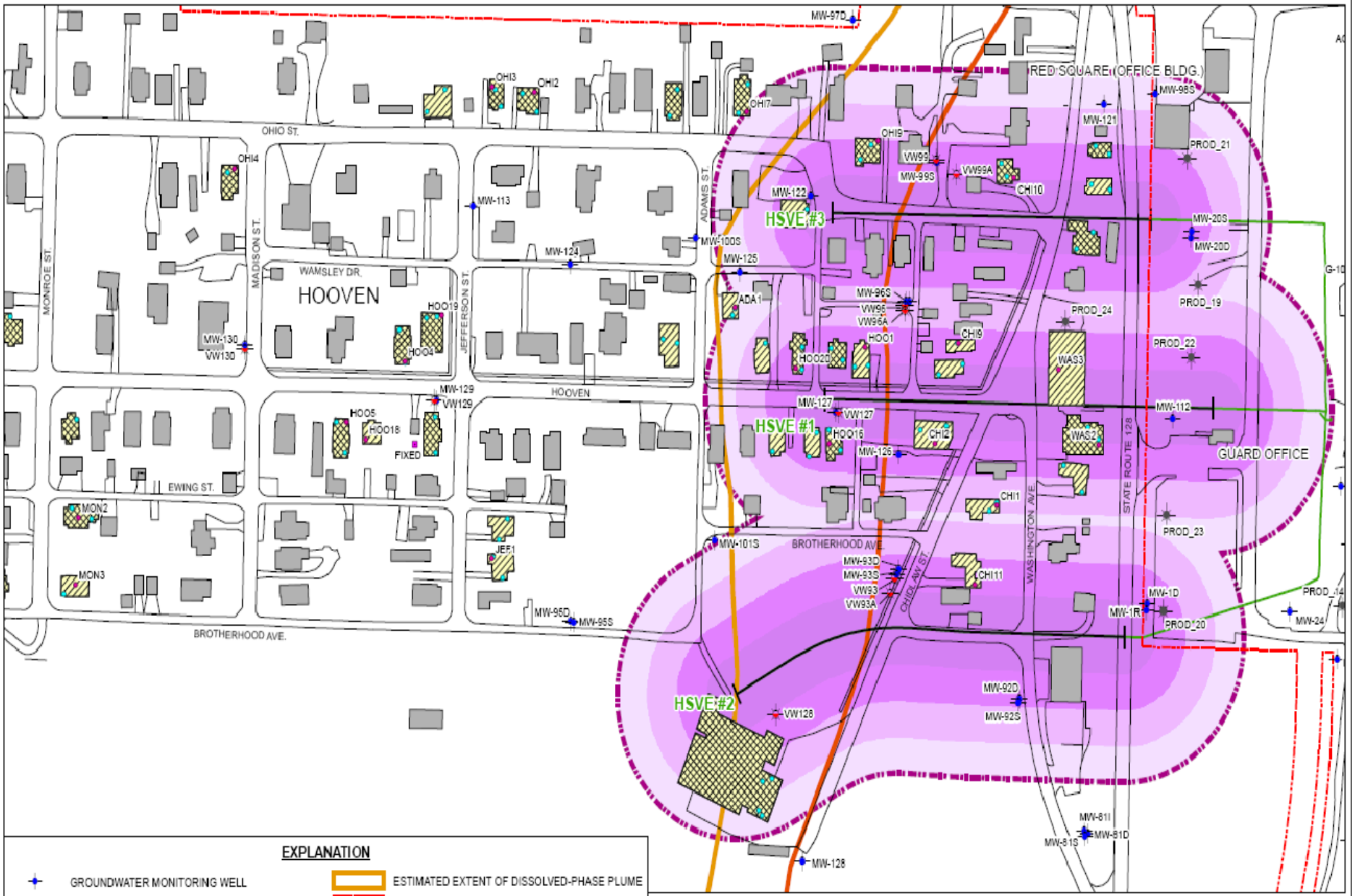
US EPA ARCHIVE DOCUMENT

Addressing ODH recommendations through EPA Order

Recommendation 1

- Rec. 1 - Operate Horizontal Soil Vapor Extraction (HSVE) system

- EPA - Currently operates HSVE on groundwater well based on trigger levels (MW-96S) from the EPA Order's Operations, Maintenance and Monitoring Plan (OMM) - Section 6.2



