

GRU Comments to the South Lagoon Phase 2 Investigation Report
Dated October 18 2017
December 28, 2017

General Comments:

1. GRU believes that injections should extend beneath DNAPL impacts at all locations and establish a treated “floor” beneath them. This is a general comment but see specifically the discussion below of boring 620N 220E (Specific Comment #1) and the borings in the area west of 340N 180E (Specific Comment #3) for examples of where the proposed injections will apparently not accomplish this.
2. If the intent is to inject to the base of Category 4 or 5 DNAPL impacts, how thick a treated zone below the impacts is Tetrtech trying to achieve? GRU suggests a minimum of 2 ft. Also see General Comment #3.
3. As stated in GRU’s General Comment # 7 to the April 29, 2015 South Lagoon Preliminary Design and Design Investigation Workplan: “It was agreed in a December 1, 2011 meeting that ISGS treatment would target zones of DNAPL impacts and zones of high permeability immediately above and below those impacts. We assume those zones will also be targeted for treatment at the Former South Lagoon.” GRU asks Tetrtech to review the injection intervals and boring logs to assure that the proposed injection plan accomplishes this.
4. It is difficult to discern the limits of UHG DNAPL impacts where they are beneath DNAPL impacts in the Surficial (see Figure 6 for example). GRU made this comment to the draft Phase I report and Tetrtech produced a separate map for the surficial and for the UHG as Figures 8 and 9 of the Phase I report.
5. It was once hypothesized that the easternmost DNAPL impacts observed in the Former South Lagoon area were caused by from releases in Former Process Area. It is difficult to correlate the EVS model displayed in the South Lagoon report with that displayed in the Process Area confirmatory boring revised work plan (Figure 1). GRU suggests that Tetrtech produce a figure that shows any intersection of the Former Process Area and the Former South Lagoon DNAPL bodies on a single figure to help evaluate conditions at the intersection of these two source areas.
6. GRU requests that Beazer produce maps for the Surficial and for the UHG illustrating the extent of Category 3 (residual DNAPL impacts) for both the Former Process Area and for the Former South Lagoon. Maps in the documents relating to these source areas show impacts above Category 3.6. The extent of residual impacts is general information that should be known.

7. GRU requests that Tetra Tech include a table and histogram of DNAPL recovery data for the Former South Lagoon. Our interpretation and comments are based on old data. GRU also requests that Tetrattech resume reporting of DNAPL recovery data in the monthly status reports.
8. GRU's comments are largely based on items observed on the maps and cross sections presented in the report; however, they should be taken to apply throughout the entire Former South Lagoon area.
9. GRU wants to reiterate our General Comment #6 from the April 29, 2015 South Lagoon Preliminary Design and Design Investigation Workplan. This statement originated as a comment to the ISGS Report for the Process Area (report dated December 9, 2013. It reads in part: *GRU's principal concern ... is that it appears that the ISGS remedy has become focused on only the zones where there is free-phase DNAPL. For example, the EVS modeling was performed to depict a DNAPL-impact value of 3.6 above which there was probable free-phase DNAPL (see Section 3.1.1, p. 5). GRU expects that the zone of DNAPL-impact value of 3 (indicating residual DNAPL) would be considerably larger.*

Although the work in the site characterization phase was, in part, to identify the locations of free-phase DNAPL for product recovery prior to the ISGS injections, ISGS was to be targeted at all significant zones of DNAPL, both residual and free phase. It was our understanding that Targeting both residual and free-phase creosote was agreed upon by all parties at the ISGS Working Meeting held in Gainesville on Tuesday December 13, 2011. ... It was agreed that the intent of the ISGS was to immobilize free-phase DNAPL and encapsulation of residual DNAPL to reduce dissolution into the groundwater, which is consistent with the ROD.

The map of Code 3 DNAPL impacts requested in General Comment #6 would at least shed light on the extent to which residual DNAPL impacts are present outside the proposed cutoff wall and would be a continuing source of dissolved COCs that is not contained.

Specific Comments:

1. TIP 620N 220E produces the most DNAPL of all TIPs installed to date. The proposed injection plan calls for treating to the base of DNAPL impacts and no deeper. The treated zone shown in Fig. 10A does not extend below the DNAPL at this location. GRU suggests that it would be prudent to establish a treated zone of two-foot thickness beneath the observed Category 4 and 5 (presumably mobile or very nearly mobile DNAPL) throughout the South Lagoon to enclose DNAPL zones. The cross-sections show this in most locations, but not everywhere (see also Specific Comment No. 3).

2. GRU believes it would be prudent to treat all of the area within the 240N 189E / 340N 100E area within the red circle in the attached figure. GRU believes that the three areas - interpreted by the EVS model as isolated DNAPL bodies - are actually one continuous DNAPL mass. GRU specifically proposes one or more injection points between SL-139, SL-140, and SL-155, between SL-126 and SL-127, and between SL-175 and SL-176 (See Figures 8 and 9. The injection points proposed by GRU will result in treating the entire area under discussion.

3. Looking at proposed injections in one specific area:

340N 180E Code 4 & 5 impacts observed at 20 ft – 21.5 ft, 30 ft, 34 ft – 40 ft

Proposed injections are:

SL 127 17.5 – 19.5, 27 - 29, 31 - 39

SL 128 17.5 – 19.5, 27.5 – 37.5

SL 143 17 – 19, 26.5 – 28.5, 30 - 40

All injections around 340N 180E should extend to below the observed impacts at 40 ft.

