Permit Comment Matrix Final for Review

Part	Sub-Part	Para.	Sub-Par.	Permit Section and Language	Comment
II. SPECIFIC PERMIT CONDITIONS	A. REQUIREMENTS PRIOR TO DRILLING, TESTING, CONSTRUCTING, OR OPERATING	2 Field Demonstrations	a	**II.A.2.a** "Prior to each field demonstration required by and described in the following Sections II.B.4.a. and 4.b., and Sections II.D.1.a., 2.a., and 2.b.,	**Throughout entire permit:** Numerous sections throughout the permit reference sections that do not exist or are incorrect. For example for this particular section, the draft permit makes reference to "field demonstration required by and described in the following Sections II.B.4.a. and 4.b and Sections II.D.1.a., 2.a., and 2.b.," The referenced sections II.B.4.a and II.B.4.b don't exist. Section II.B.4 describes the injection interval,but makes no reference to "field demonstration". Section II.D.1.a and Section II.D.1.b are the only sections that reference "Required Demonstrations". Section II.D.2.a and 2.b do not fall under the "required Demonstrations" section. In this particular section it makes it difficult to differentiate a one time field determination as opposed to ongoing annual monitoring requirements. Please clarify.
	B CONDITIONS FOR EXISTING WELL AND FUTURE WELL CONSTRUCTION	2 Existing Well Construction Details		**II.B.2** - Well Construction Details	Please update the Appendix with the most current version of IW-1 (October 20, 2020) and IW-2 (November 5, 2020) schematics to incorporate into final permit. See Attachment 5 (PEC IW1 Schematic and PEC IW2 Schematic).
		3 Injection Formation Testing	a Pressure Fall Off Test (FOT)	**II.B.3.a.B** - "The Permittee shall conduct this FOT in Well IW2.." **II.B.3.a.E** - "Permittee shall conduct a FOT annually thereafter"	**II.B.3.a.B** - The FOT should produce similar results regardless of which well is used. PEC requests the flexibility to use wells other than IW2 for the FOT. PEC requests that "Well IW2" be replaced with … "in either IW1, IW2, IW3, or IW4 as proposed in procedures submitted to EPA for approval ..." **II.B.3.a.E** - PEC requests that "annually be clarified to be within 9 to 15 months since the previous FOT"
		5 Monitoring Devices	a	**II.B.5.a** - "A tap on the discharge line between the injection pump and the wellhead or an alternative location proposed in a detailed written request by the Permittee and approved in writing by the EPA Director or their delegated representative for the purpose of obtaining representative samples of injection fluid; and"	**II.B.5.a** - PEC is requesting that this condition be changed to ... " A tap on the discharge line shall be located that provides for representative sampling of all wastewaters being injected downstream of any water treatment, either chemical or physical." The basis for this request is that the preferred location for the tap is downstream of all chemical addition and the back end filters and provides a sample that would provide a similar result as downstream of the injection pumps. The preferred location of the sample tap would never expose the sampler to pressures much greater than 100 psi while the location stated in the draft permit is 1950 – 2000 psi while injecting.
	C	1 Annual Zone of Endangering Influence Review		**II.C.1** "….ZEI calculation based on any new data obtained from the FOT and static reservoir pressure observations required by Section II.B.4.b…."	**II.C.1** - Section II.B.4.b does not exist in the draft permit. Please provide correct section for reference.

