

AP 22-9-695 Pit

Facility ID 279360 | Location ID 335753

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 22-9-695 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 22-9-695 facility is a single-well pit located within Section 9, Township 6 South, Range 95 West in Garfield County (facility ID 279360, location ID 335753, lat. 39.540473, long. -108.007232). A facility diagram is attached for reference. The facility consists of a 3,952 barrel capacity lined produced water pit, natural gas wells, three-phase production separators, and produced water & 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 22-9-695 Pit is included in Section D (“Well List”) below.

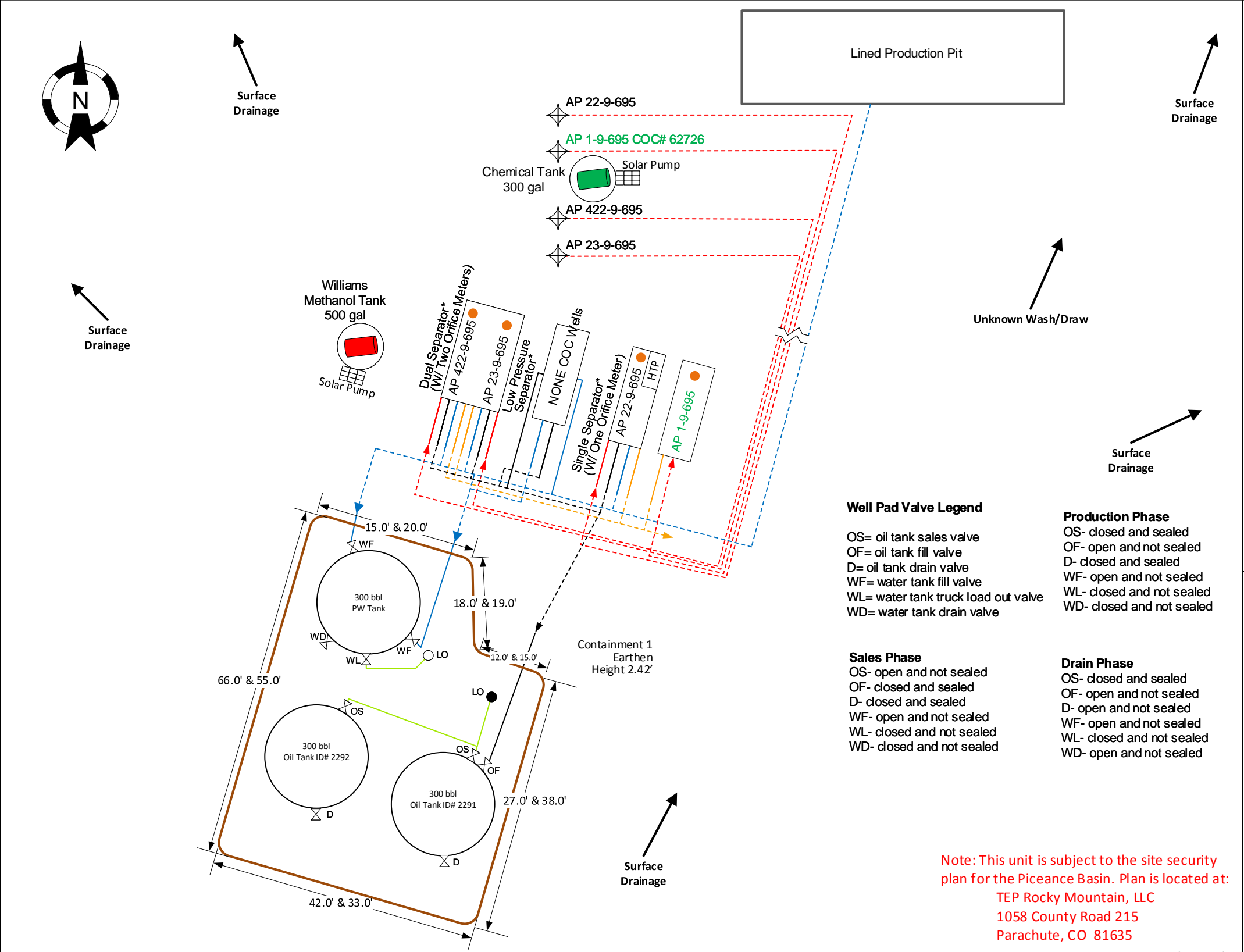
- pH
- Specific conductance
- Total dissolved and suspended solids (TDS and TSS)
- Alkalinity (total, bicarbonate, and carbonate as CaCO₃)
- Major anions (bromide, chloride, fluoride, sulfate, nitrate and nitrite as N, and phosphorus)
- Major cations (calcium, iron, magnesium, manganese, potassium, and 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 22-9-695 Pit via on-site flowlines:

- AP 22-9-695
- AP 1-9-695
- AP 422-9-695
- AP 23-9-695



Well Pad Valve Legend

OS= oil tank sales valve
OF= oil tank fill valve
D= oil tank drain valve
WF= water tank fill valve
WL= water tank truck load out valve
WD= water tank drain valve

Sales Phase

OS- open and not sealed
OF- closed and sealed
D- closed and sealed
WF- open and not sealed
WL- closed and not sealed
WD- closed and not sealed

Production Phase

OS- closed and sealed
OF- open and not sealed
D- closed and sealed
WF- open and not sealed
WL- closed and not sealed
WD- closed and not sealed

Drain Phase

OS- closed and sealed
OF- open and not sealed
D- open and not sealed
WF- open and not sealed
WL- closed and not sealed
WD- open and not sealed

Note: This unit is subject to the site security plan for the Piceance Basin. Plan is located at:
TEP Rocky Mountain, LLC
1058 County Road 215
Parachute, CO 81635

Note: Some measurements on drawing are estimates and not field verified.

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DRAWN BY: TG

DATE: 12/12/18

SCALE: NONE

Facility Diagram
TEP Rocky Mountain, LLC
North Grand Valley - AP 22-9-695
Latitude: 39.540473 Longitude: -108.007232
SE/NW, Sec.9, T6S, R95W
COC# 62726
Garfield County, CO

Legend

Water Dump Line

Flowline

Oil Dump Line 1

Oil Dump Line 2

Oil Dump Line 3

Oil Dump Line 4

Gas Sales Line

Unload Line

Overflow Line

Vent Line

Manifold Line

Load Line

Tank Heater

Well Head

DT Drip Tank

Valve

LO Load Out Valve

Gas Facility Measurement Point

Thermal Electrical Generator

HTU = Heat Trace Unit

HTP = Heat Trace Pump

Dotted lined denote underground pipes. All lines denote 2" steel pipe, unless otherwise noted. Valves on separator not shown.

