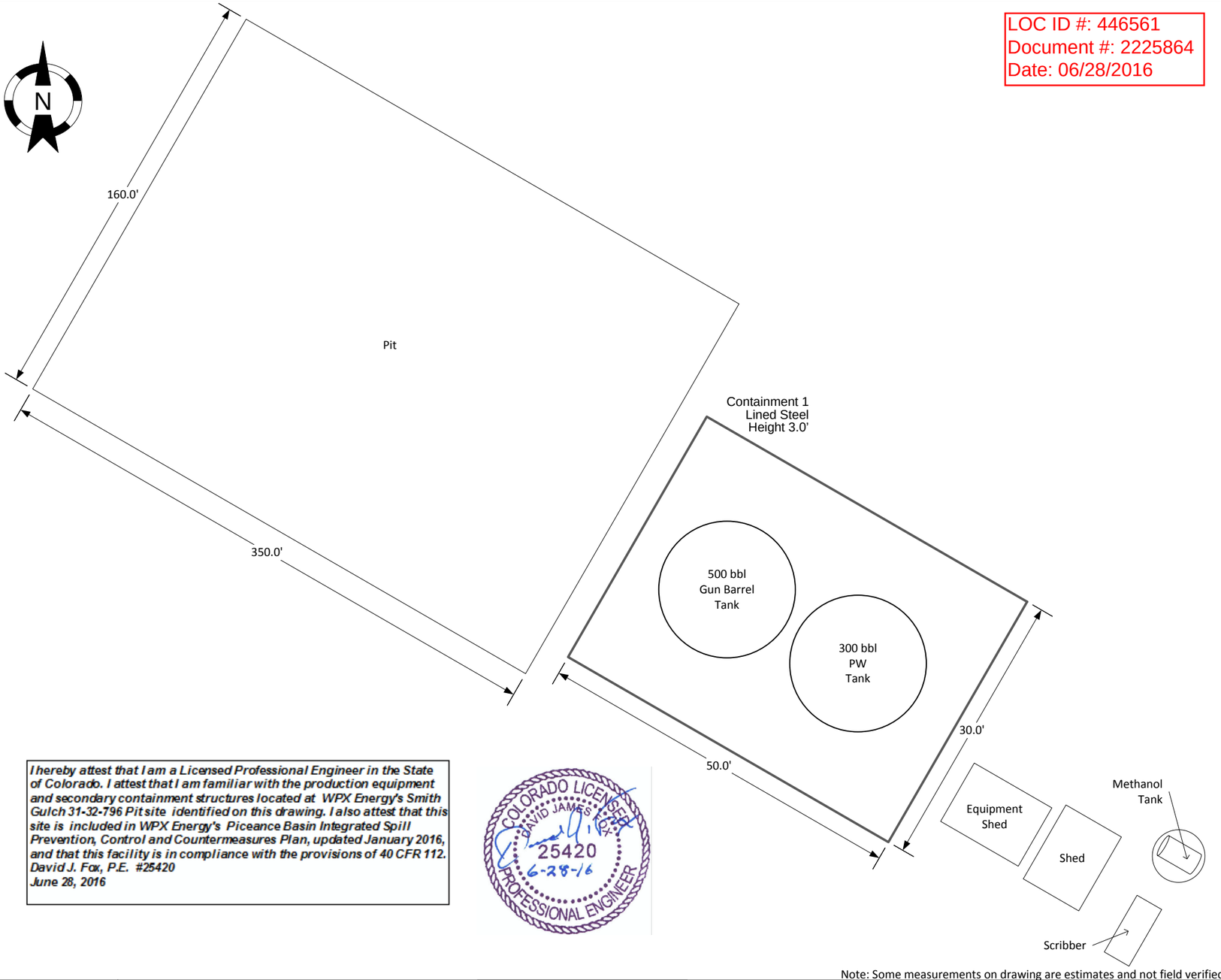
LOC ID #: 446561
Document #: 2225864
Date: 06/28/2016



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

I hereby attest that I am a Licensed Professional Engineer in the State of Colorado. I attest that I am familiar with the production equipment and secondary containment structures located at WPX Energy's Smith Gulch 31-32-796 Pit site identified on this drawing. I also attest that this site is included in WPX Energy's Piceance Basin Integrated Spill Prevention, Control and Countermeasures Plan, updated January 2016, and that this facility is in compliance with the provisions of 40 CFR 112.
David J. Fox, P.E. #25420
June 28, 2016

