table 3. Undetected Organic Chemicals

ANALYTE	UNITS	RL	METHOD	ANALYTE	UNITS	RL	METHOD
4,4'-DDE	ug/l	0.01	EPA 8081A/8082	ENDOSULFAN I	ug/l	0.1	EPA 525.2
4,4'-DDT	ug/l	0.01	EPA 8081A/8082	ENDOSULFAN II	ug/l	0.1	EPA 525.2
4,4'-TDE/DDD	ug/l	0.01	EPA 8081A/8082	ENDOSULFAN SULFATE	ug/l	0.1	EPA 525.2
ALDRIN	ug/l	0.01	EPA 8081A/8082	ENDRIN ALDEHYDE	ug/l	0.1	EPA 525.2
CHLORDANE-ALPHA	ug/l	0.01	EPA 8081A/8082	EPTC	ug/l	0.1	EPA 525.2
CHLORDANE-GAMMA	ug/l	0.01	EPA 8081A/8082	FLUORANTHENE	ug/l	0.1	EPA 525.2
DIBROMOCHLOROPROPANE	ug/l	0.01	EPA 551.1	HCH-ALPHA	ug/l	0.1	EPA 525.2
DIELDRIN	ug/l	0.01	EPA 8081A/8082	HCH-BETA	ug/l	0.1	EPA 525.2
ENDOSULFAN I	ug/l	0.01	EPA 8081A/8082	HCH-DELTA	ug/l	0.1	EPA 525.2
ENDOSULFAN II	ug/l	0.01	EPA 8081A/8082	ISOPROTURON	ug/l	0.1	MWH/LCMSMS
ENDOSULFAN SULFATE	ug/l	0.01	EPA 8081A/8082	LINURON	ug/l	0.1	MWH/LCMSMS
ENDRIN	ug/l	0.01	EPA 8081A/8082	MALATHION	ug/l	0.1	EPA 525.2
ENDRIN ALDEHYDE	ug/l	0.01	EPA 8081A/8082	METAZACHLOR	ug/l	0.1	MWH/LCMSMS
ENDRIN KETONE	ug/l	0.01	EPA 8081A/8082	METHOXYCHLOR	ug/l	0.1	EPA 525.2
ETHYLENE DIBROMIDE	ug/l	0.01	EPA 551.1	METOXURON	ug/l	0.1	MWH/LCMSMS
GAMMA-BHC (LINDANE)	ug/l	0.01	EPA 8081A/8082	MOLINATE	ug/l	0.1	EPA 525.2
HCH-ALPHA	ug/l	0.01	EPA 8081A/8082	PARATHION	ug/l	0.1	EPA 525.2
HCH-BETA	ug/l	0.01	EPA 8081A/8082	PENDIMETHALIN	ug/l	0.1	EPA 525.2
HCH-DELTA	ug/l	0.01	EPA 8081A/8082	PERMETHRIN (TOTAL)	ug/l	0.1	EPA 525.2
HEPTACHLOR	ug/l	0.01	EPA 8081A/8082	PROPANIL	ug/l	0.1	MWH/LCMSMS
HEPTACHLOR EPOXIDE	ug/l	0.01	EPA 8081A/8082	PYRIPROXYFEN	ug/l	0.1	MWH/LCMSMS
METHOXYCHLOR	ug/l	0.01	EPA 8081A/8082	TEBUTHIURON	ug/l	0.1	MWH/LCMSMS
ANTHRACENE	ug/l	0.02	EPA 525.2	TERBACIL	ug/l	0.1	EPA 525.2
BENZO(A)PYRENE	ug/l	0.02	EPA 525.2	TERBUTHYLAZINE	ug/l	0.1	EPA 525.2
BENZO(B)FLUORANTHENE	ug/l	0.02	EPA 525.2	TRIFLURALIN	ug/l	0.1	EPA 525.2
BENZO(K)FLUORANTHENE	ug/l	0.02	EPA 525.2	BOLSTAR	ug/l	0.10	EPA 8141A
CHRYSENE	ug/l	0.02	EPA 525.2	DEF	ug/l	0.10	EPA 8141A
HEPTACHLOR	ug/l	0.03	EPA 525.2	DIMETHOATE	ug/l	0.10	EPA 8141A
GAMMA-BHC (LINDANE)	ug/l	0.04	EPA 525.2	DISULFOTON	ug/l	0.10	EPA 8141A
PHENANTHRENE	ug/l	0.04	EPA 525.2	EPN	ug/l	0.10	EPA 8141A
ALACHLOR	ug/l	0.05	EPA 525.2	EPTC	ug/l	0.10	EPA 8141A
ALDRIN	ug/l	0.05	EPA 525.2	ETHION	ug/l	0.10	EPA 8141A
ATRAZINE	ug/l	0.05	EPA 525.2	ETHOPROP	ug/l	0.10	EPA 8141A
