



iSOC[®] YOUR ULTIMATE MANAGED ATTENUATION TOOL

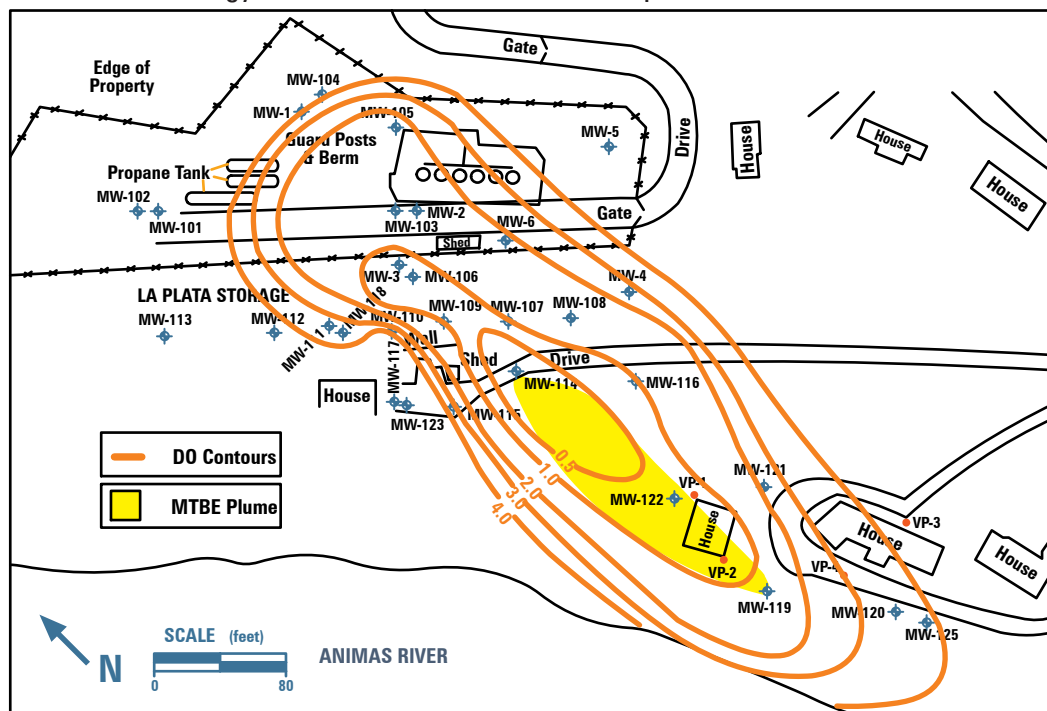
PILOT CASE STUDY: REMEDIATION OF RESIDUAL MTBE IN A FRACTURED BEDROCK AQUIFER IN SOUTHWESTERN COLORADO

SITE BACKGROUND

- Bulk petroleum storage facility with release of gasoline.
- Remedial investigation began Summer, 2002.
- BTEX and MTBE found in ground water on- and off-site.
- Direction of ground water flow is due south toward Animas River.
- Contamination found in fractured bedrock aquifer underlying site and outcropping along Animas River.
- Major concern: petroleum constituents reaching Animas River.

CLEAN-UP STRATEGY

- Soil vapor extraction system installed on-site and immediately off-site.
- SVE successful at removing majority of petroleum contamination.
- Major concern: Residual ground water contamination plume of mobile MTBE 320' long by 40' wide in fractured bedrock moving toward the Animas River.
- MTBE concentrations in plume: 59ppb to 6 ppb.
- iSOC[®] technology chosen to remediate the MTBE plume.



