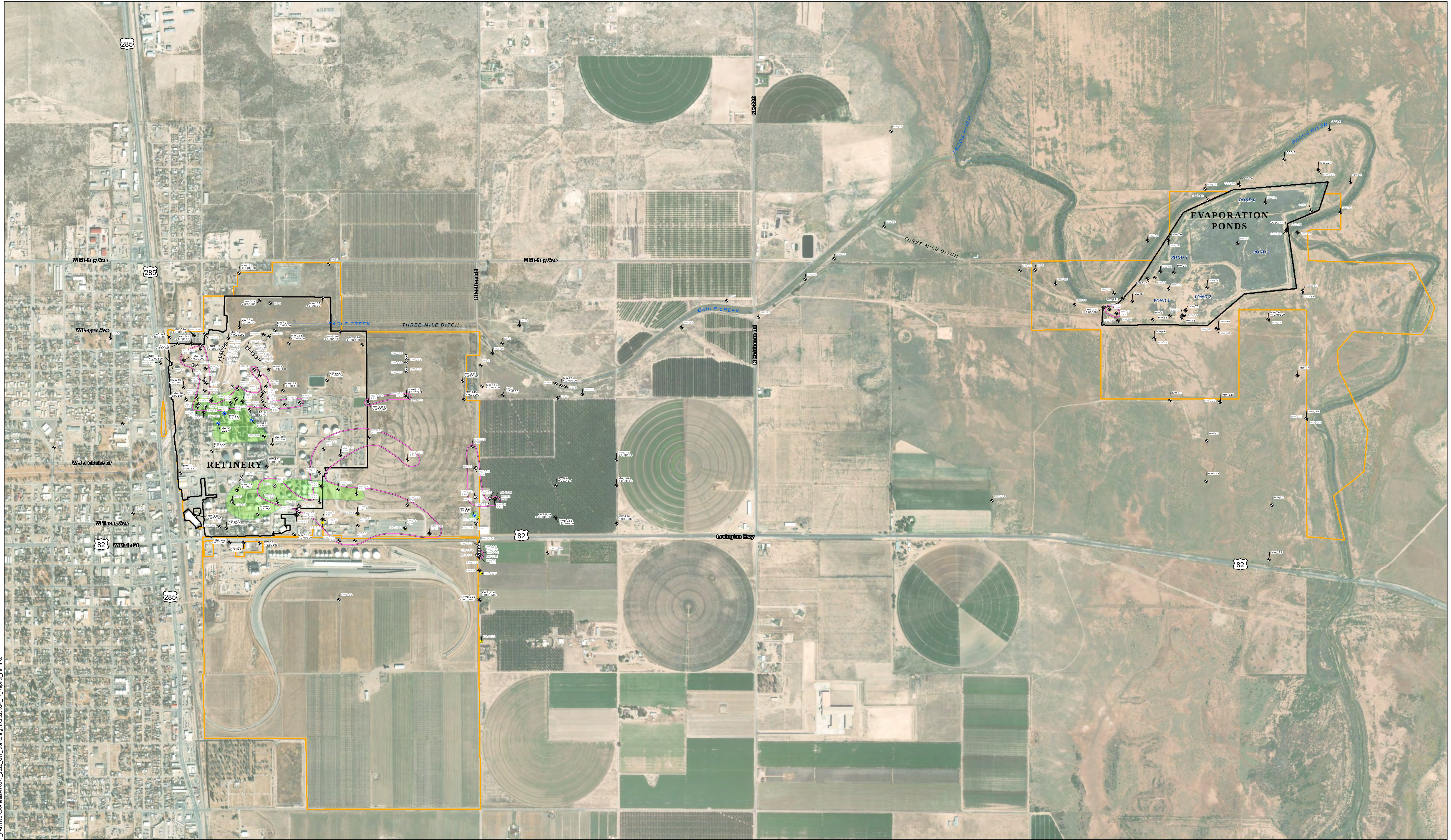




LEGEND

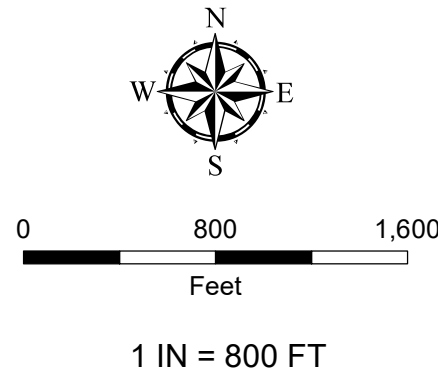
- ♦ MONITORING WELL EXCEEDS SCREENING LEVELS
- ◆ MONITORING WELL
- IRRIGATION WELL
- ⊙ RECOVERY WELL

- 0.267 NAPHTHALENE CONCENTRATION
- < 0.00100 NAPHTHALENE NOT DETECTED ABOVE METHOD DETECTION LIMIT
- KWB-13 WELL NOT SAMPLED
- PSH PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (≥ 0.03 FEET THICK)
- NAPHTHALENE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 0.03 mg/L)
- FENCELINE

- HFSNR PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)
- PHASE-SEPARATED HYDROCARBON (PSH)

NOTES:

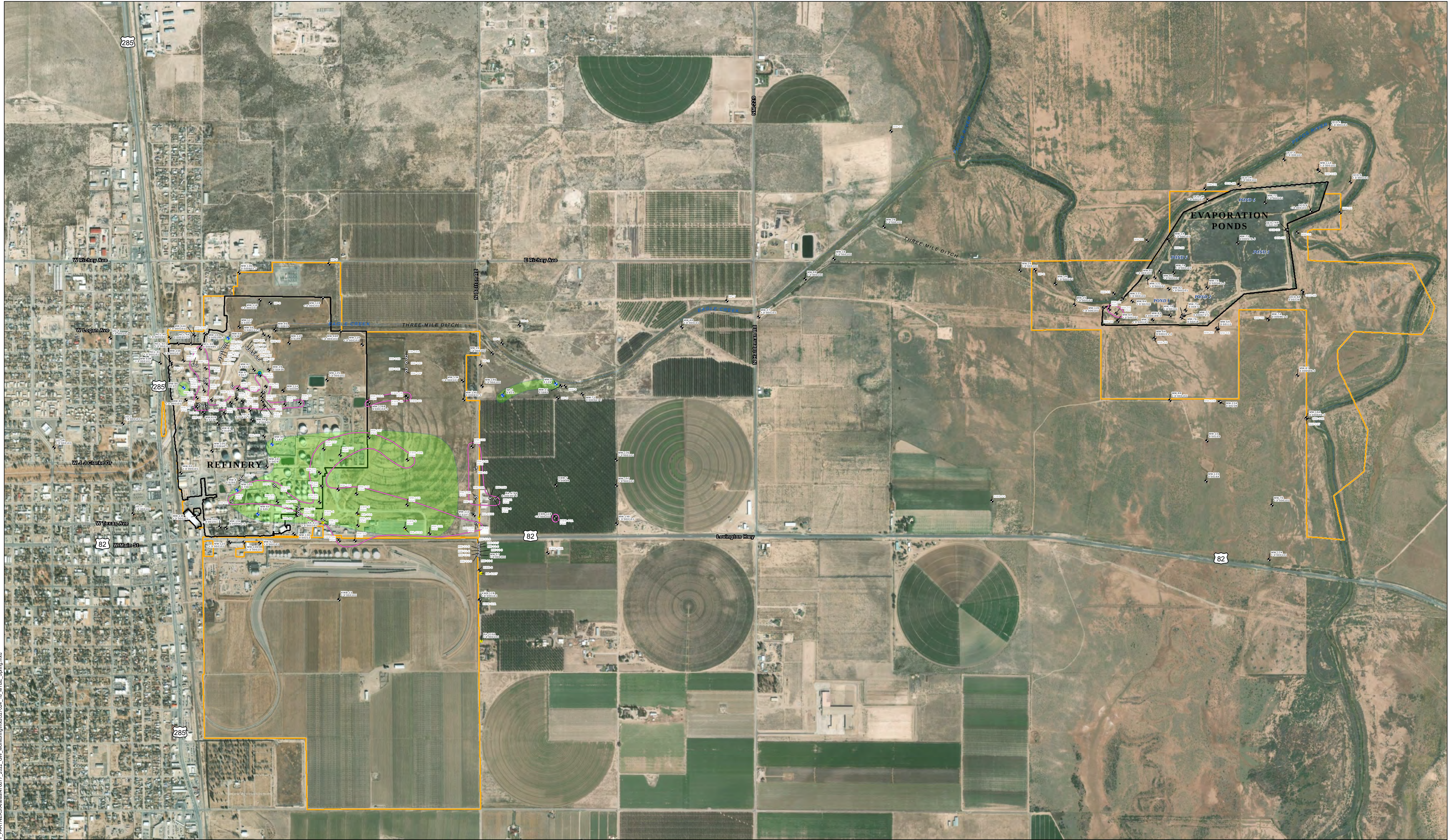
1. ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/L).
2. J = CONCENTRATION QUALIFIED AS AN ESTIMATED VALUE.



NAPHTHALENE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2022 SECOND SEMIANNUAL EVENT

2022 ANNUAL GROUNDWATER REPORT
HF SINCLAIR NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

AUTHOR: MJAGOE	SAVED: 2/23/2023	MOD: 5/27/2024_17_Naphth_Fall
505 E. HUNTLAND DR. SUITE 250 AUSTIN, TX 78752 PH: 512-329-6080	TRC	FIGURE 17

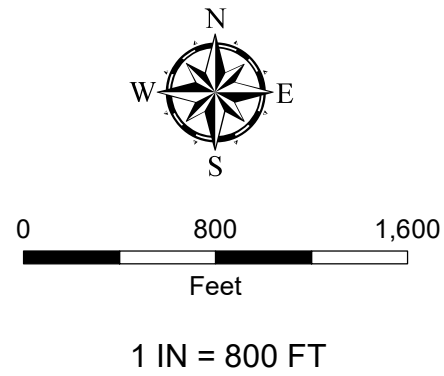


LEGEND

- MONITORING WELL EXCEEDS SCREENING LEVELS
- MONITORING WELL
- IRRIGATION WELL
- RECOVERY WELL EXCEEDS SCREENING LEVELS
- RECOVERY WELL
- MTBE CONCENTRATION
- MTBE NOT DETECTED ABOVE METHOD DETECTION LIMIT
- WELL NOT SAMPLED
- PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (≥ 0.03 FEET THICK)
- MTBE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 0.1 mg/L)
- FENCELINE

NOTES:

- ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/L).
- J = CONCENTRATION QUALIFIED AS AN ESTIMATED VALUE.
- MTBE = METHYL TERT-BUTYL ETHER



MTBE CRITICAL GROUNDWATER
SCREENING LEVEL EXCEEDANCE MAP
2022 FIRST SEMIANNUAL EVENT

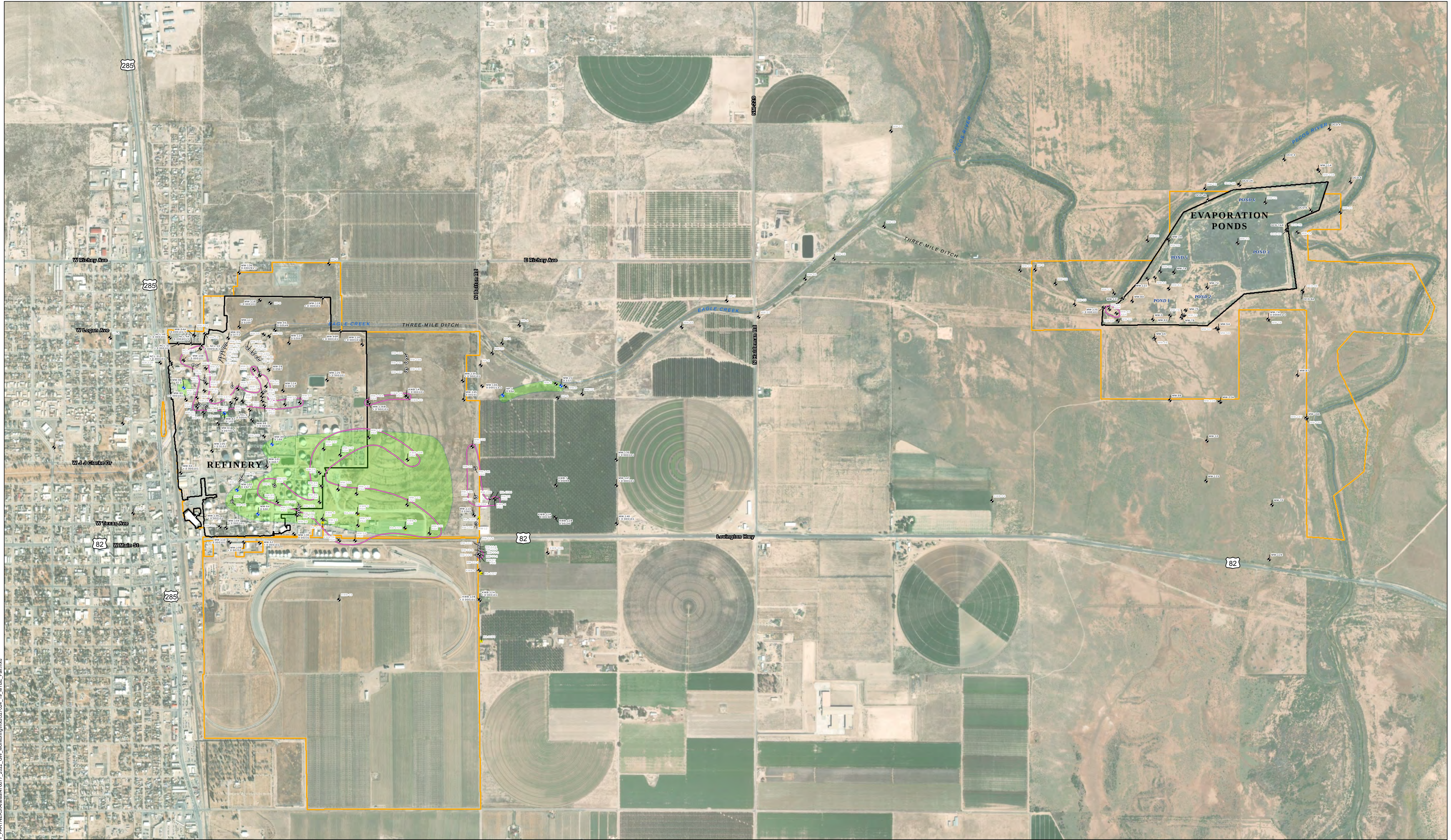
2022 ANNUAL GROUNDWATER REPORT
HF SINCLAIR NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