BENZ(A)ANTHRACENE	ug/l	0.05	EPA 525.2	FENTHION	ug/l	0.10	EPA 8141A
BENZO(G,H,I)PERYLENE	ug/l	0.05	EPA 525.2	MALATHION	ug/l	0.10	EPA 8141A
BUTACHLOR	ug/l	0.05	EPA 525.2	MERPHOS	ug/l	0.10	EPA 8141A
CAFFEINE	ug/l	0.05	EPA 525.2	PARATHION, ETHYL	ug/l	0.10	EPA 8141A
CHLORDANE-ALPHA	ug/l	0.05	EPA 525.2	PARATHION, METHYL	ug/l	0.10	EPA 8141A
CHLORDANE-GAMMA	ug/l	0.05	EPA 525.2	PHORATE	ug/l	0.10	EPA 8141A
CHLORPYRIFOS	ug/l	0.05	EPA 525.2	PROWL	ug/l	0.10	EPA 8141A
CHLORPYRIFOS	ug/l	0.05	EPA 8141A	RONNEL	ug/l	0.10	EPA 8141A
DIAZINON	ug/l	0.05	EPA 8141A	STIROFOS	ug/l	0.10	EPA 8141A
DIBENZ(A,H)ANTHRACENE	ug/l	0.05	EPA 525.2	STIROPHOS	ug/l	0.10	EPA 8141A
DICHLORVOS	ug/l	0.05	EPA 525.2	SULFOTEP	ug/l	0.10	EPA 8141A
FLUORENE	ug/l	0.05	EPA 525.2	TOKUTHION	ug/l	0.10	EPA 8141A
HEPTACHLOR EPOXIDE (ISOMER B)	ug/l	0.05	EPA 525.2	TRICHLORONATE	ug/l	0.10	EPA 8141A
HEXACHLOROBENZENE	ug/l	0.05	EPA 525.2	BROMACIL	ug/l	0.2	EPA 525.2
HEXACHLOROCYCLOPENTADIENE	ug/l	0.05	EPA 525.2	DIELDRIN	ug/l	0.2	EPA 525.2
INDENO(1,2,3-CD)PYRENE	ug/l	0.05	EPA 525.2	ENDRIN	ug/l	0.2	EPA 525.2
METOLACHLOR	ug/l	0.05	EPA 525.2	THIOBENCARB	ug/l	0.2	EPA 525.2
METRIBUZIN	ug/l	0.05	EPA 525.2	COUMAPHOS	ug/l	0.20	EPA 8141A
PROPACHLOR	ug/l	0.05	EPA 525.2	DEMETON	ug/l	0.20	EPA 8141A
PYRENE	ug/l	0.05	EPA 525.2	DICHLORVOS	ug/l	0.20	EPA 8141A
SIMAZINE	ug/l	0.05	EPA 525.2	AROCLOR 1016	ug/l	0.25	EPA 8081A/8082

Table 3. Undetected Organic Chemicals

ANALYTE	UNITS	RL	METHOD	ANALYTE	UNITS	RL	METHOD
TRANS-NONACHLOR	ug/l	0.05	EPA 525.2	AROCLOR 1221	ug/l	0.25	EPA 8081A/8082
TRIFLURALIN	ug/l	0.05	EPA 8141A	AROCLOR 1232	ug/l	0.25	EPA 8081A/8082
2,4'-DDD	ug/l	0.1	EPA 525.2	AROCLOR 1242	ug/l	0.25	EPA 8081A/8082
2,4'-DDE	ug/l	0.1	EPA 525.2	AROCLOR 1248	ug/l	0.25	EPA 8081A/8082
2,4'-DDT	ug/l	0.1	EPA 525.2	AROCLOR 1254	ug/l	0.25	EPA 8081A/8082
2,4-DINITROTOLUENE	ug/l	0.1	EPA 525.2	AROCLOR 1260	ug/l	0.25	EPA 8081A/8082
2,6-DINITROTOLUENE	ug/l	0.1	EPA 525.2	NAPHTHALENE	ug/l	0.3	EPA 525.2
4,4'-DDD	ug/l	0.1	EPA 525.2	BUTYL BENZYL PHTHALATE	ug/l	0.5	EPA 525.2
4,4'-DDE	ug/l	0.1	EPA 525.2	DIETHYL PHTHALATE	ug/l	0.5	EPA 525.2
4,4'-DDT	ug/l	0.1	EPA 525.2	DIMETHYL PHTHALATE	ug/l	0.5	EPA 525.2
ACENAPHTHENE	ug/l	0.1	EPA 525.2	ISOPHORONE	ug/l	0.5	EPA 525.2
