

Supplemental Incident Report to COGCC Form 19  
Lightning Strike and Fire  
NGL C4 Water Treatment Facility  
Incident Date: 17 April 2015

### Incident Overview

At 13:08:10 MST on April 17, 2015, lightning struck a tank within the NGL C4 water treatment facility causing an internal fire which spread to other tanks in the oil treating and sales area of the tank battery to include 3 trucks. Evacuation of the facility began immediately after the strike, and Weld County emergency services and NGL's management were notified by the plant operator at 13:10:33 MST. First responders arrived on scene at 13:26:06. The fire continued to escalate as temperatures increased and at 13:52:35 MST an empty oil sales tank exploded and was propelled into the storm water collection pond. There were no injuries.

NGL promptly initiated its facilities emergency response plan which included spill control countermeasures. NGL's vice president of operations directed the spill control response while Weld County commanded the emergency response. The fire ensued for 29 hours. NGL's efforts were directed at preventing fluids from leaving the facility pad.

At the time of the incident, the inventory of fluids in the treatment facility was as follows:

Fluid Type	Volume	Where Stored
Oil	480 barrels	Oil Processing and Sales Tanks
Produced Water	3952 barrels	Water treating and sedimentation tanks.
Oily Sand	283 barrels	Solids tank
Produced Water in Trucks	320 barrels	In three trucks (two 120 bbl transports and one 80 bbl transport)
Total Liquid Inventory	4752 barrels	
Total Solids Inventory	283 barrels (1588 ft <sup>3</sup> )	

The fire destroyed all tanks listed above except the lower two feet of each (immersed within the full containment barriers), which left a total of 1095 bbls contained within the tanks. The remaining majority of fluid was either consumed by heat or released during the fire.

### Secondary Containment

Tank fluids released were collected in the treating facility secondary containment system. The area destroyed by fire included two secondary containment systems that were hydraulically connected. These were:

1. Process Area Concrete Secondary Containment:	3713 barrels
2. Truck Unloading Pad Secondary Containment:	<u>745 barrels</u>
Total Secondary Containment:	4458 barrels
Volume of tank bases not burned:	-1095 barrels
<b>Adjusted Secondary Containment:</b>	<b>3363 barrels</b>

In addition to the secondary containment, a storm water retention pond with a capacity of 3473 barrels is on the south end of the facility, down gradient from the incident site. The sum of the Secondary Containment and Storm Water Containment systems capacities are 6836 barrels.

### Release and Retention

The total amount of fluid released was (from its primary containment) was 3657 barrels, of which 238 barrels was oil and 3419 barrels was produced water. In addition, 164 barrels of solid waste from the solids tank was released. Although this release exceeds the amount of secondary containment by 458 barrels, this fluid largely remained on the industrial site due to the following mitigating circumstances and actions.

1st, the destruction was not instantaneous and NGL was able to get Super-sucker industrial vacuum loaders mobilized to pull fluids from the secondary containment berms before they overflowed while emergency operations were in progress. From load tickets, 260 barrels of fluid were recovered from the secondary containment system while the tanks were discharging into it.

2<sup>nd</sup>, from the balance of fluids it is estimated that 198 barrels of fluid left the secondary containment system. This fluid was largely contained on the industrial site and in the storm water collection pond. A small amount of fluid, estimated to be 5-10 barrels by the COGCC inspector on site, appears to have entered an irrigation ditch where vac-trucks were dispatched to mitigate consequences. Some fluid also entered a drainage ditch and was subsequently recovered.

### Offsite Impact

Virtually all fluids, including rain water, firefighting water, product and oil were contained either by the secondary containment system, the storm water retention pond, and the pad. A strip of soil 30' wide east of the facility received some fluid contamination.

All fluid escaping into the irrigation ditch and drainage ditch was recovered by vac-trucks and manually using booms and adsorbent pads before they could overflow and escape.