AUTHOR: MJAGOE SAVED: 1/30/2023 MXD: 527024_18_MTB_E_Spring



505 E. HUNT LAND DR.
SUITE 250
AUSTIN, TX 78752
PH: 512-329-6080

FIGURE
18



LEGEND

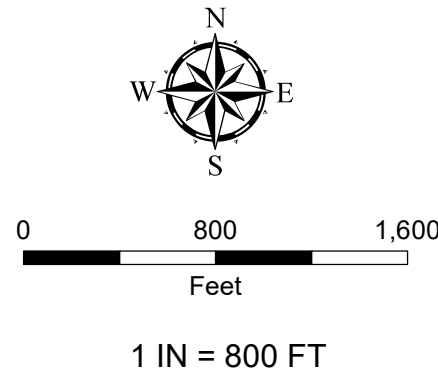
- ♦ MONITORING WELL EXCEEDS SCREENING LEVELS
- ♦ MONITORING WELL
- IRRIGATION WELL
- ⊙ RECOVERY WELL

- 1.39 MTBE CONCENTRATION
- <0.000367 MTBE NOT DETECTED ABOVE METHOD DETECTION LIMIT
- WELL NOT SAMPLED
- PSH PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (≥ 0.03 FEET THICK)
- MTBE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 0.1 mg/L)
- FENCELINE

- HFSNR PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)
- PHASE-SEPARATED HYDROCARBON (PSH)

NOTES:

- ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/L).
- J = CONCENTRATION QUALIFIED AS AN ESTIMATED VALUE.
- MTBE = METHYL TERT-BUTYL ETHER



MTBE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2022 SECOND SEMIANNUAL EVENT

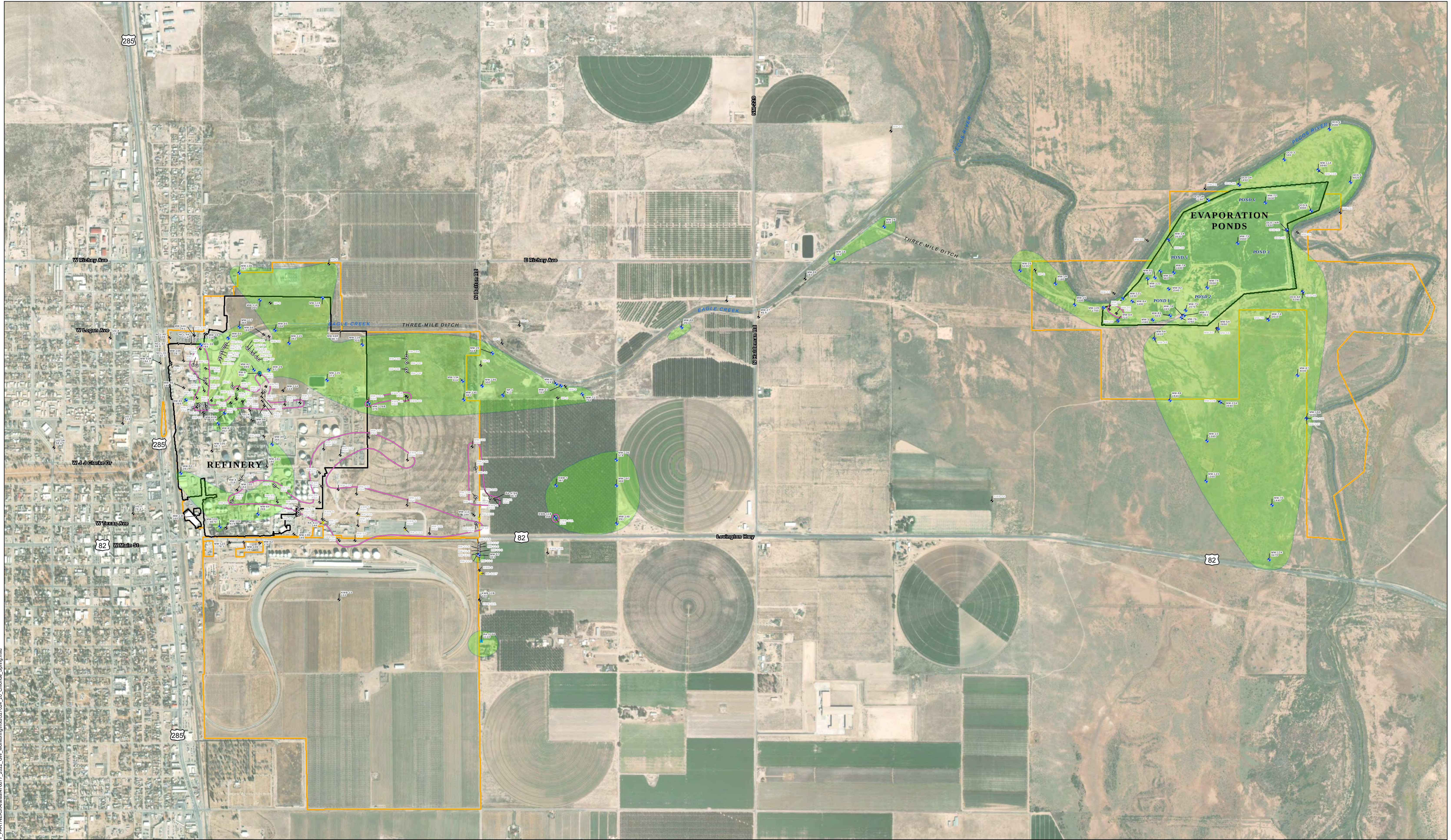
2022 ANNUAL GROUNDWATER REPORT
HF SINCLAIR NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