	CORRECTIVE ACTION	**2 Implementation of Future Corrective Actions**		**II.C.2** - "the Permittee shall submit a plan for approval by EPA to re-enter, plug, and abandon the wells listed in Section II.C.3.a.,"	**II.C.2** - Section II.C.3.a does not exist in the draft permit.
	D WELL OPERATION	**7 Routine Maintenance**		**II.D.7 - New Section**	**II.D.7** PEC requests that a section be included and language added. Within 60 days of issuance of the permit the Facility will submit a generic well stimulation program for adoption.
	E MONITORING, RECORDKEEPING, AND REPORTING OF RESULTS	**1 Injection Fluid Monitoring Program**	**a Summary of Acceptable Methods**	**II.E.1.a.iv. -** Volatile Organic Compounds (VOCs) – USEPA Method 8260D. **II.E.1.a.v. -** Semi-Volatile Organic Compounds (SVOCs) – USEPA Method 8270E.	**II.E.1.a.iv**. -BSK Laboratory that PEC has used for a decade and which is the most accessible full-service lab in the area is Cal ELAP certified to 8260B as of 5/2020. Recommend revising condition as follows: "Volatile Organic Compounds (VOCs) - USEPA Method 8260B or more current." **II.E.1.a.v**. -BSK Laboratory that PEC has used for a decade and which is the most accessible full-service lab in the area is Cal ELAP certified to 8270C as of 5/2020. Recommend revising condition as follows: "Semi-Volatile Organic Compounds (VOC) – USEPA Method 8270C or more current."
		2 USDW Monitoring	**Monitoring Requirements**	**II.E.2. Monitoring Requirements** "...The Permittee shall perform the following chemical analysis and measure specific conductance and formation pressure in the monitoring well to be installed as described in Part II.C.1,"	**II.E.2. Monitoring Requirements** - Part II.C.1 is the the Corrective Action Section of the draft permit and no corrective actions are required. Please see comment letter for additional comments.
		4 Monitoring Devices	**a. Continuous Monitoring Devices**	**II.E.4.a** - "...The Permittee shall also measure pressure and specific conductance as described in Section II.E.2 at the monitoring well to be installed pursuant to Section II.C.1...."	**II.E.4.a -** Part II.C.1 is the the Corrective Action Section of the draft permit and no corrective actions are required.
		5 Recordkeeping	**a. iv.**	**II.E.5.a.iv -** "...The geophysical logging and results of the chemical analyses of the USDW from the monitoring well pursuant to Section II.C.1;."	**II.E.5.a.iv. -** Part II.C.1 is the the Corrective Action Section of the draft permit and no corrective actions are required.
		6 Reporting	**a.vi.**	**II.E.6.a.vi.** "..... Shut-in static reservoir pressure cumulative behavior plot of the injection zone, as required by Section II.B.4.b.v.;.."	**II.E.6.a.vi.** -Section II.B.4.b.v of the draft permit does not exist. Please clarify.
	F. PLUGGING AND ABANDONMENT	**1 Demonstration of Financial Assurance**		**II.F.1.** "...Prior to the installation of the monitoring well described in Part II.C.1(a), financial assurance must also be provided, for EPA approval, consistent with the schedule set forth in Part II.C.1 (c)."	**II.F.1. -** Part II.C.1 is the the Corrective Action Section of the draft permit and no corrective actions are required.