ACENAPHTHYLENE	ug/l	0.1	EPA 525.2	FENSULFOTHION	ug/l	0.50	EPA 8141A
ACETOCHLOR	ug/l	0.1	EPA 525.2	NALED	ug/l	0.50	EPA 8141A
CHLOROBENZILATE	ug/l	0.1	EPA 525.2	TOXAPHENE	ug/l	0.50	EPA 8081A/8082
CHLORONEB	ug/l	0.1	EPA 525.2	BIS(2-ETHYLHEXYL) PHTHALATE	ug/l	0.6	EPA 525.2
CHLOROTHALONIL	ug/l	0.1	EPA 525.2	BIS(2-ETHYLHEXYL)ADIPATE	ug/l	0.6	EPA 525.2
CHLOROTOLURON	ug/l	0.1	MWH/LCMSMS	MEVINPHOS	ug/l	0.70	EPA 8141A
DIAZINON	ug/l	0.1	EPA 525.2	DI-N-BUTYL PHTHALATE	ug/l	1	EPA 525.2
DIMETHOATE	ug/l	0.1	EPA 525.2	PENTACHLOROPHENOL	ug/l	1	EPA 525.2
DI-N-OCTYL PHTHALATE	ug/l	0.1	EPA 525.2	AZINPHOSMETHYL	ug/l	1.0	EPA 8141A
DIURON	ug/l	0.1	MWH/LCMSMS				

Table 4. Detected Organic Chemicals

Sample ID	Date	Site	Detected Organic Compound	Units	</>	Result	Flag	RL	WQ Limit	WQ Obj	Limit Met?	METHOD
SCP136	3/15/2017	MW-11-150	2,4'-DDD	ug/l		30	V	0.1	Detection	BP	no	EPA 525.2
SCP136	3/15/2017	MW-11-150	2,4'-DDT	ug/l		32	V	0.1	Detection	BP	no	EPA 525.2
SCP136	3/15/2017	MW-11-150	4,4'-DDD	ug/l		62	L	0.1	Detection	BP	no	EPA 525.2
SCP136	3/15/2017	MW-11-150	4,4'-DDT	ug/l		46	L	0.1	Detection	BP	no	EPA 525.2
SCP136	3/15/2017	MW-11-150	ANTHRACENE	ug/l		4.2	L	0.02	-	-	-	EPA 525.2
SCP136	3/15/2017	MW-11-150	BENZ(A)ANTHRACENE	ug/l		8.3	L	0.05	-	-	-	EPA 525.2
SCP136	3/15/2017	MW-11-150	BENZO(B)FLUORANTHENE	ug/l		6.2	L	0.02	-	-	-	EPA 525.2
SCP136	3/15/2017	MW-11-150	BENZO(G,H,I)PERYLENE	ug/l		2	V	0.05	-	-	-	EPA 525.2
SCP136	3/15/2017	MW-11-150	BENZO(K)FLUORANTHENE	ug/l		4.9	L	0.02	-	-	-	EPA 525.2
SCP136	3/15/2017	MW-11-150	BIS(2-ETHYLHEXYL) PHTHALATE	ug/l		9.6	L	0.6	-	-	-	EPA 525.2
SCP136	3/15/2017	MW-11-150	BIS(2-ETHYLHEXYL)ADIPATE	ug/l		22	L	0.6	-	-	-	EPA 525.2
SCP136	3/15/2017	MW-11-150	BUTACHLOR	ug/l		63	L	0.05	-	-	-	EPA 525.2
SCP136	3/15/2017	MW-11-150	BUTYL BENZYL PHTHALATE	ug/l		110	V	0.5	3	FWAL	no	EPA 525.2
SCP136	3/15/2017	MW-11-150	CAFFEINE	ug/l		16	L,V	0.05	-	-	-	EPA 525.2
SCP136	3/15/2017	MW-11-150	CHLOROBENZILATE	ug/l		69	L	0.1	-	-	-	EPA 525.2
SCP136	3/15/2017	MW-11-150	CHLOROTHALONIL	ug/l		36	L	0.1	-	-	-	EPA 525.2
SCP136	3/15/2017	MW-11-150	CHLORPYRIFOS	ug/l		27	L	0.05	0.015	BP	no	EPA 525.2
SCP136	3/15/2017	MW-11-150	CHRYSENE	ug/l		4.6	L	0.02	0.02	FWAL	no	EPA 525.2
SCP136	3/15/2017	MW-11-150	DIBENZ(A,H)ANTHRACENE	ug/l		1.9	V	0.05	-	-	-	EPA 525.2