AUTHOR: MJAGOE DATED: 2/23/2023 MOD: 527024_19_MTBE_Fail



505 E. HUNTLAND DR.
SUITE 250
AUSTIN, TX 78752
PH: 512-329-6080

FIGURE
19



LEGEND

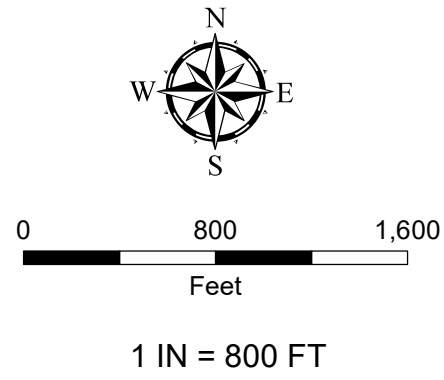
- ◆ MONITORING WELL EXCEEDS SCREENING LEVELS
- ◆ MONITORING WELL
- IRRIGATION WELL EXCEEDS SCREENING LEVELS
- IRRIGATION WELL
- RECOVERY WELL EXCEEDS SCREENING LEVELS
- RECOVERY WELL

- 139 CHLORIDE CONCENTRATION
- MW-10 WELL NOT SAMPLED
- PSH PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (≥ 0.03 FEET THICK)
- CHLORIDE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 250 mg/L)
- ▭ FENCELINE
- ▭ HFSNR PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)

PSH PHASE-SEPARATED HYDROCARBON (PSH)

NOTES:

1. ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/L).



CHLORIDE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2022 FIRST SEMIANNUAL EVENT

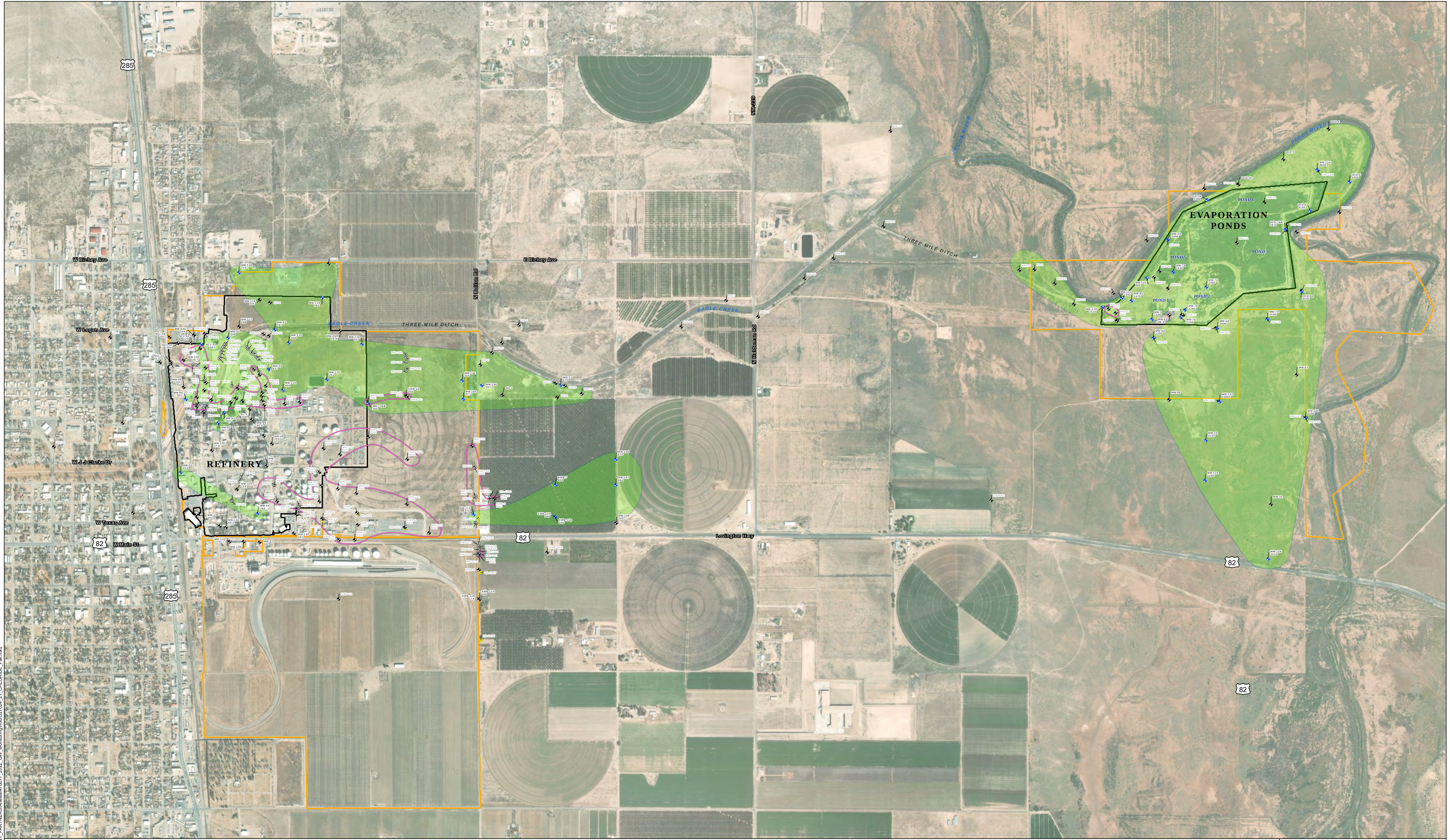
2022 ANNUAL GROUNDWATER REPORT
HF SINCLAIR NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

AUTHOR: MJAGOE SAVED: 2/9/2023 MOD: 527024_20_Chloride_Spring



505 E. HUNTLAND DR.
SUITE 250
AUSTIN, TX 78752
PH: 512-329-6080

FIGURE
20



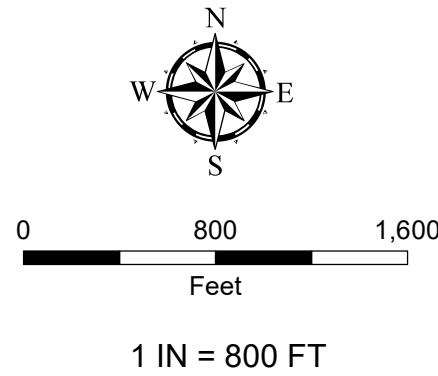
LEGEND

- ◆ MONITORING WELL EXCEEDS SCREENING LEVELS
- ◆ MONITORING WELL
- IRRIGATION WELL
- ⊙ RECOVERY WELL

- 141 CHLORIDE CONCENTRATION
- KWB-13 WELL NOT SAMPLED
- PSH PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (≥ 0.03 FEET THICK)
- CHLORIDE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 250 mg/L)
- FENCELINE
- HFSNR PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)

PHASE-SEPARATED HYDROCARBON (PSH)

NOTES:
1. ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/L).