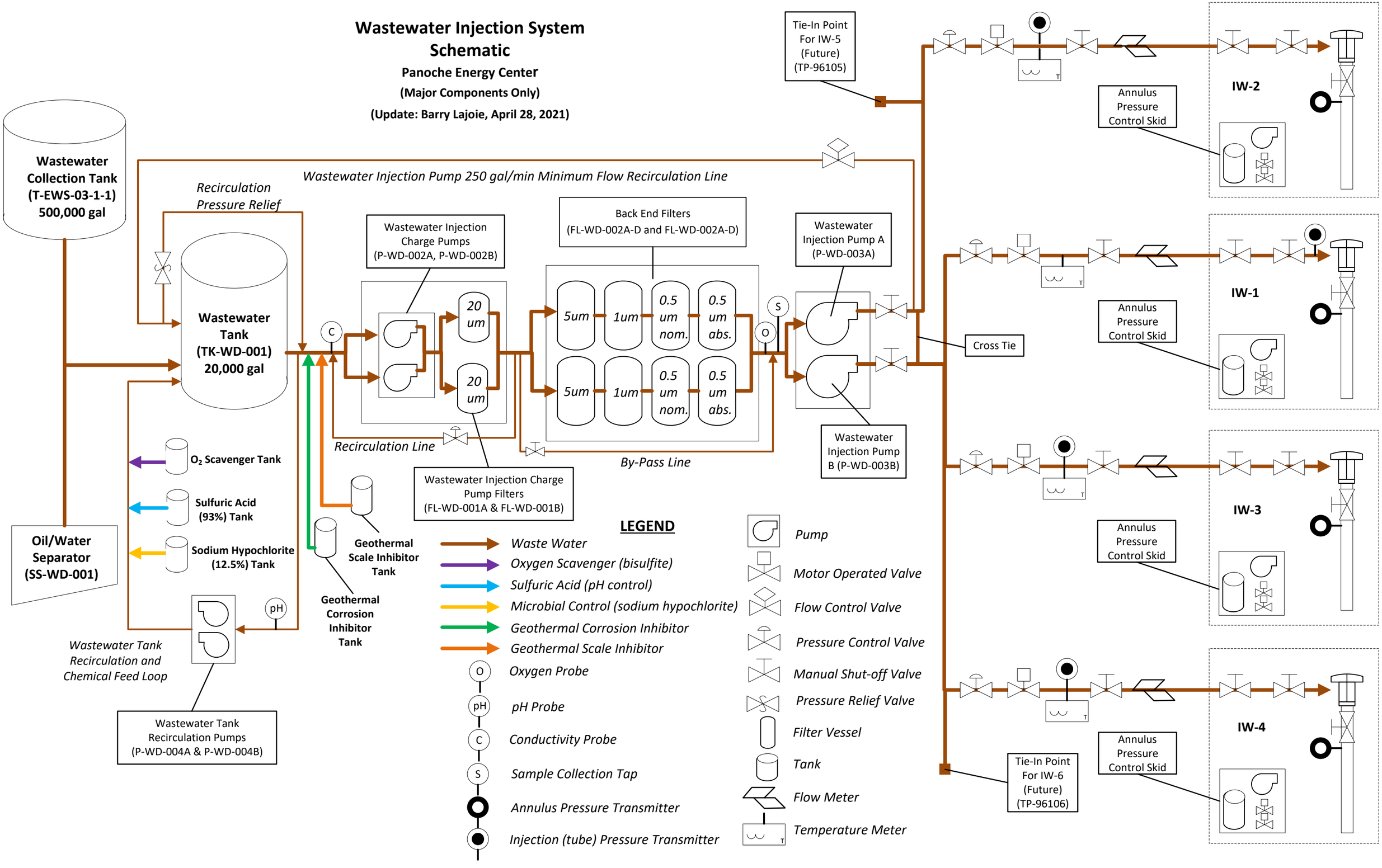
Panoche Wastewater Injection Schematic

Wastewater Injection System Schematic

Panoche Energy Center

(Major Components Only)

(Update: Barry Lajoie, April 28, 2021)



