



Agave Energy Company

Grace Line Release

Sec 20, T22S – R 32E

Eddy County, New Mexico

July 19, 2016

Location

The location of the pipeline release is approximately 4 miles east of County Road 798, Red Road, in the SW/NE Sec 20, T22S, R32E.

Introduction

On July 16, 2016 a rupture and subsequent release along an 8" poly line was reported to Agave. Agave personnel immediately responded to shut-in the line. The line is a low-pressure gas gathering line. The apparent cause of the leak cannot be definitively identified. We suspect, based on inspection of the pipe, that it may have been gouged during installation. This caused a weak spot in the pipe, and being uncovered by the shifting sand dunes, the pipe ruptured due to high line pressure over the weekend.

Along with the release of gas, was a minor amount of hydrocarbon liquids (approximately 5-10 bbls). These liquids were carried by the wind and covered an area approximately 450 ft. by 200 ft. at its greatest extent. There was no evidence of any release of produced water or chlorides. Soil sampling nearest to the release will determine if this is the case.

Site Ranking

Based on the *Guidelines for Remediation of Leaks, Spills and Releases* (NMOCD, August 13, 1993), hereafter referred to as "the Guidelines", the site ranking criteria are as follows.

Depth to Ground Water: The nearest Depth to Groundwater record (C-02096) listed on the New Mexico Office of the State Engineer (Sec 14, T22S-R32E) shows depth of groundwater to be approximately 360 feet. Average depth to groundwater in this Township is reported as 350 feet. Exhibiting a depth to groundwater of greater than 100 feet, results in a ranking score of 0.

Wellhead Protection Area: The nearest water source to the station C-02096 used for livestock watering, located 2.97 miles to the northeast of the site. According to the *Guidelines*, not being within 1000 feet of a water source results in a site ranking of 0.

Distance to Surface Water Body: The nearest surface water body is the Salt Lakes east of Carlsbad, located 13 miles to the west, or the Pecos River, located 21 miles to the west, resulting in a site ranking of 0.

Total Site Ranking:

Depth to Ground water	0
Wellhead Protection Area	0

Distance to Surface Water Body 0

Total: 0

Recommended Remediation Action Level

According to the *Guidelines*, a location with a site ranking of 0 is subject to the following Recommended Remediation Action Level (RRAL).