EXPLANATION

- GROUNDWATER MONITORING WELL
- NESTED DEEP SOIL VAPOR MONITORING WELL
- PRODUCTION WELL
- HSVE LINES - SCREENED INTERVAL
- HSVE LINES
- 200-FOOT INFLUENCE OF HSVE SYSTEM
- ESTIMATED EXTENT OF DISSOLVED-PHASE PLUME
- CHEVRON PROPERTY BOUNDARY

HSVE LINES ZONES OF INFLUENCE

- 0 - 50 FEET
- 50 - 100 FEET
- 100 - 150 FEET
- 150 - 200 FEET

N

0 150'

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FIGURE 1

SITE LOCATION MAP INCLUDING 200-FOOT INFLUENCE OF HSVE SYSTEM

CHEVRON CINCINNATI FACILITY
HOOVEN, OHIO

Recommendation 2

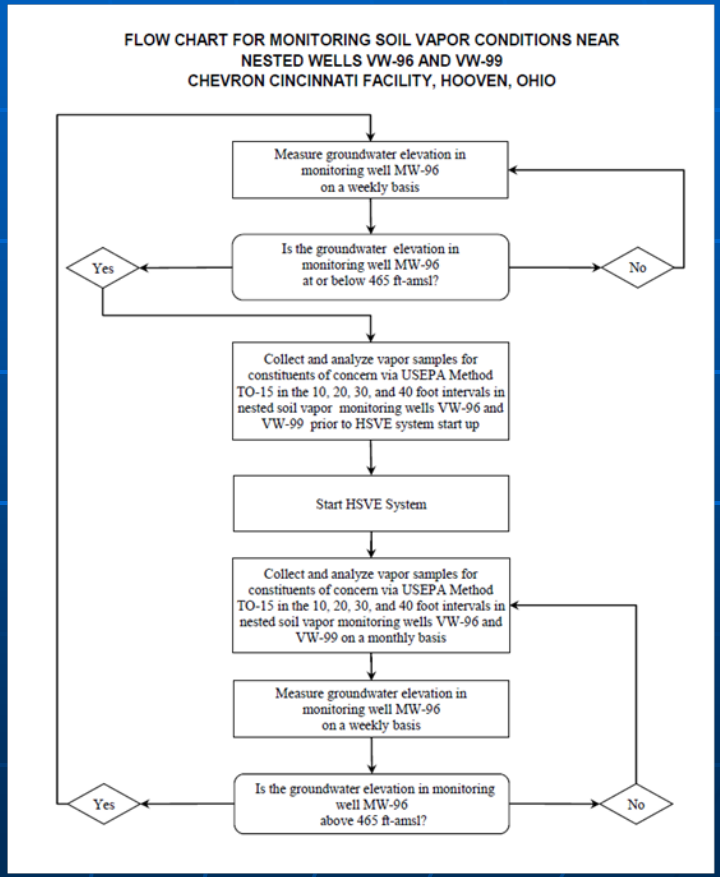
- Rec. 2 - Monitoring of soil gas over the plume to ensure effectiveness of HSVE in protecting residents, students and staff.
- EPA - Semiannual sampling of 5 nested vapor wells following OMM Plan (Sec. 7.3)
- EPA - Additional Nested Vapor Well Sampling using Flowchart that is incorporated into EPA Order

Rec. 2- Additional Soil Vapor Sampling

- Sampling is in Vapor Wells (VW) VW-96 and VW-99 at 10, 20, 30 and 40 feet
- Samples are collected in Summa Canisters and analyzed at a laboratory

