

The background features a light blue gradient with several translucent, realistic-looking bubbles of various sizes scattered across the top and right sides. The bubbles have highlights and shadows, giving them a three-dimensional appearance.

# PETROLEUM STORAGE TANK RELEASE INVESTIGATION

ZACARIAS R. DOMINGUEZ/FORT HANCOCK FACILITY FIELD OFFICE

JANUARY 2017 – PROJECT STATUS INVESTIGATION

# INTRODUCTION

**USIBWC**

OWNER/OPERATOR



**IDEALS-AGEISS, LLC**

ENVIRONMENTAL CONSULTING SERVICES  
PRIME CONTRACTOR



**TRC, INC.**

ENVIRONMENTAL SERVICES  
SUBCONTRACTOR



# BACKGROUND

- PHASE I & LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT (ESA) PERFORMED BY TRC – OCTOBER 2014
  - RESULTS/ACTIVITIES OF PHASE I ESA IDENTIFIED 5 AREAS OF CONCERN (AOC):
    - 2 UNDERGROUND STORAGE TANKS (UST) REMOVED IN 1990;
    - 1 ABANDONED-IN-PLACE UST AND ASSOCIATED OIL CHANGE PIT;
    - 1 WASH BAY SUMP DRAIN AREA TO AN ACTIVE SEPTIC SYSTEM;
    - FORMER DIESEL SPILL SOUTHWEST OF AN ABOVEGROUND STORAGE TANK (AST);
    - 1 REMOVED UST LOCATED NORTHEAST OF THE AST PLATFORM;
  - RESULTS/ACTIVITIES OF LIMITED PHASE II ESA:
    - 5 SOIL BORINGS WERE PERFORMED AT THE AOC IDENTIFIED IN PHASE I ESA;
    - SOIL SAMPLES FROM SOIL BORINGS WERE COLLECTED AND ANALYZED FOR TOTAL PETROLEUM HYDROCARBONS (TPH);
    - TPH DETECTED AT 2 LOCATIONS:
      - REC#1 - ABANDONED-IN-PLACE UST/OIL CHANGE PIT (BORING B-2)
      - REC#2 - FORMER DIESEL SPILL AREA (BORING B-4)