COLORADO LICENSED
DAVID JAMES FOX
25420
6-28-16
PROFESSIONAL ENGINEER

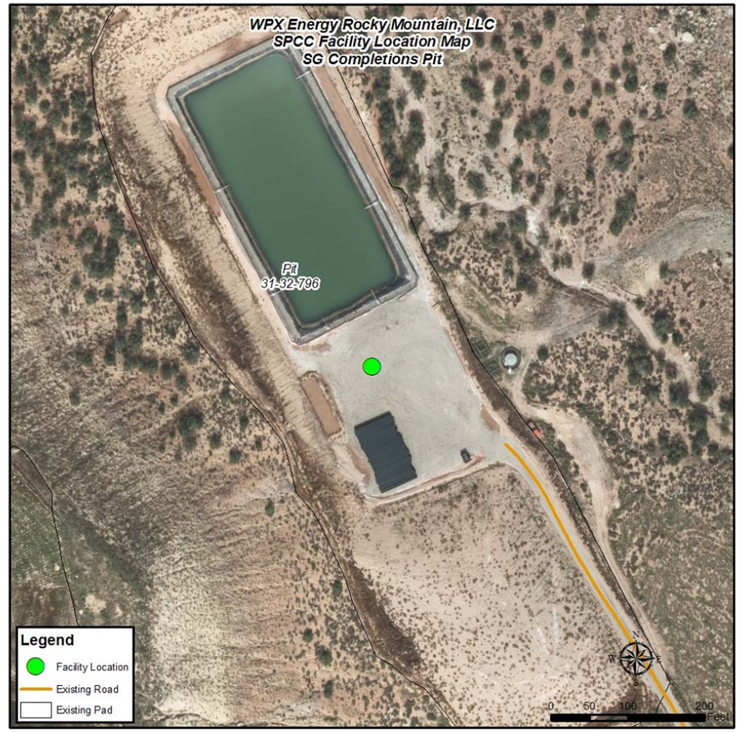
Facility ID	16202
DRAWN BY:	KB
DATE:	6/28/2016
SCALE:	1:120

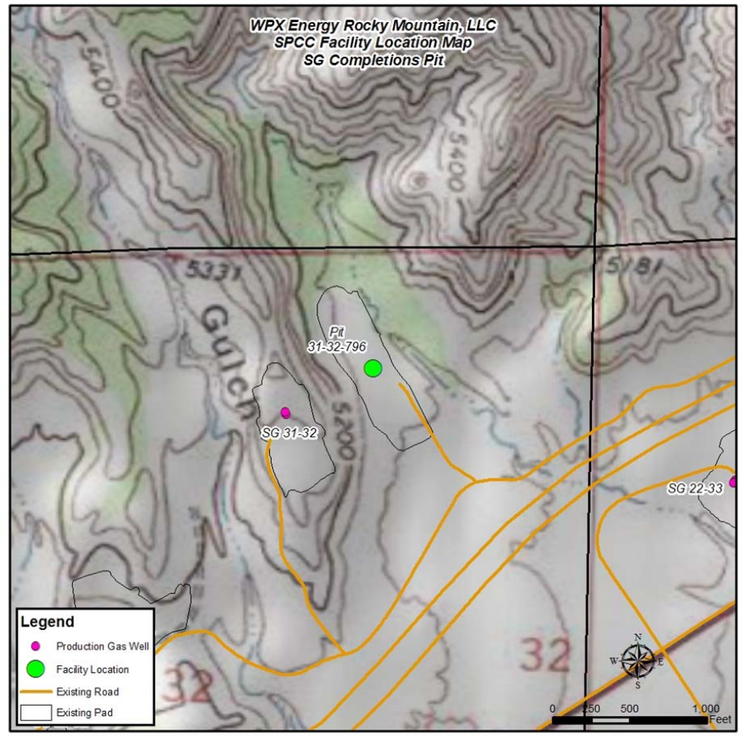
Facility Diagram
WPX Energy – South Grand Valley
SG Completions Pit
Latitude: 39.398863 Longitude: -108.129210
NW ¼ NE ¼ of Section 32, T7S, R96W
Garfield County, CO

Legend

- M — Meter Shed
- D — Dehydrator
- Water Dump Line
- Flowline
- Oil Dump line
- Manifold Line
- Gas Sales Line
- Vent Line
- Wellhead
- LO — Load Out Valve
- DT — Drip Tank
- Valve (norm. closed)
- Overflow Line
- Manifold Line

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





SPCC Facility Specific Details

Field:	South Grand Valley			**NDIC #:**		**PCA#:**	
Facility ID #:	16202			**Location Name:**	SG Completions Pit		
Facility Description:	On-shore production related facility natural gas well pad with associated oil and produced water assets.						
First Production Date:							
Facility Location:	**State:**	CO	**Qtr:**		**Section:**		
	County:	Garfield	**Township:**		**Range:**		
	Latitude:	39.398235	degrees		**Longitude:**	-108.12882	degrees
Potential Oil Volume Capacity:	815	barrels	34230	gallons			
Substantial Harm Determination:	This Facility does not meet the substantial harm criteria specified in 40 CFR Part 112.20.						
Well Pad Assets:	**Production Equipment:** Please refer to site diagram.						
Distance to Nearest Surface Water:	Please refer to site diagram						
Direction to Nearest Surface Water:	Please refer to site diagram						
Description of Area Topography:	Please refer to site diagram						
Description of Off-Site Drainage:	Please refer to site diagram						