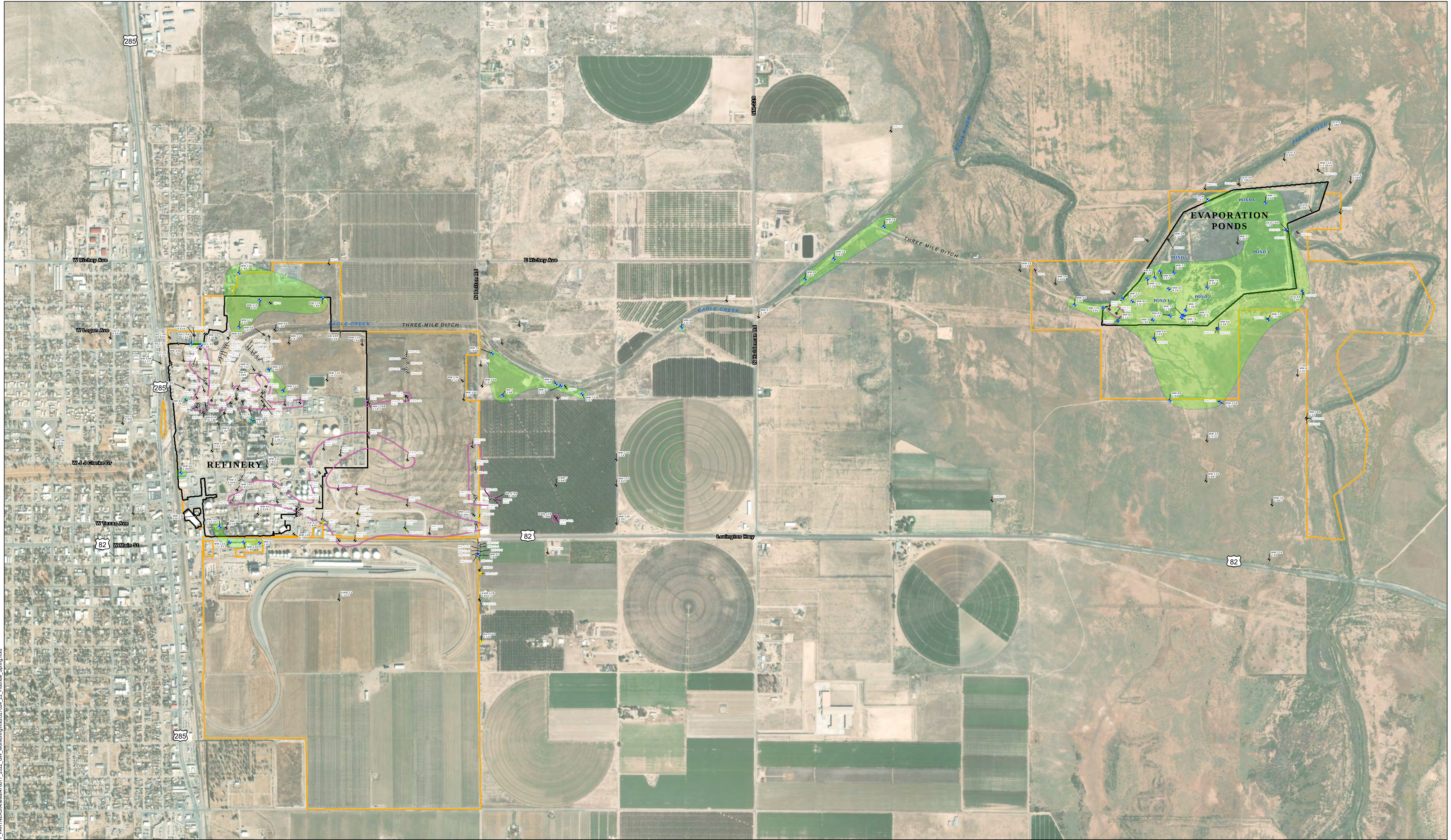
CHLORIDE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2022 SECOND SEMIANNUAL EVENT

2022 ANNUAL GROUNDWATER REPORT
HF SINCLAIR NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

AUTHOR: MJAGOE SAVED: 1/24/2023 MKD: 527024_21_CHLORIDE_FWI

505 E. HUNTLAND DR.
SUITE 250
AUSTIN, TX 78752
PH: 512-329-6080

FIGURE
21



LEGEND

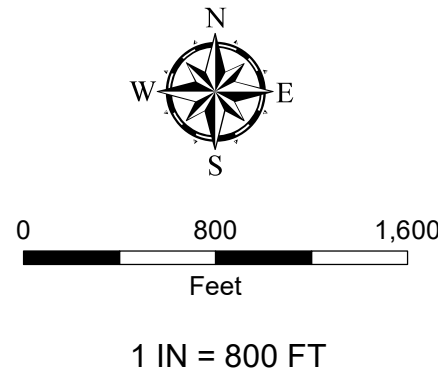
- ♦ MONITORING WELL EXCEEDS SCREENING LEVELS
- ♦ MONITORING WELL
- IRRIGATION WELL
- RECOVERY WELL EXCEEDS SCREENING LEVELS
- ⊙ RECOVERY WELL

- 3.03 FLUORIDE CONCENTRATION
- WELL NOT SAMPLED
- PSH PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (≥ 0.03 FEET THICK)
- FLUORIDE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 1.6 mg/L)
- FENCELINE
- HFSNR PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)

PHASE-SEPARATED HYDROCARBON (PSH)

NOTES:

1. ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/L).



FLUORIDE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2022 FIRST SEMIANNUAL EVENT