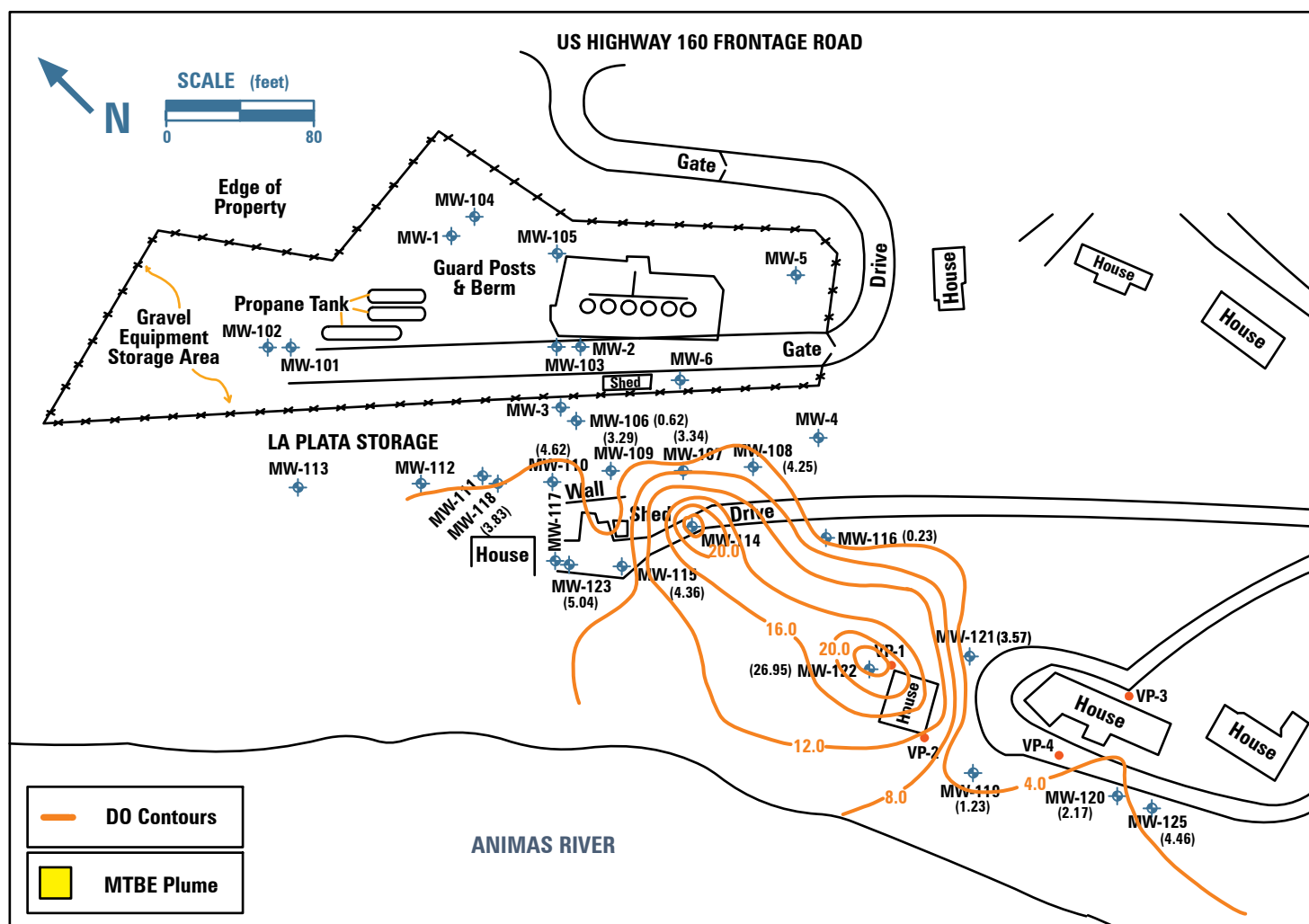
PRE - iSOC[®] DISSOLVED OXYGEN
CONTOURS (ppm) □

iSOC[®]

iSOC[®] REMEDIATION PLAN

- June, 2004: 2 iSOC[®] units installed in 2 existing bedrock monitor wells (MW-122, MW-114) in the MTBE plume.
- Each well has water column of approximately 10'.
- Prior to iSOC[®] startup, dissolved oxygen (DO) levels in MTBE plume < 1ppm.
- June 2004-Feb 2005: iSOC[®] system running 8 months. DO increased throughout contamination area.
- DO in injection wells maintained at approximately 27 ppm.
- Feb 2005: DO up to 4 ppm in monitor wells at distances of 60-80' from MW-114.
- Feb 2005: DO up to 4 ppm in monitor wells at distances of 100 -160' from MW-122.

DISSOLVED OXYGEN CONTOURS AT 8 MONTHS (ppm)



SITE CLOSURE

- After two rounds of quarterly ground water sampling, MTBE concentrations in all off-site wells below detection limit.
- Feb 2005: iSOC[®] system removed from site and will be deployed at another site.
- This site currently in post-remediation monitoring.