

**From:** [Andrew James](#)  
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**Subject:** NAR Update - Stetsonville Oil, Clark station, 115 STH 13, Stetsonville, WI  
**Date:** Friday, May 6, 2022 6:47:18 PM  
**Attachments:** [Figure 1.pdf](#)  
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Mr. Paddock,

Endeavor Environmental Services Inc. (Endeavor) is providing an update to the Limited Phase II Environmental Site Assessment (ESA) dated February 28, 2022, and submitted to the Wisconsin Department of Natural Resources (DNR), Northern Region for consideration of No Action Required. It is the opinion of Endeavor that the results of the Phase II ESA represent residual contamination from the Stetsonville Oil (BRRTS # 03-61-000357) contamination case (Site) which was granted closure on March 5, 2012, with continuing obligations for residual soil and groundwater contamination, continuing obligations at affected offsite properties, a structural impediment (STH 13), impacts to right of way and for lost monitoring well(s). Residual impacts at the time of closure were extensive and encompassed a large portion of the village of Stetsonville. Endeavor's Phase II ESA was completed in the area of known contamination for the closed Site and identified Petroleum Volatile Organic Compounds and Naphthalene (PVOCs+N) in soil and groundwater. There are several lines of evidence which suggest that the results of Endeavor's Phase II ESA represent historic contamination and do not indicate a new release has occurred to the environment.

Figure 1 shows the detailed map of the closed site. The current site configuration is similar to the configuration on figure 1, with the onsite building located to the west of the pump island canopy which is located immediately adjacent to STH 13. The property is relatively small measuring approximately 175 feet north to south and approximately 80 feet east to west. The contamination was reported during a Tank System Site Assessment (TSSA) performed by Inman Foltz and Associates (IFA) in April 1991. The TSSA sample location and laboratory results are indicated on Figure 2, Table II and Table III. These results were collected after 300 cy of the (presumably) more contaminated soil was excavated. The results indicate that the site was heavily impacted by the surrounding Underground Storage Tanks (USTs) within feet of the 2022 ESA soil samples collected by Endeavor. The IFA TSSA samples were not all analyzed for BTEX compounds. Instead, all samples were analyzed for TPH and one sample (3-W) was analyzed for TPH and BTEX. This was a cost-effective way to

understand the relative concentrations of BTEX in relation to TPH data when BTEX is unknown and can be used to assume relative BTEX concentrations when compared to known TPH results. What the IFA TSSA results suggest is that a TPH concentration of 598 ppm will have corresponding BTEX results which exceed § NR 720 RCLs. This is relevant as the TPH results for the 6 of the 8 IFA TSSA samples range from 3 to 11 times the TPH results of 3-W. Samples 4-E and 6-E and 6-GW are all within 10-20 feet of Endeavor's 2022 ESA samples and were not included in the remedial excavation. Groundwater was sampled by IFA at the 6-GW location. The results also indicate that the groundwater in the location of the current dispenser island is impacted as shown on Table III. IFA completed 16 borings in April of 1992; TB-1 through TB-16. The data is found in table I. The boring locations and the location of the excavation are also illustrated on figure 1. These samples further characterize the contamination at the site and the residual conditions at the time of closure as a majority of the TB samples were outside of the remedial excavation and no additional soil samples were collected in this area. Soil samples TB-11 and TB-7 (which is MW-2 on figure 1 and has also been labeled SMW-2) are two samples which are closest to the Endeavor's 2022 ESA borings. When comparing the historic results to that of the Endeavor's 2022 ESA samples you see similar concentrations of PVOCs. TB-14 has elevated PVOCs and is very close to historic boring 4-E shown on table II. Both samples indicate the soils were heavily impacted by the historic release. TB-11 is within 5 feet of Endeavor's ESA boring GP-5. TB-11 illustrates the concentrations immediately downgradient of the pump island. As expected, the concentrations drop the further you are from the point-source of the release. Based on Endeavor's sample results and historic boring TB-11 there may be a substantial source of petroleum contamination beneath the STH 13 right of way. As a result of the unknown extent and inability to assess the soils beneath STH 13, DNR assigned the STH 13 right of way as a structural impediment at the time of closure in 2012.

In 1997 Fluid Management Inc. (FMI) submitted results of a "feasibility Investigation" which placed three borings upgradient from Endeavor's 2022 ESA and in a similar area as TB-14 and 6-E. The results, indicated on table IV, show highly contaminated soils at the locations shown on figure 4 and represented by samples GP-1A, GP-1B and GP-3B. The results of the soil samples further illustrate high levels of Petroleum Volatile Organic Compounds (PVOCs) in the vicinity of the current dispenser island and upgradient of Endeavor's 2022 ESA.