### Fluid Recovery and Soil Remediation

The storm water retention pond and secondary containment berms have been completely emptied by vac-trucks and no longer contain produced water firefighting fluid or oil. The ditches that appeared to have some oil on the water's surface have also been emptied using vac-trucks and the soil around them remediated.

A summary of the recovered fluids is as follows:

Source	Loads	Quantity	Disposition
Facility Water	33 Loads	3515 Barrels	NGL C7 Facility
Facility oil, sand and sludge	16 Loads	822 Barrels	Con-Serv Industries Disposal Site
<b>Total Fluids from Facility Recovered and Disposed</b>		<b>4337 Barrels</b>	
Ditches South of Facility, mostly storm water with traces of hydrocarbon.	9 loads	1115 Barrels	NGL C7 Facility

Soil at the facility was also scraped and removed where contaminated by the mixture of produced water, oil splash, sludge and firefighting water. Volumes and disposition are recorded in the table below.

Source	Loads	Volume	Disposition
Facility Grounds	77	39,150 ft <sup>3</sup>	Waste Management Buffalo Ridge

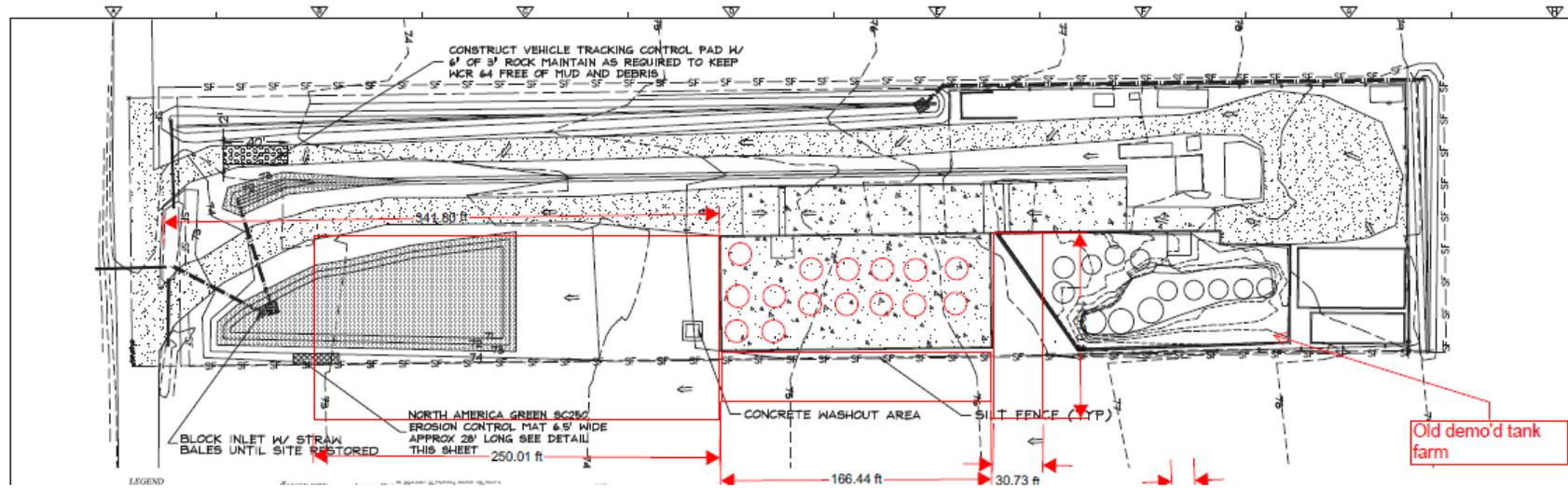
### Testing of Remediated Area

A comprehensive sampling plan was implemented and results are pending. A follow up report will be submitted.