340N 140E ~1 ft code 4 DNAPL at 34 ft – 35 ft

Proposed injections are:

SL 125 32 – 34

SL 126 32 – 34

SL 140 27 – 29, 32 - 34

All injections around 340N 140E should extend to below the observed impacts at 35 ft.

New boring 340N 100E ~1 ft Code 4 at 30 ft – 31 ft (shallower impacts than borings to the east because 340N 100E is off the “mound”?)

Proposed injections are:

SL 123 28.5 – 30.5

SL 124 29.5 – 31.5

SL 139 29.5 – 31.5

The proposed injections barely extend to the base of observed impacts at 340N 100E and provide very little treated interval beneath those impacts.

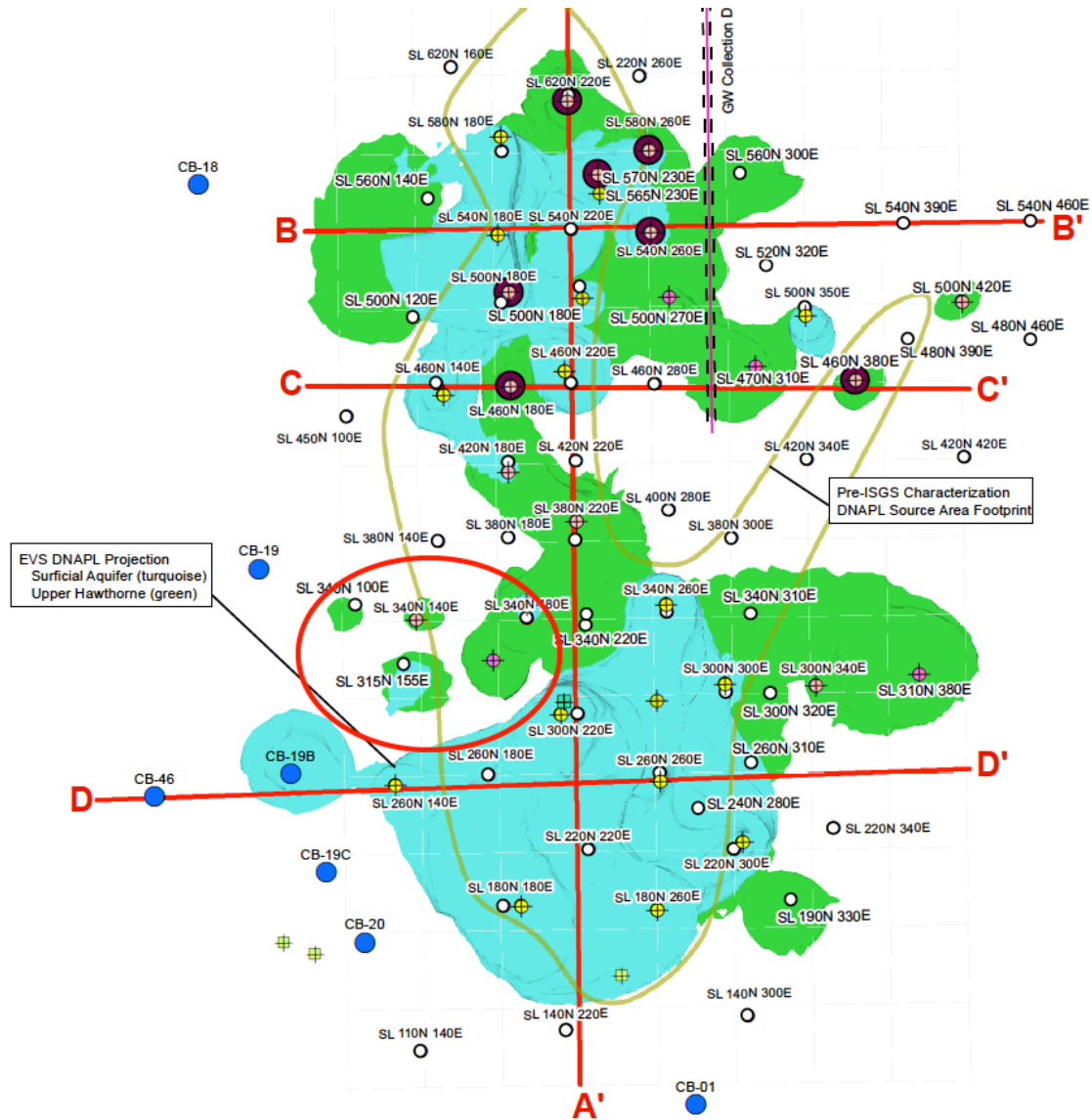
Proposed injections between 340N 140E (34 ft – 35 ft) and 340N 100E (30 ft – 31 ft) are:

SL 124 29.5 – 31.5

SL 125 32 – 34

How sure are we of the EVS model? Can we predict and target a narrow 2 ft interval? Should the target interval be larger? This uncertainty might be addressed by assuring a 2-ft treated interval below the observed or modeled impacts.

4. Cross Section D-D' (Figure 10D) The model depicts Category 4 DNAPL impacts at CB-19B as being only at the wellbore and not extrapolated any distance laterally from the boring. GRU is skeptical that this is the case. GRU believes that the treated interval should surround and extend below the observed impacts in this and all other cases.



GRU believes the area within the red circle should be considered a continuous DNAPL mass for the purposes of injection.