SCP136	3/15/2017	MW-11-150	DI-N-BUTYL PHTHALATE	ug/l		26	V	1	3	FWAL	no	EPA 525.2
SCP136	3/15/2017	MW-11-150	DI-N-OCTYL PHTHALATE	ug/l		4.8	L	0.1	3	FWAL	no	EPA 525.2
SCP136	3/15/2017	MW-11-150	ENDOSULFAN II	ug/l		90	L	0.1	0.056	FWAL	no	EPA 525.2
SCP136	3/15/2017	MW-11-150	ENDOSULFAN SULFATE	ug/l		80	L	0.1	0.056	FWAL	no	EPA 525.2
SCP136	3/15/2017	MW-11-150	ENDRIN	ug/l		70	L	0.2	Detection	BP	no	EPA 525.2
SCP136	3/15/2017	MW-11-150	FLUORANTHENE	ug/l		2.7	L	0.1	3980	FWAL	yes	EPA 525.2
SCP136	3/15/2017	MW-11-150	INDENO(1,2,3-CD)PYRENE	ug/l		4.2	V	0.05	-	-	-	EPA 525.2
SCP136	3/15/2017	MW-11-150	MALATHION	ug/l		55	V	0.1	0.1	FWAL	no	EPA 525.2
SCP136	3/15/2017	MW-11-150	METHOXYCHLOR	ug/l		6.4	L	0.1	Detection	BP	no	EPA 525.2
SCP136	3/15/2017	MW-11-150	METOLACHLOR	ug/l		21	L	0.05	100	FWAL	yes	EPA 525.2
SCP136	3/15/2017	MW-11-150	METRIBUZIN	ug/l		16	V	0.05	100	FWAL	yes	EPA 525.2
SCP136	3/15/2017	MW-11-150	PARATHION	ug/l		18	L	0.1	0.013	FWAL	no	EPA 525.2
SCP136	3/15/2017	MW-11-150	PERMETHRIN (TOTAL)	ug/l		11	V	0.1	0.03	FWAL	no	EPA 525.2
SCP136	3/15/2017	MW-11-150	PHENANTHRENE	ug/l		3.7	L	0.04	-	-	-	EPA 525.2
SCP136	3/15/2017	MW-11-150	PYRENE	ug/l		3.8	L	0.05	-	-	-	EPA 525.2
SCP120	3/13/2017	MW-11-157	HCH-ALPHA	ug/l		0.017		0.01	Detection	BP	no	EPA 8081A/8082
SCP120	3/13/2017	MW-11-157	HCH-DELTA	ug/l		0.016	H	0.01	Detection	BP	no	EPA 8081A/8082
SCP120	3/13/2017	MW-11-157	HCH-GAMMA (LINDANE)	ug/l		0.042		0.01	Detection	BP	no	EPA 8081A/8082
SCP129	3/14/2017	MW-12-178	BIS(2-ETHYLHEXYL) PHTHALATE	ug/l		2.4		0.6	-	-	-	EPA 525.2
SCP129	3/14/2017	MW-12-178	BUTYL BENZYL PHTHALATE	ug/l		0.62	H	0.5	3	FWAL	yes	EPA 525.2
SCP139	3/15/2017	MW-12-187	BIS(2-ETHYLHEXYL) PHTHALATE	ug/l		0.65	L	0.6	-	-	-	EPA 525.2
SCP119	3/13/2017	MW-13-213	BIS(2-ETHYLHEXYL) PHTHALATE	ug/l		0.66		0.6	-	-	-	EPA 525.2
SCP127	3/14/2017	MW-14-205	BIS(2-ETHYLHEXYL) PHTHALATE	ug/l		1.4		0.6	-	-	-	EPA 525.2

Water Quality Monitoring for SJR Seepage Management

Table 5. Water Quality Standards for Seepage Management Projects

SCP Analyte	Basin Plan (SWRCB, 2016)	Freshwater Aquatic Life Protections (Marshack, 2016)						Agricultural Goals (Ayers and Westcott, 1985)	
		CA Toxics Rule (CTR) and/or National Toxics Rule (NTR)			National Recommended Water Quality Criteria (NRWQC)			Irrigation Suitability (IRRIG)	Poultry & Livestock (P&L)