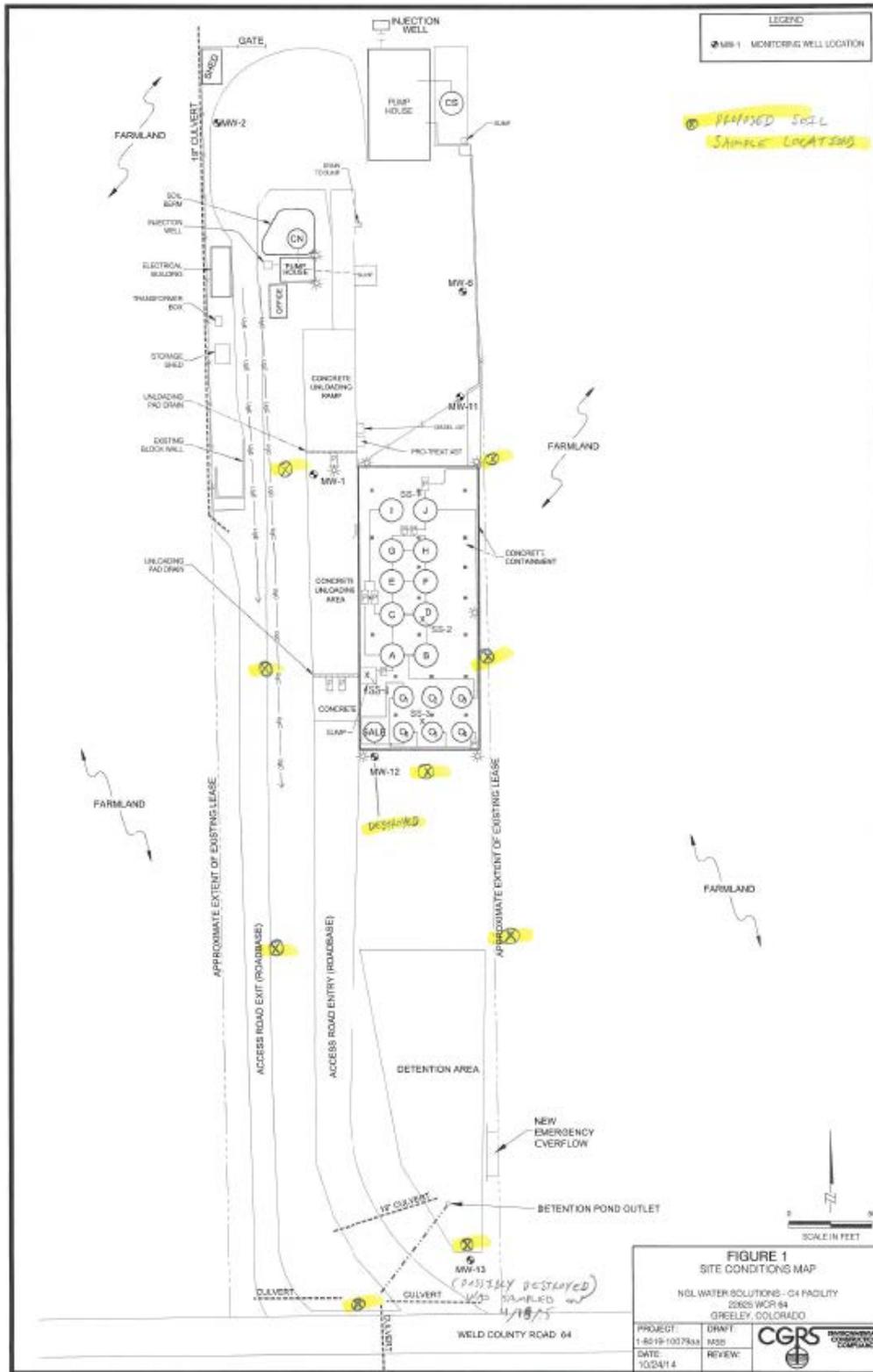
### List of Appendices

- A. Site Impacted Area
- B. Soil Sample and Monitoring Well Locations on Facility
- C. Sample Plan in ditches
- D. Photo Library

Appendix A – Impacted Soil Areas on C4 facility site.



Appendix B – Soil Sample and Monitoring Well Locations



Appendix C – Sample Locations in Irrigation Ditch and Boom Placement During Response