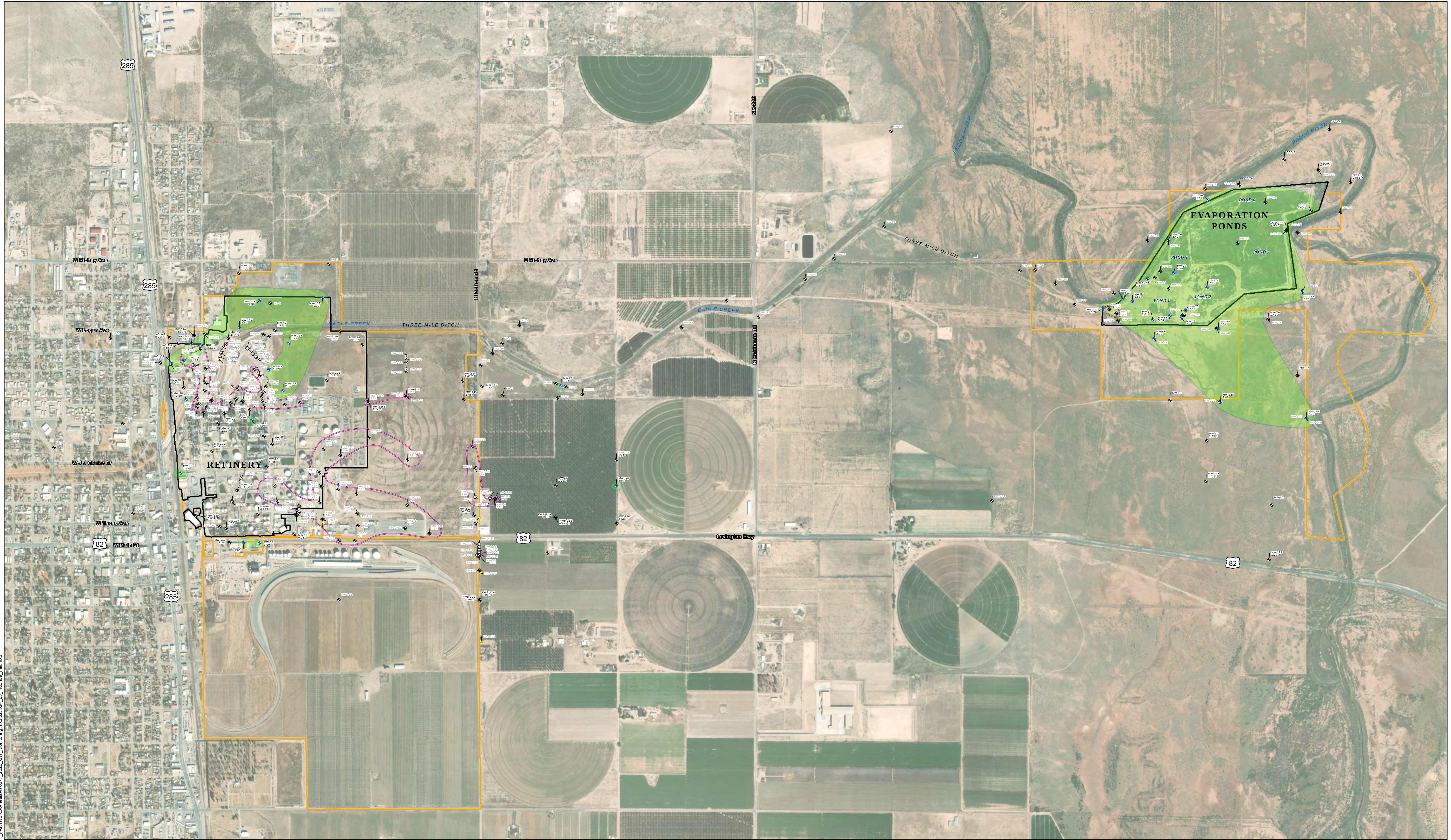
2022 ANNUAL GROUNDWATER REPORT
HF SINCLAIR NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

AUTHOR: MJAGOE SAVER: 1/26/2023 MXD: 5/27/2024_22_Fluoride_Spring



505 E. HUNTLAND DR.
SUITE 250
AUSTIN, TX 78752
PH: 512-329-6080

FIGURE
22



LEGEND

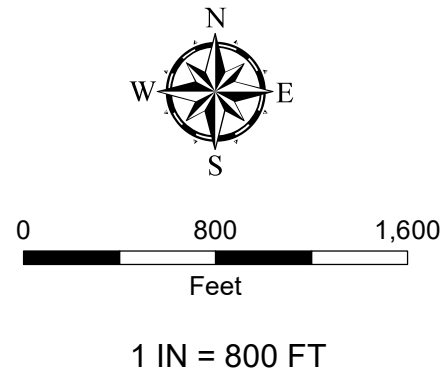
- ♦ MONITORING WELL EXCEEDS SCREENING LEVELS
- ♦ MONITORING WELL
- IRRIGATION WELL
- RECOVERY WELL

- 1.99 FLUORIDE CONCENTRATION
- MW-112 WELL NOT SAMPLED
- PSH PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (≥ 0.03 FEET THICK)
- FLUORIDE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 1.6 mg/L)
- FENCELINE
- HFSNR PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)

PHASE-SEPARATED HYDROCARBON (PSH)

NOTES:

1. ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/L).
2. J = CONCENTRATION QUALIFIED AS AN ESTIMATED VALUE.



FLUORIDE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2022 SECOND SEMIANNUAL EVENT

2022 ANNUAL GROUNDWATER REPORT
HF SINCLAIR NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

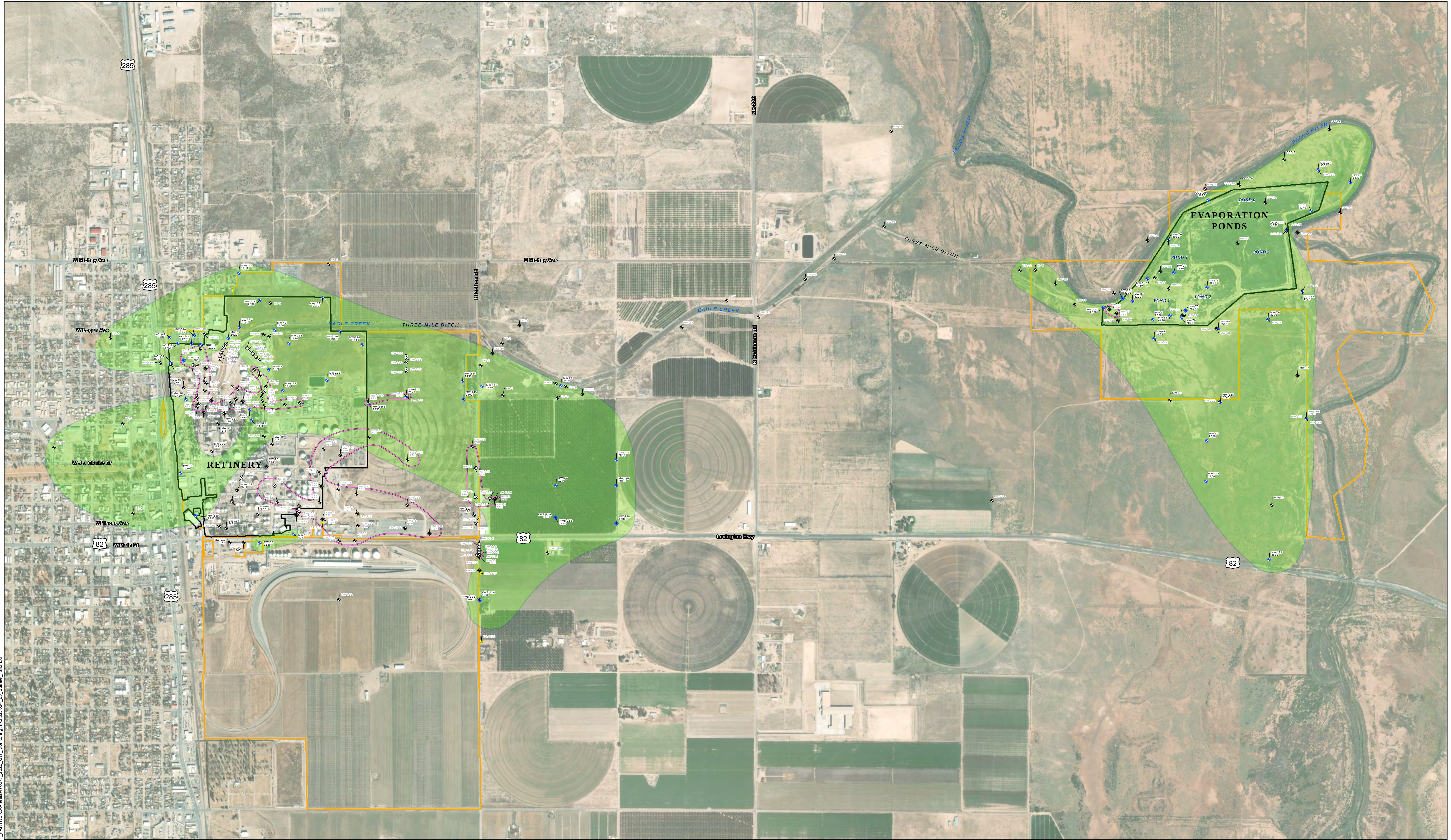
AUTHOR: MJAGOE SAVED: 1/26/2023 MOD: 5/27/2024_23_Fluoride_Fall