		Continuous Concentration (CC)	Maximum Concentration (MC)	Instantaneous Maximum (IM)	Continuous Concentration (CC)	Maximum Concentration (MC)	Instantaneous Maximum (IM)		
PHYSICAL MEASUREMENTS (units as noted)									
pH (units)	6.5 - 8.5	-	-	-	-	-	6.5 - 9.0	6.5 - 8.4	-
EC (µS/cm)	-	-	-	-	-	-	-	<700 - <3,000 (1)	<5000
Temperature (°C)	(2)	-	-	-	-	-	-	-	-
Turbidity (NTU)	(3)	-	-	-	-	-	-	-	-
CONVENTIONAL PARAMETERS (mg/L)									
Total Ammonia (N)	-	-	-	-	calculation (4)	calculation (4)	-	-	-
Bicarbonate Alkalinity	-	-	-	-	-	-	-	<92 - <519 (1)	-
Total Alkalinity	-	-	-	-	>20	-	-	-	-
Boron	<2.0 (5)	-	-	-	-	-	-	<0.7-<15.0 (1)	<5000
Calcium	-	-	-	-	-	-	-	-	-
Chloride	-	-	-	-	<230	<860	-	<3 - <40 (5)	-
Hardness	-	-	-	-	-	-	-	-	-
Magnesium	-	-	-	-	-	-	-	-	<250
Nitrate (as NO ₃)	-	-	-	-	-	-	-	<30	-
Sodium	-	-	-	-	-	-	-	<69 (7)	-
Sodium Absorption Ratio (SAR)	-	-	-	-	-	-	-	<3- <9 (1, 7)	-
Sulfate	-	-	-	-	-	-	-	-	-
Total Dissolved Solids (TDS)	-	-	-	-	-	-	-	<450 - <2,000 (1)	-
Total Phosphorus	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen (TKN)	-	-	-	-	-	-	-	-	-
METALS - TOTAL (µg/L)									
Aluminum	-	-	-	-	<87 (8)	<750	-	<5000 (9)	<5000
Arsenic	-	-	-	-	-	-	-	<100	<200
Cadmium	-	calculation (10)	calculation (10)	-	-	-	-	<10	<50
Copper	-	calculation (10)	calculation (10)	-	-	-	-	<200	<500
Lead	-	calculation (10)	calculation (10)	-	-	-	-	<5000	<100
Mercury	-	-	-	-	<0.77	<1.4	-	-	<10
Nickel	-	calculation (10)	calculation (10)	-	-	-	-	<200	<200
Selenium	5 (11)	<5	<20 ⁸	-	-	-	-	<20	<50
Zinc	-	calculation (10)	calculation (10)	-	-	-	-	<2000	<24000
METALS - DISSOLVED (µg/L)									
Aluminum	-	-	-	-	-	-	-	-	-
Arsenic	-	<150	<340	-	-	-	-	-	-
Boron	-	-	-	-	-	-	-	-	-
Cadmium	-	calculation (10)	calculation (10)	-	-	-	-	-	-
Copper	-	calculation (10)	calculation (10)	-	-	-	-	-	-
Lead	-	calculation (10)	calculation (10)	-	-	-	-	-	-
Mercury	-	-	-	-	-	-	-	-	-
Nickel	-	calculation (10)	calculation (10)	-	-	-	-	-	-
Selenium	-	-	-	-	-	-	-	-	-
Zinc	-	calculation (10)	-	-	-	-	-	-	-
DETECTED ORGANIC COMPOUNDS (µg/L)									
Anthracene	-	-	-	-	-	-	-	-	-
Benz(a)anthracene [Benzanthracene]	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene [Benzofluorantheneb]	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene [Benzoperylene]	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene [Benzofluoranthenek]	-	-	-	-	-	-	-	-	-
