

# AP 33-9-695

Facility ID 279972 | Location ID 335626

## 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 33-9-695 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 33-9-695 pit is a multi-well pit located within Section 9, Township 6 South, Range 95 West in Garfield County (facility ID 279972, location ID 335626, lat. 39.537346, long. -107.99968). A facility diagram is attached for reference. The facility consists of a 3,952 barrel capacity lined produced water pit, one natural gas well, 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 wells that send produced water to the AP 33-9-695 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 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 (C<sub>6</sub> to C<sub>10</sub>) and total extractable hydrocarbons (C<sub>10</sub> to C<sub>36</sub>)
- 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**

Well Pad Name	Well Pad Location ID	Well API	Field Code	Formation 1	Formation 2
AP 41-14-695 PAD	324329	05-045-11018	67350	WFCM	-----
RMV 240-29 PAD	335371	05-045-09942	75400	WFCM	-----
RMV 240-29 PAD	335371	05-045-07486	75400	WFCM	-----
AP 33-9-695 PAD	335626	05-045-14039	67350	WFCM	-----
AP 33-9-695 PAD	335626	05-045-06695	67350	WSTC	-----
AP 33-9-695 PAD	335626	05-045-14041	67350	WFCM	-----
AP 33-9-695 PAD	335626	05-045-14040	67350	WFCM	-----
AP 33-9-695 PAD	335626	05-045-11017	67350	WFCM	-----
AP 22-10-695 PAD	335661	05-045-14062	67350	WFCM	-----
AP 22-10-695 PAD	335661	05-045-14063	67350	WFCM	-----
AP 22-9-695 PAD	335753	05-045-06715	67350	WSTC	-----
AP 22-9-695 PAD	335753	05-045-14043	67350	WFCM	-----
AP 22-9-695 PAD	335753	05-045-11019	67350	WFCM	-----
AP 22-9-695 PAD	335753	05-045-14042	67350	WMFK	WFCM

Formation Codes		Field Codes	
CMEOC	Cameo Coal	67350	Parachute
WFCM	Williams Fork - Cameo	75400	Rulison
WMFK	Williams Fork		
WSTC	Wasatch		