505 E. HUNTLAND DR.
SUITE 250
AUSTIN, TX 78752
PH: 512-329-6080

FIGURE
23

AUTHOR: MJAGOE	SAVED: 2/8/2023	MXD: 527024_24_Sulfate_Sp
		505 E. HUNT LAND DR. SUITE 250 AUSTIN, TX 78752 PH: 512-329-6080
		FIGURE 24



LEGEND

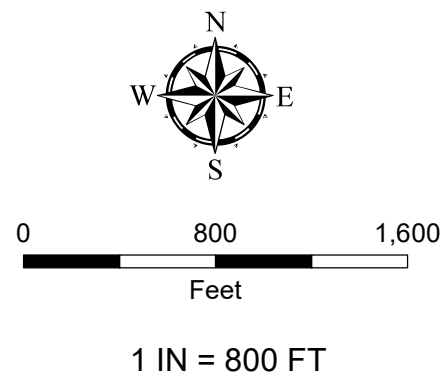
- ◆ MONITORING WELL EXCEEDS SCREENING LEVELS
- ◆ MONITORING WELL
- ◆ IRRIGATION WELL EXCEEDS SCREENING LEVELS
- ◆ IRRIGATION WELL
- RECOVERY WELL

- 370 Sulfate Concentration
- MW-103 Well Not Sampled
- PSH Phase-Separated Hydrocarbon Present in Well (≥ 0.03 Feet Thick)
- ◆ Sulfate Critical Groundwater Screening Level Exceedance Area (Concentration > 600 mg/L)
- FENCELINE
- HFSNR PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)

PSH PHASE-SEPARATED HYDROCARBON (PSH)

NOTES:

1. ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/L).
2. J = CONCENTRATION QUALIFIED AS AN ESTIMATED VALUE.



SULFATE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2022 SECOND SEMIANNUAL EVENT

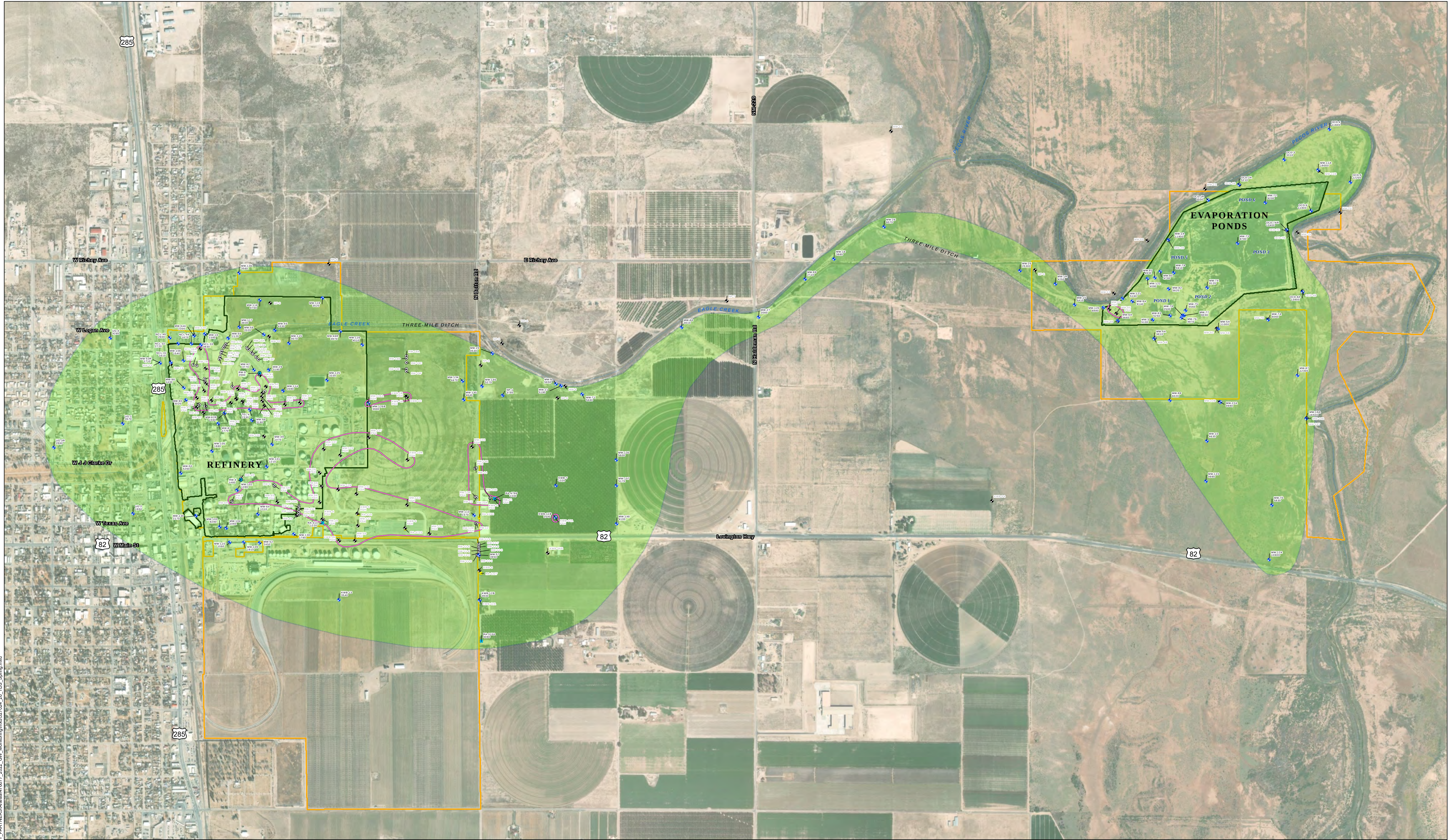
2022 ANNUAL GROUNDWATER REPORT
HF SINCLAIR NAVAJO REFINING, LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

