

# AP 22-10-695 Pit

Facility ID 284671 | Location ID 335661

## 909.j.(6) Alternative Sampling Plan

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### 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 22-10-695 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 22-10-695 facility is a single-well pit located within Section 10, Township 6 South, Range 95 West in Garfield County (facility ID 284671, location ID 335661, lat. 39.540824, long. -107.986386). A facility diagram is attached for reference. The facility consists of a 9,482 barrel capacity lined produced water pit, two natural gas wells, one three-phase production separator, 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 22-10-695 Pit is included in Section D (“Well List”) below.

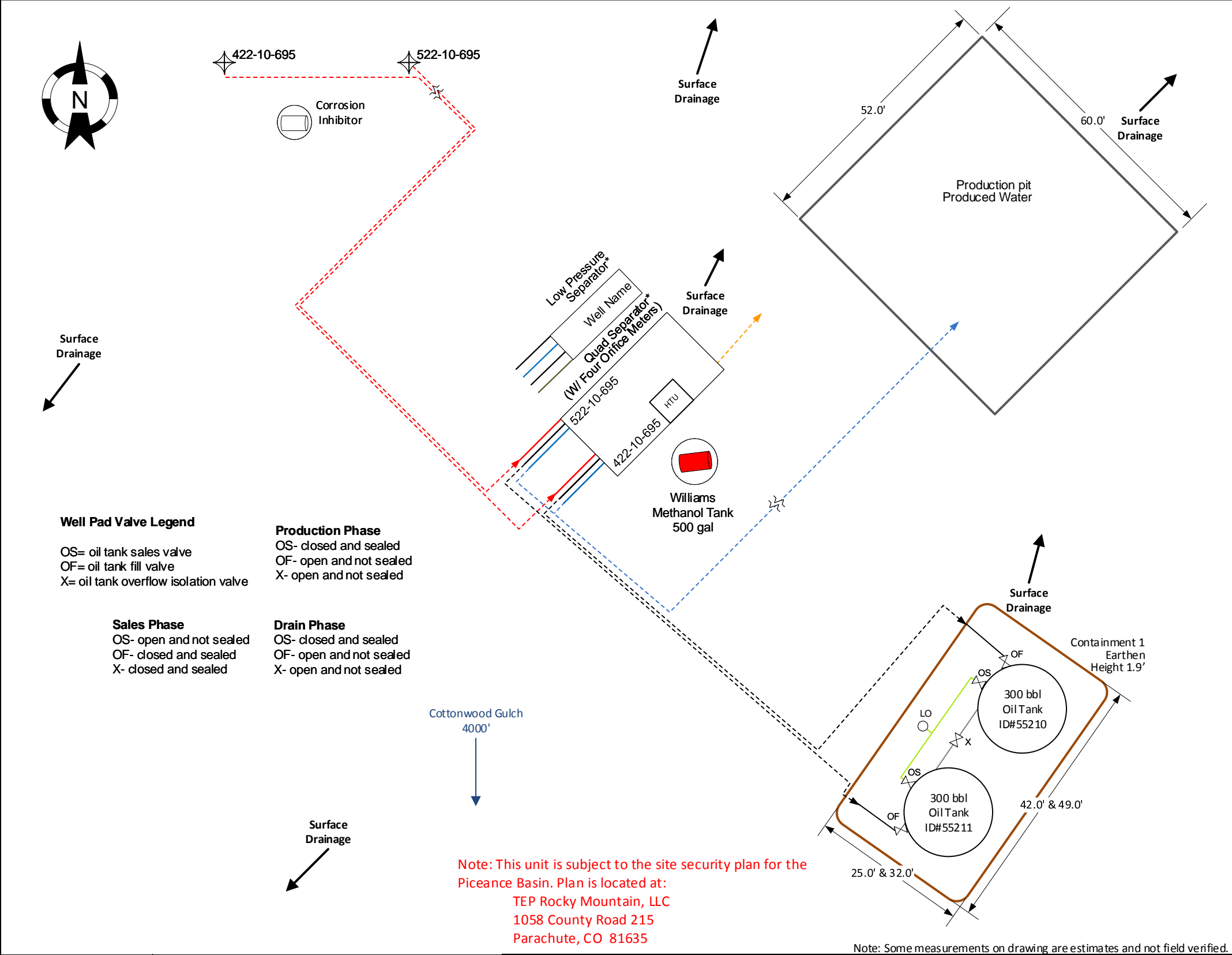
- pH
- Specific conductance
- Total dissolved and suspended solids (TDS and TSS)
- Alkalinity (total, bicarbonate, and carbonate as CaCO<sub>3</sub>)
- Major anions (bromide, chloride, fluoride, sulfate, nitrate and nitrite as N, and phosphorus)
- Major cations (calcium, iron, magnesium, manganese, potassium, 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 22-10-695 Pit via on-site flowlines:

- AP 422-10-695
- AP 522-10-695



**Well Pad Valve Legend**

OS= oil tank sales valve  
OF= oil tank fill valve  
X= oil tank overflow isolation valve

