

AP 34-8-695 Pit

Facility ID 284483 | Location ID 335601

909.j.(6) Alternative Sampling Plan



A. INTRODUCTION

TEP Rocky Mountain LLC (“TEP”) has prepared this Alternative Sampling Plan for director approval per COGCC Rule 909.j.(6) for the AP 34-8-695 Pit. TEP has extensive water reuse and recycle infrastructure to utilize produced water from approximately 7,000 natural gas wells in the Piceance Basin for hydraulic fracturing of new natural gas wells, primarily in Garfield and Rio Blanco Counties. Twenty-eight (28) lined produced water pits are part of this infrastructure. Due to the very large number of individual actively producing wells it is impractical to sample produced water from each well. However, since proximate wells are producing from the same, or similar, formations, collecting and analyzing produced water from the composite inlet stream of each lined pit will provide representative analytical results.

B. LOCATION DESCRIPTION

The AP 34-8-695 facility is a single-well pit located within Section 8, Township 6 South, Range 95 West in Garfield County (facility ID 284483, location ID 335601, lat. 39.533418, long. -108.023016). A facility diagram is attached for reference. The facility consists of a 7,966 barrel capacity lined produced water pit, natural gas wells, three-phase production separators, and oil storage tanks.

C. PRODUCED WATER SAMPLING PROTOCOL

In accord with COGCC Rule 909.j.(1) produced water samples will be collected from the inlet produced water pipeline entering the pit and analyzed for the properties and constituents listed below. A list of well pads that send produced water to the AP 34-8-695 Pit is included in Section D (“Well List”) below.

