

10/10/18

Subject: Remediation Update/Plan

DPUT 7712 Pit Investigation and Remediation System (Rem: 10813)

COGCC Location ID: 322452

SWSE, Sec. 20, T5S, 102W, 6th PM

Garfield County, Colorado

Attn: Stan Spencer

Background

- 2012 – HRL excavated with heavy equipment, collected soil samples and backfilled location when depths became unsafe to continue working.
- 2013 – LTE completed site delineation with 9 soil borings, converting 3 into SVE wells.
- 2018 – Entrada Consulting Group installed 7 new wells, including soil samples and conversion into SVE wells.

Approach

Spring 2018 a truck mounted auger rig was contracted to drill at the 7712 to collect soil samples and to install a new soil vapor extraction wells. Well locations were positioned within the old pit boundary and excavation disturbance that was conducted in 2012. All Lab reports, drilling logs, and site diagrams that correspond with this project are attached to this submittal.

Conclusions

The 2013 drilling event identified that the impacted area was isolated to the original footprint of the pit; but since the depth of impacts were unmanageable with heavy equipment, additional wells were needed to support SVE within the impacted zone. A total of 8 wells were drilled and 7 were converted into SVE wells (1 well showed no impacts during field screening).

The site has had an active solar vacuum trailer installed for a total ~6+ months, but Encana had no sampling data to present for the site. Radius of influence was completed fall of 2018 and the site shows very good air flow within the area (see results below).

Distance (')

	SVE1	SVE2	SVE3	SVE4	SVE5	SVE6	SVE7	SVE8	SVE9	SVE10	SVE11
SVE1	x	45	68	36	27	32	59	38	x	46	38
SVE2	45	x	33	13	22	39	16	28	x	20	10
SVE3	68	33	x	34	53	72	34	61	x	52	43
SVE4	36	13	34	x	21	40	29	32	x	29	17
SVE5	27	22	53	21	x	19	33	13	x	18	12
SVE6	32	39	72	40	19	x	48	14	x	26	29
SVE7	59	16	34	29	33	48	x	34	x	22	21
SVE8	38	28	61	32	13	14	34	x	x	12	18
SVE9	x	x	x	x	x	x	x	x	x	x	x
SVE10	46	20	52	29	18	26	22	12	x	x	13
SVE11	38	10	43	17	12	29	21	18	x	21	x

SVE

PID(PPM) 370.7 1737 18.5 2975 1926 2767 934.4 1937 - 2092 1896

	SVE1	SVE2	SVE3	SVE4	SVE5	SVE6	SVE7	SVE8	SVE9	SVE10	SVE11
Hg	-2	-1.5	-2.5	-2	-2	-1.5	-2	-1.5	-	-2	-2
SVE1	x	0	0	0	0	0	0	0	x	0	0
SVE2	0	x	0.08	0.08	0.04	0.01	0.04	0.02	x	0.03	0.08
SVE3	0	0	x	0.03	0	0	0.01	0	x	0	0
SVE4	0	0.02	0	x	0.04	0	0.02	0.04	x	0.03	0.2
SVE5	0	0	0	0.05	x	0.07	0	0.17	x	0.11	0.21
SVE6	0	0	0	4	0.16	x	0.03	0.25	x	0.2	0.21
SVE7	0	0.01	0	0.06	0.01	0.02	x	0.07	x	0.1	0.13
SVE8	0	0	0	0.04	0.23	0.3	0.06	x	x	0.3	0.26
SVE9	x	x	x	x	x	x	x	x	x	x	x
SVE10	0	0.01	0	0.07	0.16	0.14	0.1	0.4	x	x	0.4
SVE11	0	0.04	0	0.16	0.25	0.1	0.08	0.26	x	0.26	x

****SVE 9 Not completed as well.**

Sample results and field screening have presented hydrocarbons to be present in the new SVE wells. The site has been selected as a higher priority for Utah Gas and will still be rotated with the solar trailer and will also see a much stronger SVE system that is being built for the B12 Young Cattle. The 2 will share the system(s) allowing there to be a more aggressive approach for the remediation(s). The site will be monitored regularly and corresponding reports will be submitted to the COGCC to track progress.

If you have any questions pertaining to this project, please do not hesitate to contact me at (970) 901-9007 or mkasten@entradainc.com

Regards,

Matt Kasten
Project Scientist