Panoche Energy Center Well IW1 Schematic

Panoche Energy Center
Well IW1

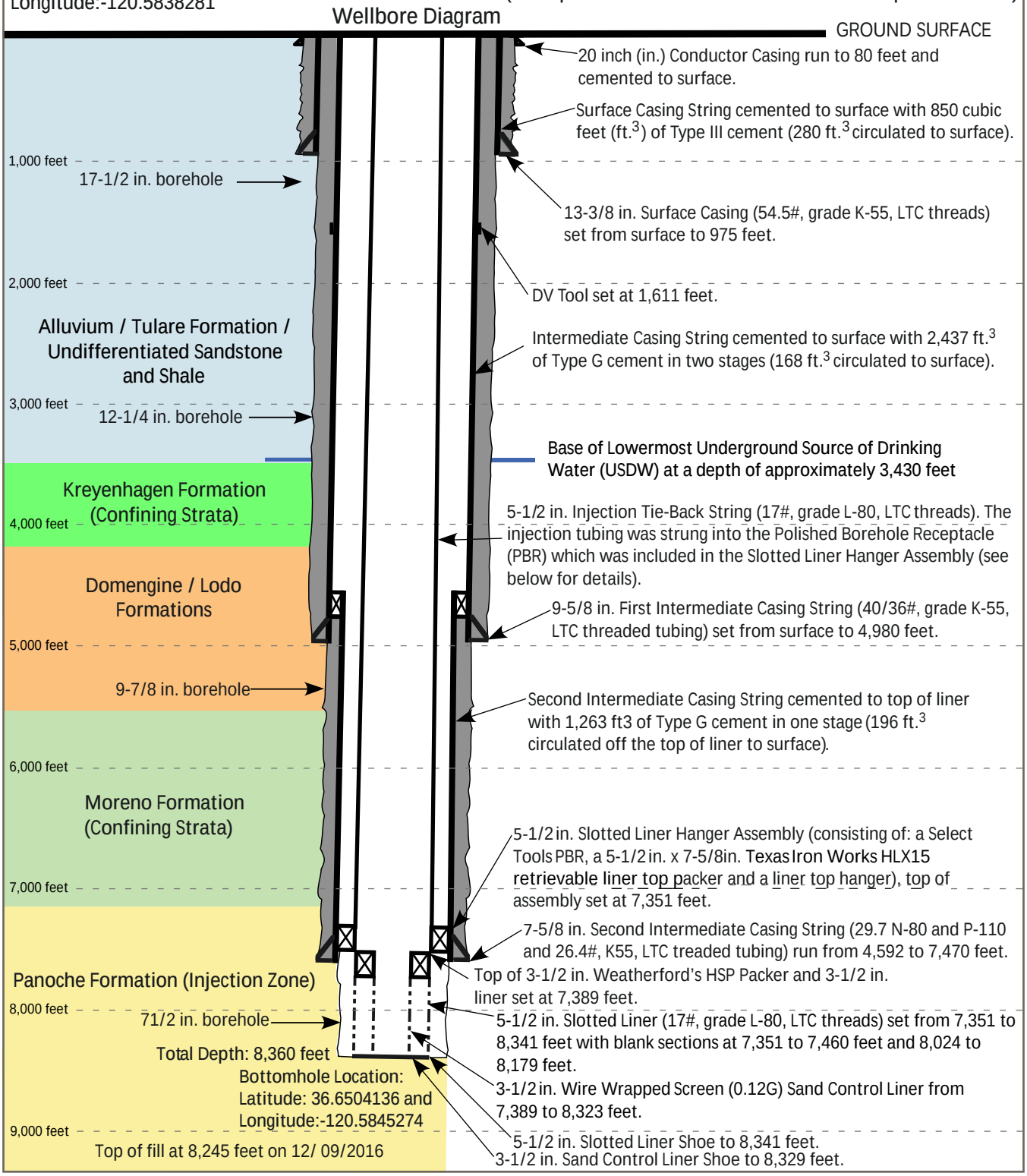
FIGURE M-1

EPA UIC Permit # CA10600001
Operator: Panoche Energy Center, LLC
Location: Section Sec 5 T15S R13E
County/ State: Fresno / California

Wellhead Location:
Latitude: 36.650645 and
Longitude:-120.5838281

Spud: September 26, 2008 Final Drilling Rig (Kenai #5)
Report: December 17, 2008 Final Completion Rig (Rival #9)
URS Completion Report: February 19, 2009

Surface Elevation: 408 feet above Mean Sea level (MSL)
Rig Kelly busing (KB) depth =13 feet (ft.) above Ground Surface (KB =421 ft. MSL)
(All depths listed below are referenced to a depth below KB.)