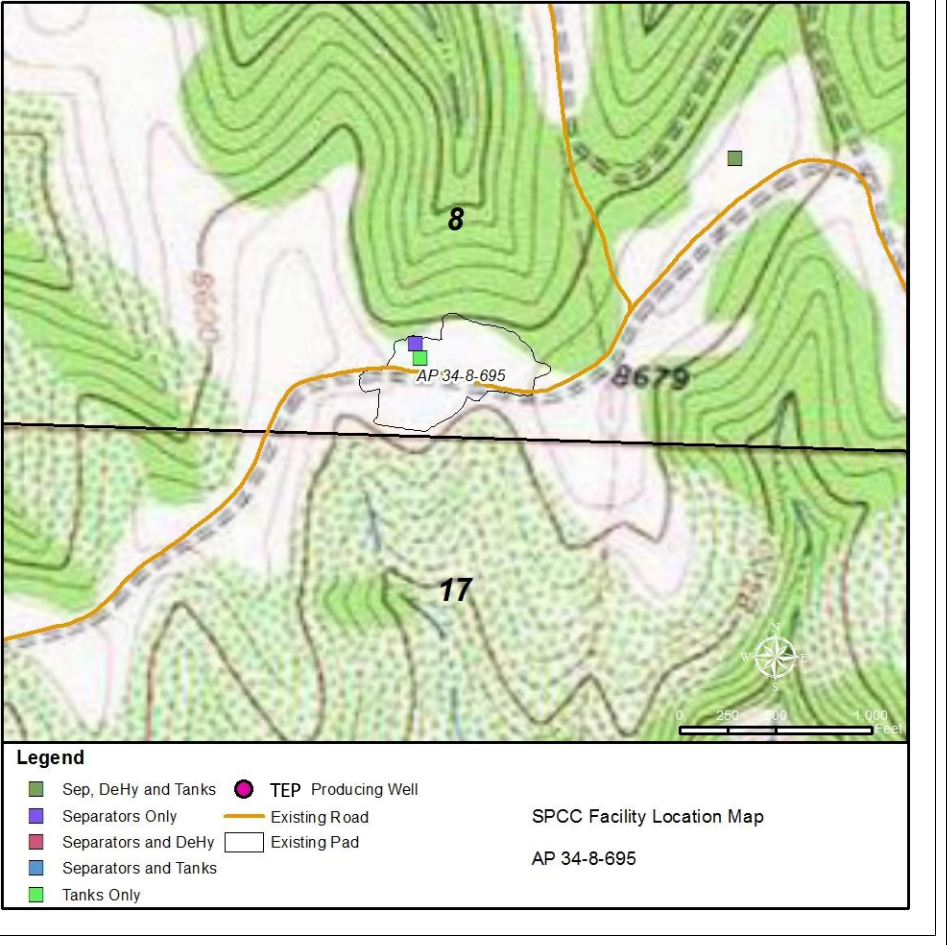
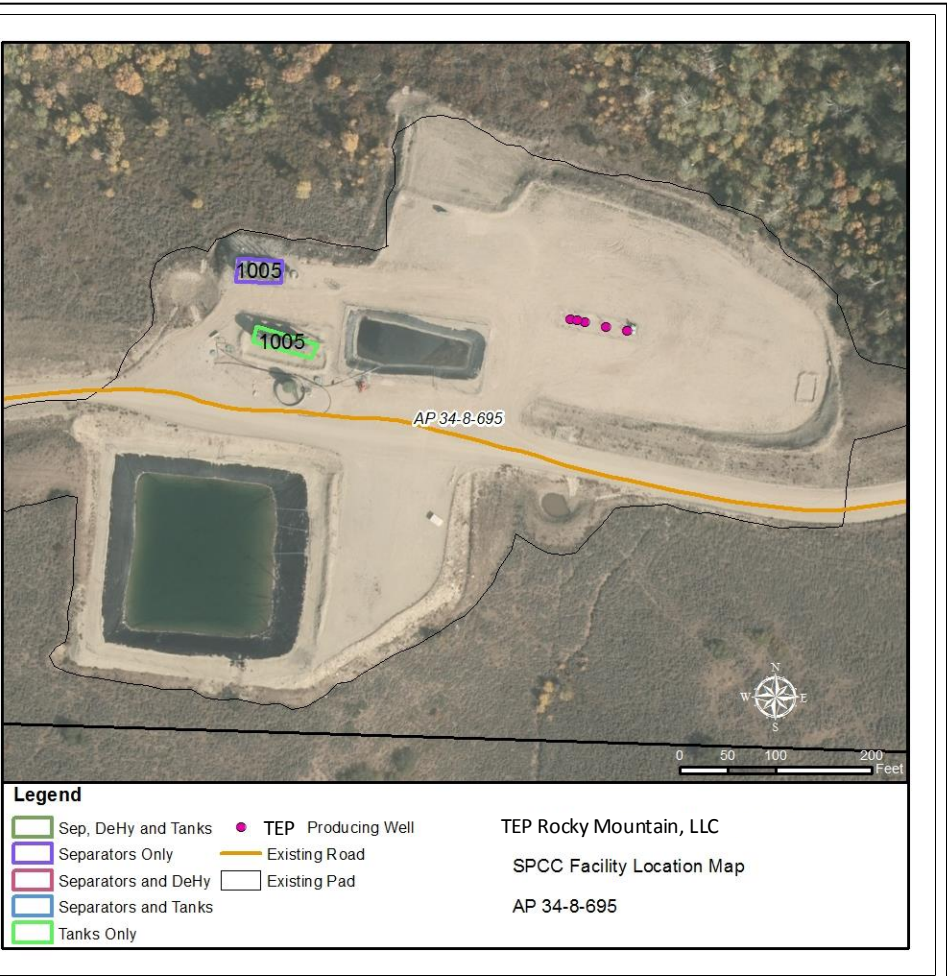
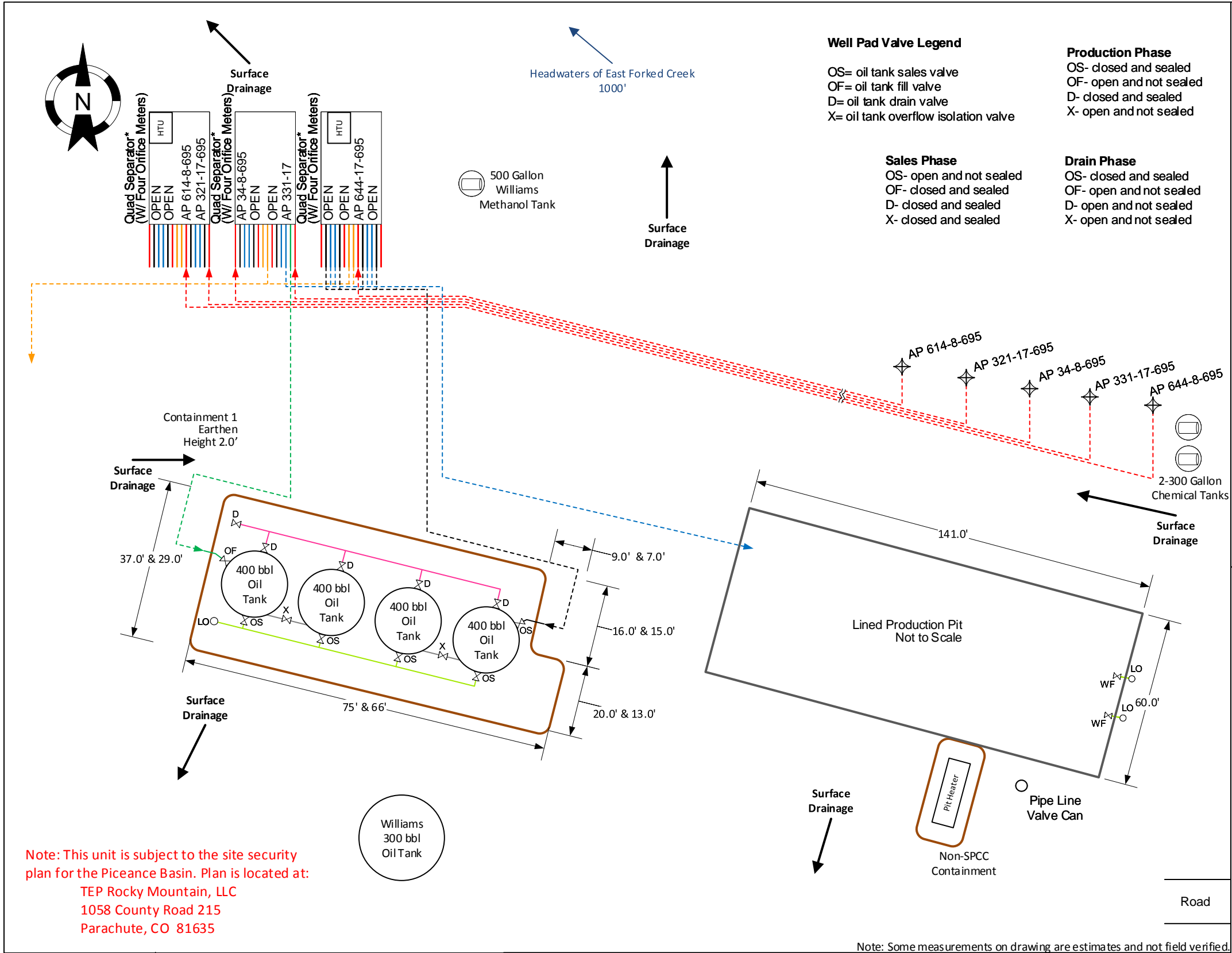
- pH
- Specific conductance
- Total dissolved and suspended solids (TDS and TSS)
- Alkalinity (total, bicarbonate, and carbonate as CaCO₃)
- Major anions (bromide, chloride, fluoride, sulfate, nitrate and nitrite as N, and phosphorus)
- Major cations (calcium, iron, magnesium, manganese, potassium, and sodium)
- Other elements (barium, boron, selenium, and strontium)
- Naphthalene
- Total petroleum hydrocarbons (“TPH”) as total volatile hydrocarbons (C6 to C10) and total extractable hydrocarbons (C10 to C36)
- BTEX compounds (benzene, toluene, ethylbenzene, and xylenes)
- Radium (226Ra and 228Ra)

In accord with COGCC Rule 909.j.(3) analytical results will be submitted to the COGCC via Form 43.

D. WELL LIST

Produced water from the wells listed below are sent to the AP 34-8-695 Pit via on-site flowlines:

- AP 614-8-695
- AP 321-17-695
- AP 34-8-695
- AP 331-17-695
- AP 644-8-695



Facility ID	Facility Diagram		Legend		Dotted lines denote underground pipes. All lines denote 2" steel pipe, unless otherwise noted. Valves on separator not shown.
DRAWN BY: TG	TEP Rocky Mountain LLC		Water Dump Line	Oil Dump Line 4	
DATE: 12/12/18	North Grand Valley		Flowline	Gas Sales Line	
SCALE: NONE	AP 34-8-695 Pad		Oil Dump Line	Overflow Line	
Latitude: 39.533418 Longitude: -108.023016		SW/SE, Sec.8, T6S, R95W		Vent Line	Valve
COC# NONE		Garfield County, CO		Manifold Line	Load Out Valve
				Load Line	Well Head