Prediction of Oil Discharge Quantity and Direction (Part 112.7(b))

Facility ID: 16202 **Facility Name:** SG Completions Pit

Field: South Grand Valley

NDIC #: **PCA #:**

Tank ID	Contain-ment ID	Tank Contents Fluid [2]	Tank Diameter ft	Largest Discharge bbls	Estimated Discharge Rate of Flow[1] bbls/min	Estimated Discharge Rate of Flow[1] gallon/min	Failure Flow Direction azimuth
TK-1 (2), 120202A	SC-1	Water/Oil	15.5	300	100.0	4200	See Diagram
TK-1, 120086874	SC-1	st-Flash Produced Wa	12	500	166.7	7000	See Diagram
TK-M,		Methanol		11.9	4.0	166.67	See Diagram
Drip Pot							
Separators		PW/Condensate		3.1	0.0	0.027	225
Flowlines							
Pit							

Total Storage 815

Discharge Notes:

Conversions: One barrel = 42 gallons = 5.6 $ft.^3$

Facility ID: 16202 **Facility Name:** SG Completions Pit
Field: South Grand Valley **NDIC #:** **PCA #:**

Secondary Containment Calculations

Secondary Containment Area ID	Containment Type	Irregular Containment?	Bottom Length ft.	Bottom Width ft.	Top Length (for earthen) ft.	Top Width (for earthen) ft.	Berm Height ft.	Radius (for oval) ft.	Diameter (for round) ft.	Circum. (for round) ft.	Total Gross Secondary Containment Volume [1] ft.^{3}
SC-1	Rectangular	No	50	30			3				4500.0

Secondary Containment Displacement From Other Tanks and Precipitation

Required Volumes

Secondary Containment Area ID	Total Number of Tanks	Tank Contents	Number of Equalized Tanks	Tank Volume Displacement ft.^{3}	Other Equip. Volume Displacement ft.^{3}	Precipitation Volume Displacement [2] ft.^{3}	Total Volume Displacement ft.^{3}	Net Secondary Containment Volume bbls	Net Secondary Containment Volume ft.^{3}	Largest (Equalized) Tank(s) Volume bbls	Largest (Equalized) Tank(s) Volume ft.^{3}
SC-1	2	Oil/Cond/PW	--	339.3	0.0	0.0	339.3	741.7	4160.7	500.0	2805.0

[1]Secondary Containment Notes:

Secondary Containment volume calculations for earthen berms: V = (Bottom Length x Bottom Width x Height) + (Top Width - Bottom Width)/2 x Height x 0.5 x 2 x (Bottom Length + Top Width)
Secondary Containment volume calculations for rectangular metal berms: V = Length x Width x Height
Secondary Containment volume calculations for circular metal berms: V = (Diameter/2)^2 x 3.1415 x Height or V = (Circumference/2x3.1415)^2 x 3.1415 x Height
Secondary Containment volume calculations for oval metal berms where Width = 2 x Radius: V = ((Length x Width) + (Radius^2 x 3.1415)) x Height
Secondary Containment volume calculations for oval metal berms where Width > 2 x Radius: V = ((Length x Width) + (Radius x Width)) x Height

[2]Precipitation Notes:

Using NOAA 25-yr 24-hr event (inches) = **2.1**
Precipitation volume calculations for earthen berms: PV = Top Width x (Top Width - Bottom Width + Bottom Length) x 2.1/12
Precipitation volume calculations for rectangular metal berms: PV = Length x Width x 2.1 / 12
Precipitation volume calculations for circular metal berms: PV = (Diameter/2)^2 x 3.1415 x 2.1 / 12 or V = (Circumference/2x3.1415)^2 x 3.1415 x 2.1 / 12
Precipitation volume calculations for oval metal berms where Width = 2 x Radius: PV = ((Length x Width) + (Radius^2 x 3.1415)) x 2.1 / 12
Precipitation volume calculations for oval metal berms where Width > 2 x Radius: PV = ((Length x Width) + (Radius x Width)) x 2.1 / 12

[3]Largest Likely Discharge (for flowlines): Based on maximum expected average daily oil and produced water through-put taken from WPX Energy 30-day Production Reports

Conversions: One barrel = 42 gallons = 5.615 ft.3