UPDATED BY HALEY & ALDRICH, INC AND WEEGAR-EIDE & ASSOCIATES, LLC ON 10/20/2020

Panoche Energy Center Well IW2 Schematic

Panoche Energy Center
Well IW2

FIGURE M-2

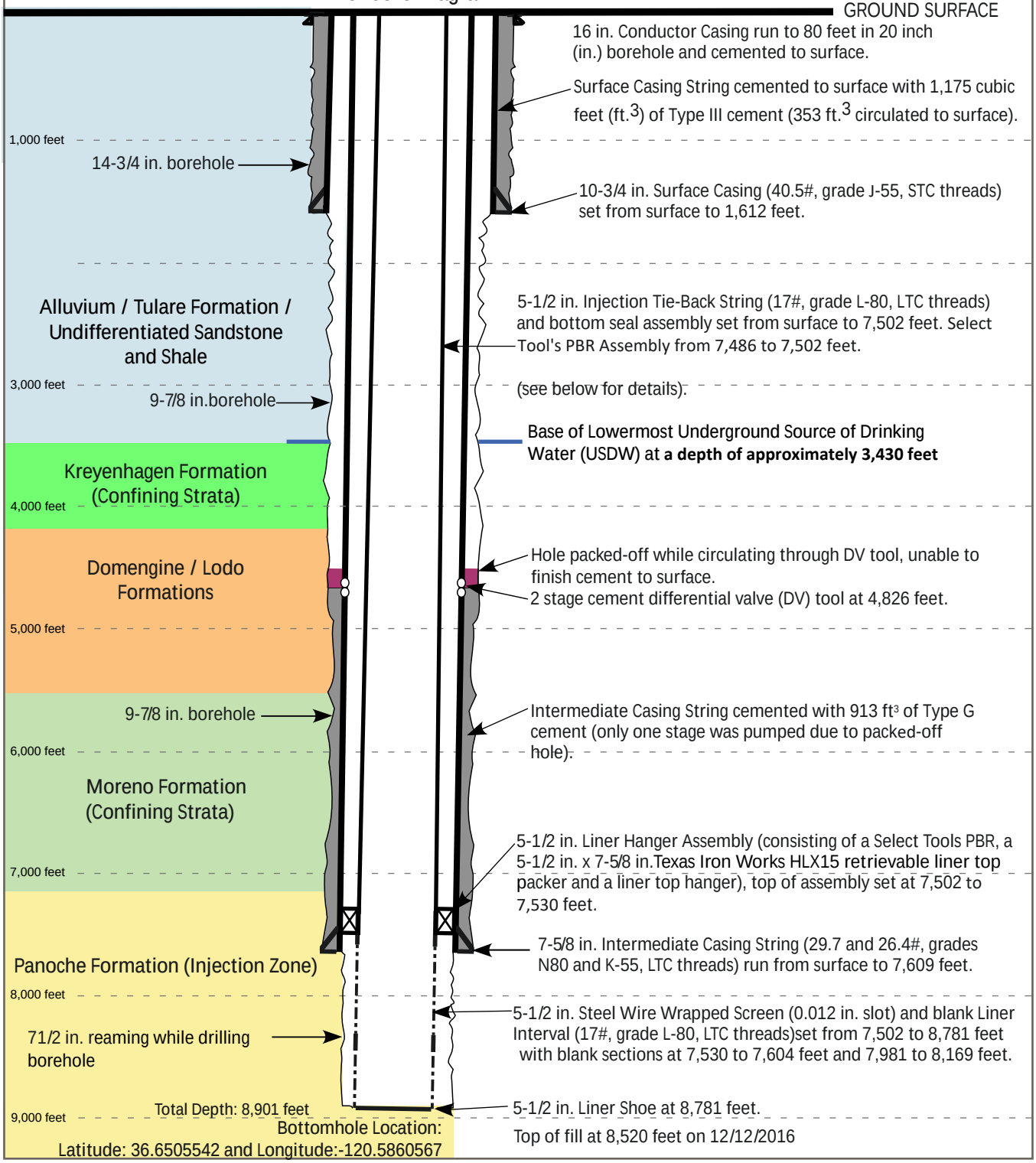
EPA UIC Permit # CA10600001
Operator: Panoche Energy Center, LLC
Location: Section Sec 5 T15S R13E
County/ State: Fresno / California

Wellhead Location:
Latitude: 36.650588 and
Longitude:-120.5849399

Spud: December 19, 2008 Final Drilling Rig (Kenai #5)
Report: January 17, 2008 Final Completion Rig (Rival #9)
Report: January 29, 2009

Surface Elevation: 408 feet above Mean Sea level (MSL)
Rig Kelly busing (KB) depth =13 feet (ft.) above Ground Surface (KB =421 ft. MSL)
(All depths listed below are referenced to a depth below KB.)

Wellbore Diagram



UPDATED BY HALEY & ALDRICH, INC AND WEEGAR-EIDE & ASSOCIATES, LLC ON 11/05/2020