Rec. 2 - Additional Soil Vapor Sampling

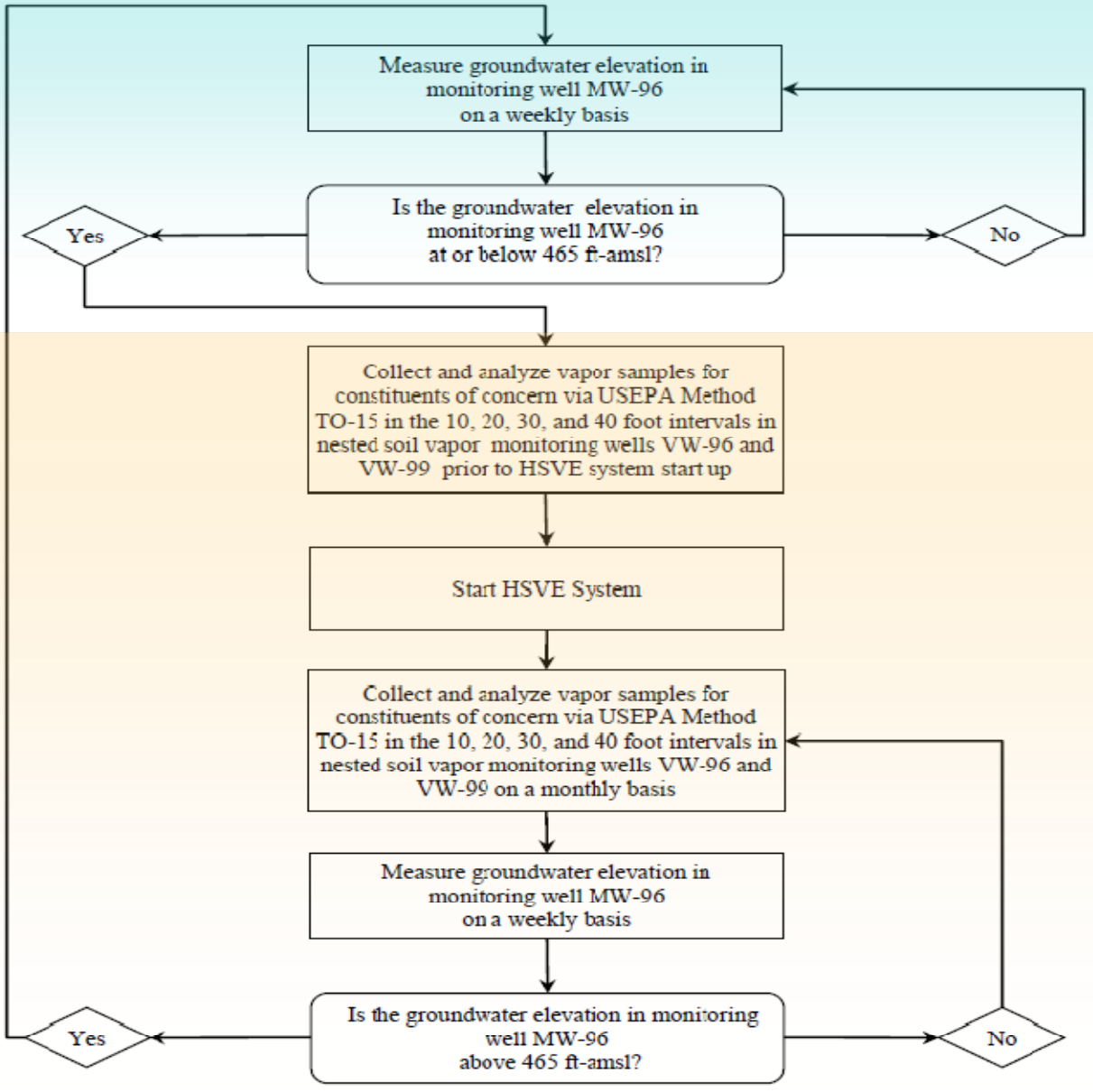
- A flowchart details the sampling in VW-96 and VW-99
- Sampling is triggered by groundwater levels in MW-96