Figure 5 shows the site configuration at the time of closure. In 2007, 0.75 feet of free product was measured in SMW-3 as shown on table V. A reasonable explanation for the presence of free product long after the source excavations took place and the LUSTs had been removed is that substantial amount of product was released. SMW-3 is approximately 55 feet downgradient from the dispensers and was completed in 1994. 16-rounds of groundwater samples were collected prior to the identification of free product in SMW-3. Based on hydrogeologic principles the free product would have come from an upgradient direction from SMW-3.

When looking at Endeavor's 2022 ESA soil sample results you will notice GP-4 has Trimethylbenzenes (TMBs) at the 4 – 6 foot interval and the 10 – 12 foot interval which are above § NR 720 soil to groundwater RCLs. Depth to groundwater has ranged from 5.85 feet bgs to almost 11 feet bgs at the Site. The TMB results could be influenced by the residual groundwater plume in the immediate area or attributed to the extensive residual soil contamination from the closed site. Given the lack of elevated concentrations of other petroleum constituents, the TMBs observed in GP-4 of Endeavor's 2022 ESA are likely a result of groundwater elevation fluctuation interacting with the extensive residual soil contamination at the soil to groundwater interface or de minimis quantities which drip

during vehicle refueling. Endeavor's 2022 ESA sample GP-5 was obtained at similar depths to GP-4, however was completed in native material just outside the dispenser island footprint and immediately adjacent to STH 13. As previously noted, this boring was advanced into material which was present prior to any tank or dispenser upgrades at the property. The contamination observed in GP-5 very closely mimics historic boring TB-11 which is within 5 feet of GP-5. It must be noted that the concentrations of both benzene and naphthalene at the 10-12 foot interval in GP-5 of Endeavor's 2022 ESA were estimated concentrations as the laboratory has flagged them as above the limit of detection but below the limit of quantification. It must also be noted that this interval was saturated and is not representative of soil. The 6 – 8 foot interval at GP-5 was below § NR 720 RCLs.

Endeavor's 2022 ESA groundwater sample results show Enforcement Standard (ES) and Preventative Action Level (PAL) exceedances for PVOCs+N as shown on the attached table VI. The closest well to Endeavor's 2022 ESA is a piezometer, SMW-2. Table VII shows the historic wells SMW-1 through SMW-4. SMW-2, SMW-3 and SMW-4 surround the dispenser island to the north, south and west. The concentrations of PVOCs in groundwater of the historic LUST site were elevated in the area of the dispenser island. The historic groundwater contaminant concentrations near Endeavor's 2022 ESA are represented by wells SMW-2 (piezometer) and SMW-3 (downgradient from dispenser island). SMW-2 was screened from 38 feet bgs to 43 feet bgs. Concentrations of PVOCs in this piezometer had reached 2,500 ppb benzene on November 14, 2001. SMW-2 is approximately 20 feet upgradient of Endeavor's 2022 ESA boring GP-4. As shown in Endeavor's Limited Phase II ESA report, GP-4 and GP-5 were constructed as small diameter wells with a filter pack and a 10 foot screen. Concentrations of PVOCs+N in the small diameter wells are similar to the results in SMW-3 and can be attributed to the extensive, residual soil and groundwater contamination in the immediate area of Endeavor's 2022 ESA. Evidence of this is supported by the depth of dissolved phase gas constituents found in the piezometer SMW-2 as PVOCs and gasoline tend to float or partition at the groundwater surface.

#### Justification for NAR

- Endeavor's GP-4 soil samples collected in the dispenser area can be attributed to groundwater fluctuations which mobilize the remaining heavier-chained volatiles. The lack of lighter compounds such as benzene, in shallow soils, supports the argument that a new release has not occurred at this location;
- Endeavor's GP-5 soil samples were collected in a location with known PVOC contamination (TB-11). Evidence of a release from the dispensers near GP-5 is not supported as the shallow soil interval is below § NR 720 RCLs;
- Historic, residual soil and groundwater contamination in the immediate area of the dispenser island exceeds or is in the same order of magnitude as Endeavor's 2022 ESA;
- Although naphthalene was not sampled historically, it is a known constituent of gas. The levels of naphthalene in Endeavor's 2022 sampling are in line with the historic levels of residual contamination;
- SMW-3 measured 0.75 free product after 900 cy of soil excavation and tank removal. Soil sampling in the source area had been deemed complete by the time the free product appeared. Sometime between 1991 and 2007, nearly a foot of free product migrated and accumulated at SMW-3;
- Attached is a 2021 tightness test which was completed in June of 2021 by Walt's Petroleum Service. There is no evidence from this or any of the previous tightness tests, to suggest that the system was compromised. Previous tightness tests are available upon request.

For these reasons it is the opinion of Endeavor that a new release at the Site has not occurred since

the time of closure in 2012. Endeavor respectfully requests the DNR consider this data for a No Action Required determination, to be tracked with the closed case, Stetsonville Oil (BRRTS # 03-61-000357).

Thank you and have a nice weekend.

Sincerely,

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