**Production Phase**

OS- closed and sealed  
OF- open and not sealed  
X- open and not sealed

**Sales Phase**

OS- open and not sealed  
OF- closed and sealed  
X- closed and sealed

**Drain Phase**

OS- closed and sealed  
OF- open and not sealed  
X- open and not sealed

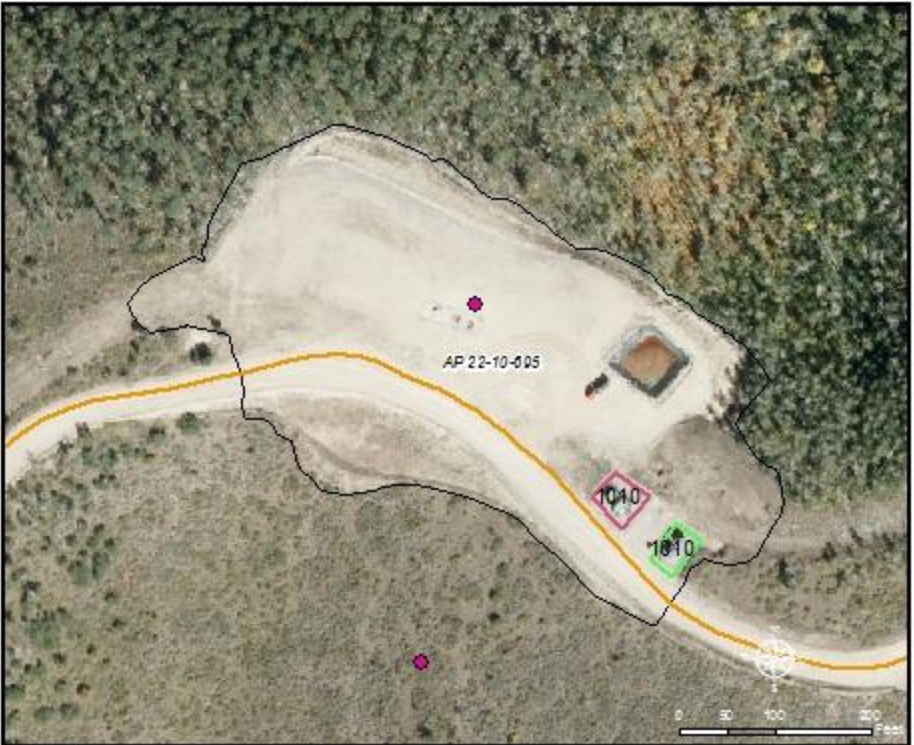
Facility ID	
DRAWN BY:	TG
DATE:	12/12/18
SCALE:	NONE

**Facility Diagram**  
TEP Rocky Mountain, llc  
North Grand Valley - AP 22-10-695  
Latitude: 39.540824 Longitude: -107.986386  
SE/NW, Sec.10, T6S, R95W  
COC# NONE  
EU Number: 91257785  
Garfield County, CO

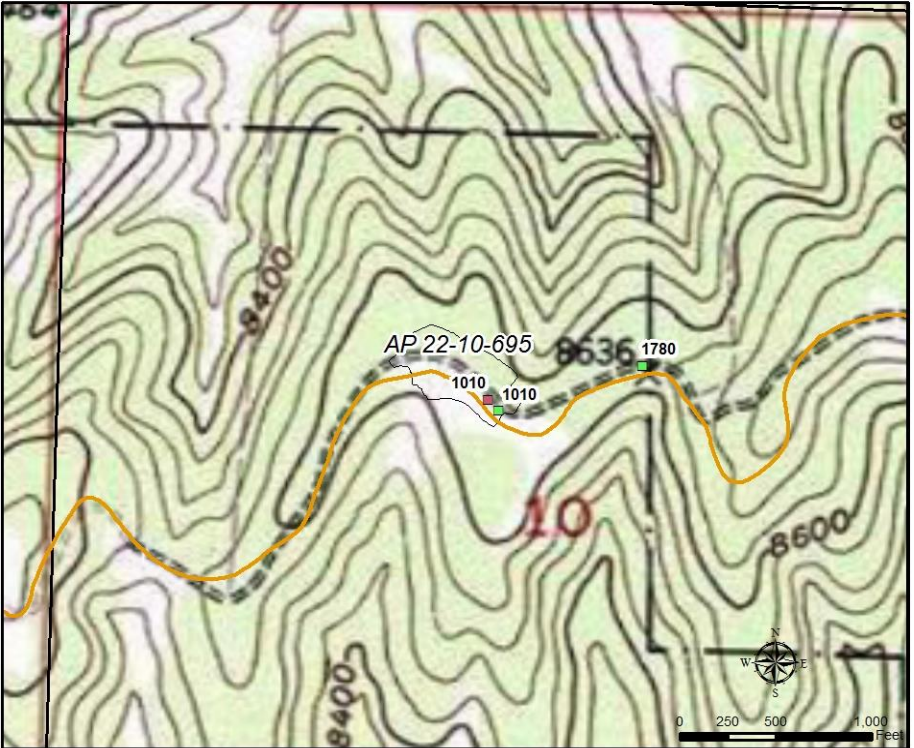
**Legend**

- |                 |                 |
|-----------------|-----------------|
| Water Dump Line | Oil Dump Line 4 |
| Flowline        | Gas Sales Line  |
| Oil Dump Line   | Overflow Line   |
| Oil Dump Line 2 | Vent Line       |
| Oil Dump Line 3 | Manifold Line   |
|                 | Load Line       |

- Dotted lines denote underground pipes.  
All lines denote 2" steel pipe, unless otherwise noted. Valves on separator not shown.
- Valve  
Load Out Valve  
Well Head



- Legend**
- |                      |                    |                            |
|----------------------|--------------------|----------------------------|
| Sep, DeHy and Tanks  | TEP Producing Well | TEP Rocky Mountain, LLC    |
| Separators Only      | Existing Road      | SPCC Facility Location Map |
| Separators and DeHy  | Existing Pad       | AP 22-10-695               |
| Separators and Tanks |                    |                            |
| Tanks Only           |                    |                            |



- Legend**
- |                      |               |                            |
|----------------------|---------------|----------------------------|
| Sep, DeHy and Tanks  | Existing Road | SPCC Facility Location Map |
| Separators Only      | Existing Pad  | AP 22-10-695               |
| Separators and DeHy  |               |                            |
| Separators and Tanks |               |                            |
| Tanks Only           |               |                            |