Benzene	10 ppm
BTEX	50 ppm
TPH	5000 ppm

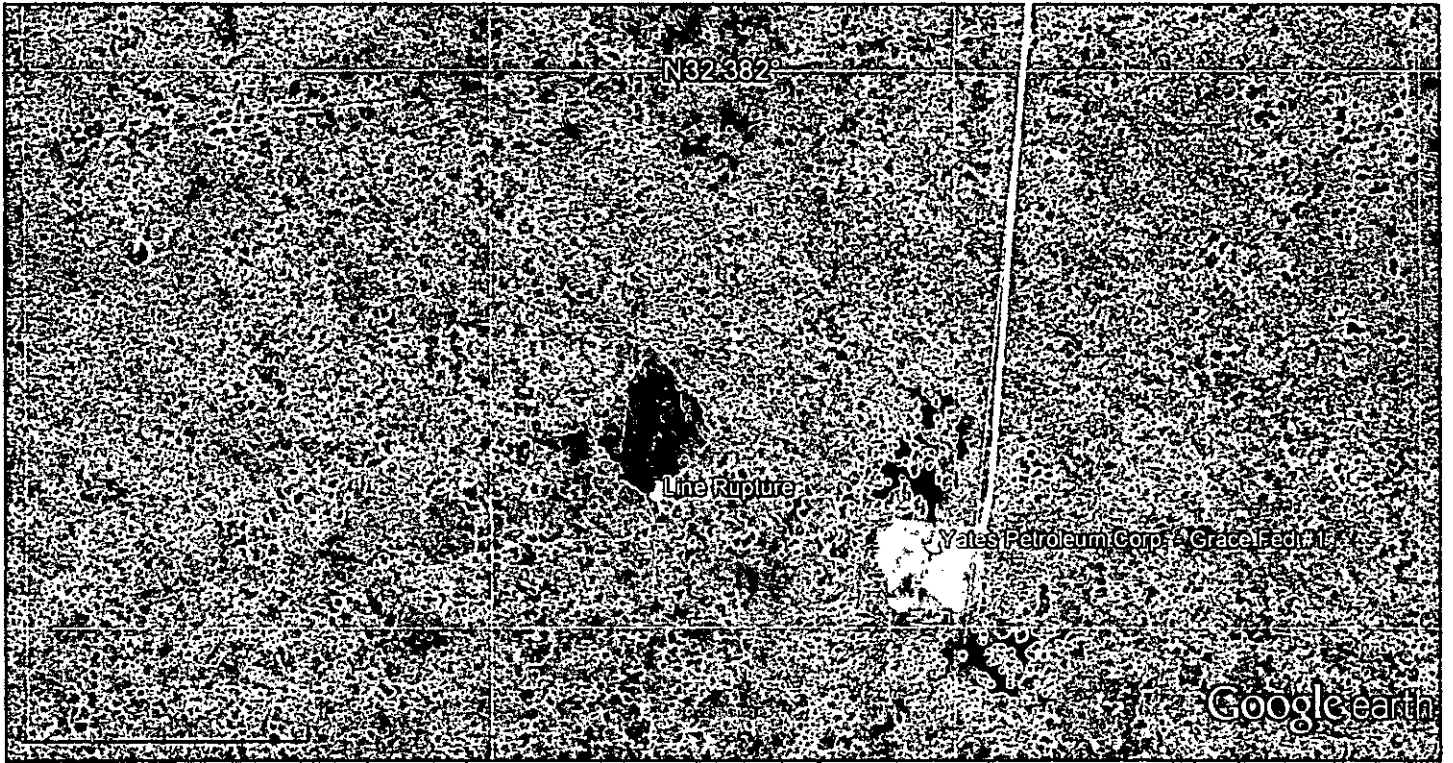
There are no standards set for chloride contamination set within the *Guidelines*. If chlorides are determined to be present, Agave will work with the District II Oil Conservation office to determine an appropriate action level.

Proposed Remediation Work

Due to the fact that most of the released liquids were blown over a large area, and didn't pool up and penetrate the soil to a substantial depth, Agave is proposing to remediate the contamination in place. This will be done by tilling or using a tractor to disc the soil, to encourage volatilization of the hydrocarbons. Agave believes this is the least detrimental method of remediation. Excavation of this large of an area would result in greater harm to the soil and vegetation, than the surface contamination itself.