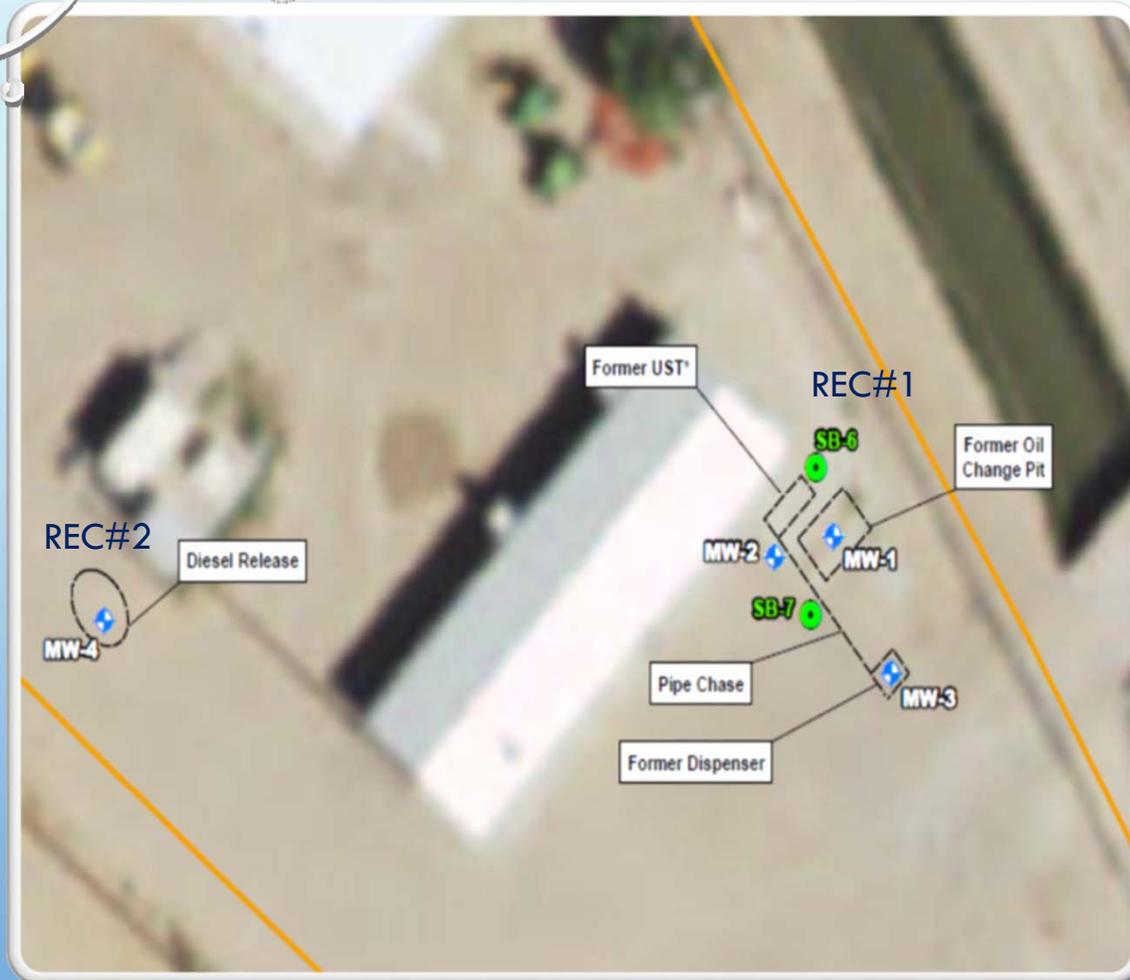
# 2016 PETROLEUM STORAGE TANK RELEASE INVESTIGATION

- A PETROLEUM STORAGE TANK INVESTIGATION (PST) WAS PERFORMED IN JULY 2016 IN ACCORDANCE WITH TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) PST PROGRAM REQUIREMENTS.
- PST RELEASE INVESTIGATION GOALS FOR REC#1 & REC#2:
  - CHARACTERIZE THE SOURCE AREA AND ASSESS RESIDUAL HYDROCARBON IMPACTS TO SOIL AND GROUNDWATER
  - PERFORM INVESTIGATION IN ACCORDANCE WITH TCEQ GUIDELINES DOCUMENT RG-411, *INVESTIGATING AND REPORTING RELEASES FROM PETROLEUM STORAGE TANKS*;
  - ANALYZE SOIL AND GROUNDWATER SAMPLES FOR CONTAMINANTS OF CONCERN (COC):
    - BENZENE, TOLUENE, ETHYLBENZENE AND XYLENES (BTEX) AND METHYL TERTIARY BUTYL ETHER (MTBE);
    - TOTAL PETROLEUM HYDROCARBONS (TPH);
    - POLYCYCLIC AROMATIC HYDROCARBONS (PAH);



# INVESTIGATION FIELD ACTIVITIES

- 3 GROUNDWATER MONITORING WELLS WERE INSTALLED AT REC#1 - THE ABANDONED-IN-PLACE UST/OIL CHANGE PIT (MW-1, MW-2, MW-3);
- 2 SOIL BORING SAMPLES COLLECTED AT REC#1 (SB-6 & SB-7);
- 1 GROUNDWATER MONITORING WELL INSTALLED AT REC#2 - THE FORMER DIESEL SPILL AREA (MW-4)