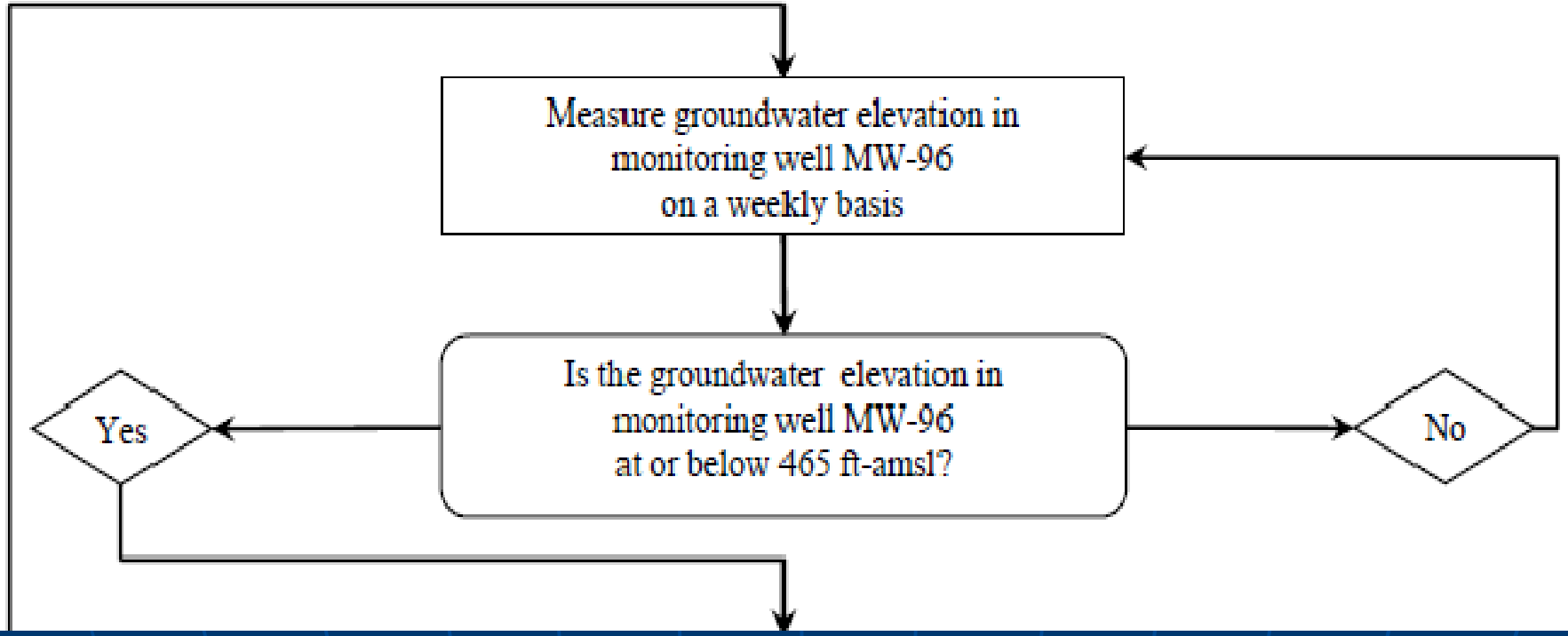


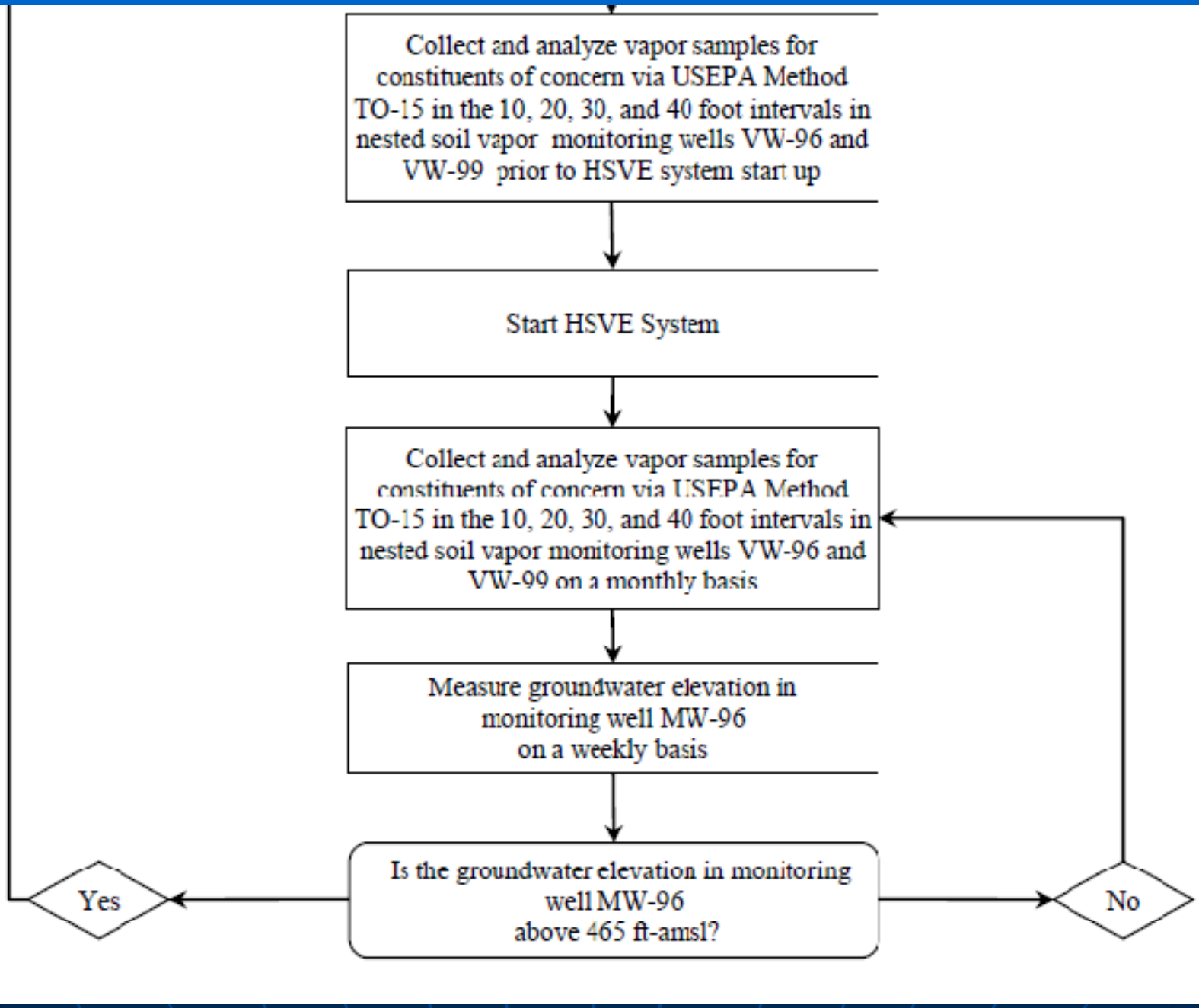
Rec. 2 - Additional Soil Vapor Sampling

- First round of sampling of soil vapor wells is done before HSVE turns on.
- Following rounds are sampled monthly after HSVE operation to confirm effectiveness.

FLOW CHART FOR MONITORING SOIL VAPOR CONDITIONS NEAR NESTED WELLS VW-96 AND VW-99 CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO




Measure groundwater elevation in monitoring well MW-96 on a weekly basis
Is the groundwater elevation in monitoring well MW-96 at or below 465 ft-amsl?
Yes
No


Collect and analyze vapor samples for constituents of concern via USEPA Method TO-15 in the 10, 20, 30, and 40 foot intervals in nested soil vapor monitoring wells VW-96 and VW-99 prior to HSVE system start up
Start HSVE System
Collect and analyze vapor samples for constituents of concern via USEPA Method TO-15 in the 10, 20, 30, and 40 foot intervals in nested soil vapor monitoring wells VW-96 and VW-99 on a monthly basis
Measure groundwater elevation in monitoring well MW-96 on a weekly basis
Is the groundwater elevation in monitoring well MW-96 above 465 ft-amsl?
Yes
No

Recommendation 3

- Rec. 3 – New construction should be equipped with vapor barrier
- EPA – Current EPA Order, paragraph 11(e), requires “best efforts” for Chevron to offer to install vapor barriers in buildings in the Southwest Quadrant to prevent exposure to soil vapors.

Recommendation 4

- Rec. 4 – Groundwater and soil gas be closely monitored in the southwest quadrant for the safety of workers and residents.

- EPA- Per OMM Plan---17 to 20 groundwater wells are sampled in the Southwest Quadrant on a semi-annual, quarterly, or monthly basis. One nested vapor well currently sampled bi-annually.

Questions?