Bis(2-ethylhexyl) Phthalate [Di(2-ethylhexyl)phthalate]	-	-	-	-	-	-	-	-	-
Bis(2-ethylhexyl) Adipate [Diethylhexyladipate2]	-	-	-	-	-	-	-	-	-
Butachlor	-	-	-	-	-	-	-	-	-
Butylbenzyl phthalate	-	-	-	-	<3 (12)	<940 (13)	-	-	-
Caffeine	-	-	-	-	-	-	-	-	-
Chlorobenzilate [Ethyl-4,4'-dichlorobenzilate]	-	-	-	-	-	-	-	-	-
Chlorothalonil	-	-	-	-	-	-	-	-	-
Chlorpyrifos	<0.025/0.015 (14)	-	-	-	-	-	-	-	-
Chrysene	-	-	-	-	<0.041	<0.02	-	-	-
Dibenz(a,h)anthracene [Dibenzanthraceneah]	-	-	-	-	-	-	-	-	-
Di-N-Butyl Phthalate [Dibutylphthalate]	-	-	-	-	<3 (12)	<940 (13)	-	-	-
Di-N-Octyl Phthalate [Dioctylphthalate]	-	-	-	-	<3 (12)	<940 (13)	-	-	-
Endosulfan I + Endosulfan II	-	<0.056	-	<0.22	-	-	-	-	-
Endosulfan Sulfate	-	-	-	-	-	<0.056 (15)	-	-	-
Endrin	< Detection	<0.036	<0.086	-	-	-	-	-	-
Fluoranthene	-	-	-	-	-	3980 (13)	-	-	-

Water Quality Monitoring for SJR Seepage Management

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SCP Analyte	Basin Plan (SWRCB, 2016)	Freshwater Aquatic Life Protections (Marshack, 2016)						Agricultural Goals (Ayers and Westcott, 1985)	
		CA Toxics Rule (CTR) and/or National Toxics Rule (NTR)			National Recommended Water Quality Criteria (NRWQC)			Irrigation Suitability (IRRIG)	Poultry & Livestock (P&L)
		Continuous Concentration (CC)	Maximum Concentration (MC)	Instantaneous Maximum (IM)	Continuous Concentration (CC)	Maximum Concentration (MC)	Instantaneous Maximum (IM)		
Gamma-BHC (Lindane) [BHC]	< Detection	-	<0.95	-	<0.08	-	-	-	-
HCH-alpha [alpha-BHC][α-Hexachlorocyclohexane]	< Detection	-	-	-	-	-	-	-	-
HCH-delta [delta-BHC]	< Detection	-	-	-	-	-	-	-	-
Indeno(1,2,3-c,d)pyrene [Indenopyrene123cd]	-	-	-	-	-	-	-	-	-
Malathion	-	-	-	-	-	<0.43	<0.1	-	-
Methoxychlor	< Detection	-	-	-	-	-	<0.03	-	-
Metolachlor	-	-	-	-	-	-	<100	-	-
Metribuzin	-	-	-	-	-	-	<100	-	-
Parathion	-	-	-	-	<0.013	<0.065	-	-	-
Permethrin (Total) [Permethrin]	-	-	-	-	-	<0.03	-	-	-
Phenanthrene	-	-	-	-	-	-	-	-	-
Pyrene	-	-	-	-	-	-	-	-	-
Total DDD [DDD]	< Detection	-	-	-	<0.001	<3.6 (13)	<1.1	-	-
Total DDE [DDE]	< Detection	-	-	-	<0.001	<1050 (13)	<1.1	-	-
Total DDT [DDT]	< Detection	<0.001	-	<1.1	-	-	-	-	-