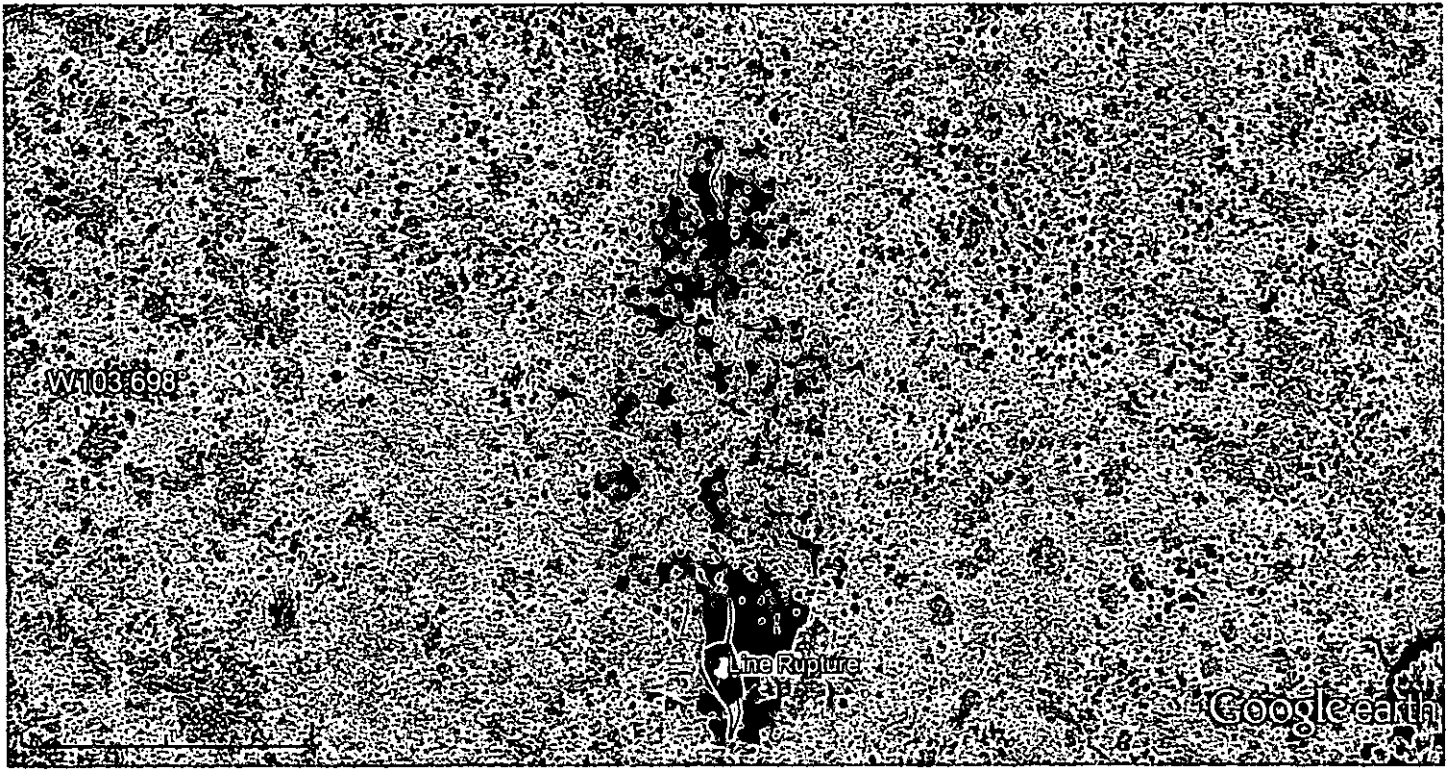
If soil sampling shows contamination to have reached lower depths, the affected soil will be excavated and turned over on site, as necessary, to aerate the soil. The only area in which this was somewhat likely to occur, was the depression around the exposed pipe where the rupture was located.

Closure samples will be collected after the onsite remediation has been conducted, and given enough time to affect the hydrocarbons present. If sampling shows the RRAL have not been met the location may be tilled again to further encourage attenuation of the contamination.



Google earth





Google earth





New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right file.)




(R=POD has
been replaced,
O=orphaned,
C=the file is
closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD		Q Q Q						X	Y	Depth Well	Depth Water	Water Column	
	Sub- Code	basin	County	64	16	4	Sec	Tws						Rng
C 02096		ED	2	3	14	22S	32E	627204	3584464*		435	360	75	
C 02821	C	LE	2	2	3	14	22S	32E	627303	3584563*		540	340	200
C 02939	C	LE	3	3	1	19	22S	32E	620234	3583042*		280		
C 03717 POD1	C	LE	4	4	1	09	22S	32E	624094	3586365		650		

Average Depth to Water: 350 feet

Minimum Depth: 340 feet

Maximum Depth: 360 feet

Record Count: 4

PLSS Search:

Section(s): 1-36

Township: 22S

Range: 32E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



New Mexico Office of the State Engineer

Water Right Summary

WR File Number: C 02096 Subbasin: - Cross Reference:-
Primary Purpose: STK 72-12-1 LIVESTOCK WATERING
Primary Status: DCL DECLARATION
Total Acres: 0 Subfile: -
Total Diversion: 5.8 Cause/Case: -
Owner: BUREAU OF LAND MANAGEMENT

Documents on File

Trn #	Doc	File/Act	Status		Transaction Desc.	From/ To	Acres	Diversion	Consumptive
			1	2					
199345	DCL	1984-04-09	DCL	PRC	C 02096	T	0	5.8	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Source	Q	Q	Q	Q	Sec	Tws	Rng	X	Y	Other Location Desc
C 02096		2	3	14	22S	32E			627204	3584464*	

An () after northing value indicates UTM location was derived from PLSS - see Help

Place of Use

Q	Q	Q	Q	Q	Sec	Tws	Rng	Acres	Diversion	CU	Use	Priority	Status	Other Location Desc
256	64	16	4					0	5.8		STK		DCL	NO PLACE OF USE GIVEN.

Source

Acres	Diversion	CU	Use	Priority	Source Description
0	5.8		STK		GW