# INVESTIGATION RESULTS REC#1 ABANDONED-IN-PLACE UST/OIL CHANGE PIT

- BTEX & TPH DETECTED IN GROUNDWATER SAMPLES COLLECTED FROM MW-2 ONLY;
- ONLY BENZENE WAS DETECTED IN THE GROUNDWATER SAMPLES ABOVE THE PST ACTION LEVELS;
  - DETECTION OF 0.112 MG/L;
  - BENZENE PST ACTION LEVEL FOR GROUNDWATER = 0.005 MG/L
- CONCENTRATIONS OF BENZENE & TPH WERE DETECTED BELOW PST ACTION LEVELS IN 2 SOIL SAMPLES COLLECTED DURING THE DRILLING OF MW-1 & MW-2;
  - MW-1 (@5-6 FT BGS): 1,000 MG/KG TPH
  - MW-2 (@10-11 FT BGS): 0.104 MG/KG BENZENE & 722 MG/KG TPH
  - PST ACTION LEVEL FOR BENZENE IN SOIL = 0.12 MG/KG
  - THERE IS CURRENTLY NO ESTABLISHED PST ACTION LEVEL FOR TPH



# INVESTIGATION RESULTS REC#2 FORMER DIESEL SPILL AREA

- NO FREE PHASE HYDROCARBONS (E.G. FREE FLOATING FUEL ON GROUNDWATER) WERE DETECTED AT THIS LOCATION;
- IN COMPARISON:
  - TYPICAL UST SITES HAVE FREE PHASE HYDROCARBON PLUMES, GROUNDWATER PLUMES THAT CAN EXCEED 500-1,000 FEET IN LENGTH AND MIGRATE OFF SITE;
  - BENZENE AND OTHER COC CONCENTRATIONS IN 10-20 MG/L RANGE OR GREATER





# DRINKING WATER SURVEY

- BENZENE DETECTION IN GROUNDWATER SAMPLES COLLECTED REQUIRED THAT A DRINKING WATER SURVEY BE PERFORMED IN ACCORDANCE WITH TCEQ REGULATIONS;
- THE DRINKING WATER SURVEY RESULTS INCLUDE:
  - ALL PROPERTIES WITHIN 0.5 MILE OF THE DETECTION HAVE ACCESS TO PUBLIC WATER SUPPLY;
  - 15 WATER WELLS WITHIN 0.5 MILES OF THE SITE;
    - 1 PLUGGED/CLOSED WELL;
    - 2 UNUSED/ABANDONED WELLS;
    - 1 DOMESTIC SUPPLY WELL;
    - 11 IRRIGATION WELLS;
  - THE CLOSEST WATER WELL IS CLOSED/PLUGGED AND NO LONGER IN USE;
  - ALL WELLS LOCATED CROSS- OR UP-GRADIENT OF THE GROUNDWATER PLUME AT THE SITE;
  - NO WATER WELLS ARE THREATENED

# INVESTIGATION RESULTS AND REPORTING TO TCEQ

- RELEASE DETERMINATION REPORT AND DRINKING WATER SURVEY SUBMITTED TO TCEQ ON SEPTEMBER 30, 2016;
- TCEQ RESPONDED IN A LETTER DATED NOVEMBER 29, 2016;
- TCEQ ASSIGNED THE SITE LEAKING PETROLEUM STORAGE TANK (LPST) CASE NUMBER 120083 AND REQUESTED THE FOLLOWING ADDITIONAL CORRECTIVE ACTION ACTIVITIES:
  - PERFORM ADDITIONAL GROUNDWATER MONITORING TO ASSESS PLUME STABILITY;
  - ANALYZE GROUNDWATER FOR TOTAL DISSOLVED SOLIDS TO DETERMINE BENEFICIAL GROUNDWATER USE CATEGORY;
  - PREPARE AND SUBMIT AN ASSESSMENT REPORT FORM (FORM TCEQ-0621)
- TCEQ CONCURRED THAT THE DRINKING WATER SURVEY RESULTS SHOW NO THREAT TO PRIVATE DRINKING WATER WELLS.