AUTHOR: MJAGOE SAVED: 1/26/2023 MOD: 5/27/2024_25_Sulfate_Fall



505 E. HUNTLAND DR.
SUITE 250
AUSTIN, TX 78752
PH: 512-329-6080

FIGURE
25



LEGEND

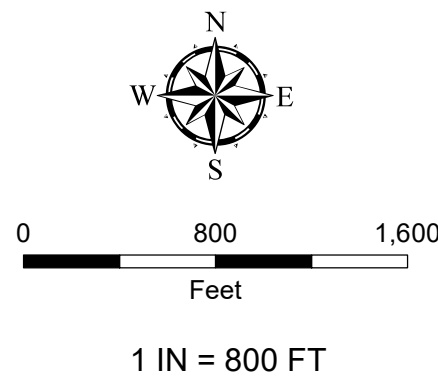
- ♦ MONITORING WELL EXCEEDS SCREENING LEVELS
- ♦ MONITORING WELL
- ♦ IRRIGATION WELL EXCEEDS SCREENING LEVELS
- ♦ IRRIGATION WELL
- ♦ RECOVERY WELL EXCEEDS SCREENING LEVELS
- ♦ RECOVERY WELL

- 1780 TOTAL DISSOLVED SOLIDS CONCENTRATION WELL NOT SAMPLED
- PSH PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (≥ 0.03 FEET THICK)
- ♦ TOTAL DISSOLVED SOLIDS CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 1000 mg/L)
- FENCELINE
- HFSNR PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)

♦ PHASE-SEPARATED HYDROCARBON (PSH)

NOTES:

1. ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/L).



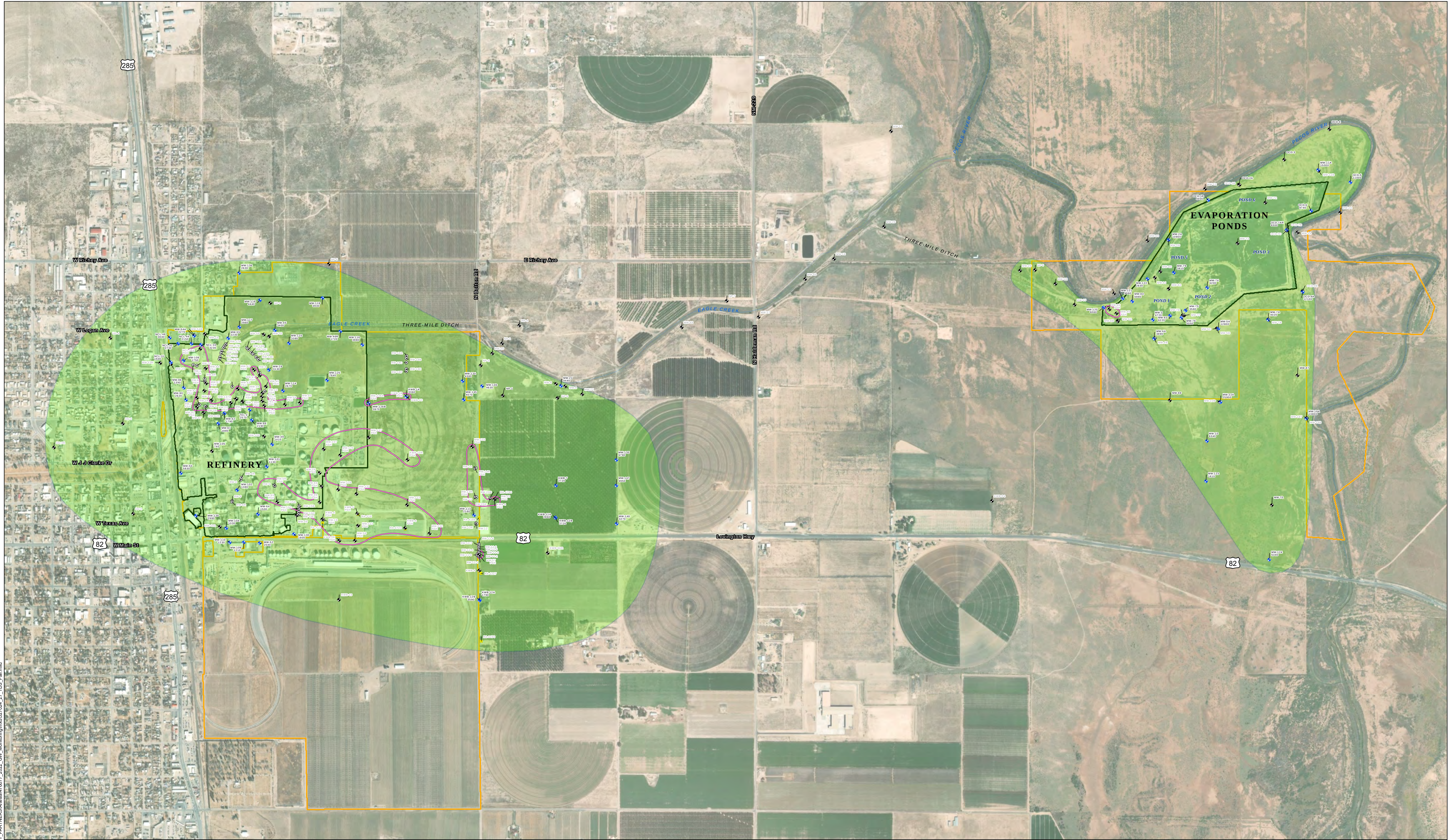
TOTAL DISSOLVED SOLIDS CRITICAL
GROUNDWATER SCREENING LEVEL
EXCEEDANCE MAP
2022 FIRST SEMIANNUAL EVENT
HF SINCLAIR NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

AUTHOR: MJAGOE SAVED: 1/30/2023 MOD: 5/27/24_26_TDS_Spring



505 E. HUNTLAND DR.
SUITE 250
AUSTIN, TX 78752
PH: 512-329-6080

FIGURE
26



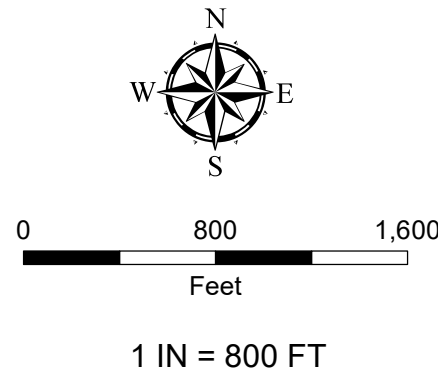
LEGEND

- ♦ MONITORING WELL EXCEEDS SCREENING LEVELS
- ♦ MONITORING WELL
- IRRIGATION WELL EXCEEDS SCREENING LEVELS
- IRRIGATION WELL
- RECOVERY WELL

- 1790 TOTAL DISSOLVED SOLIDS CONCENTRATION
- MW-103 WELL NOT SAMPLED
- PSH PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (≥ 0.03 FEET THICK)
- TOTAL DISSOLVED SOLIDS CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 1000 mg/L)
- FENCELINE
- HFSNR PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)

☞ PHASE-SEPARATED HYDROCARBON (PSH)

NOTES:
1. ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/L).



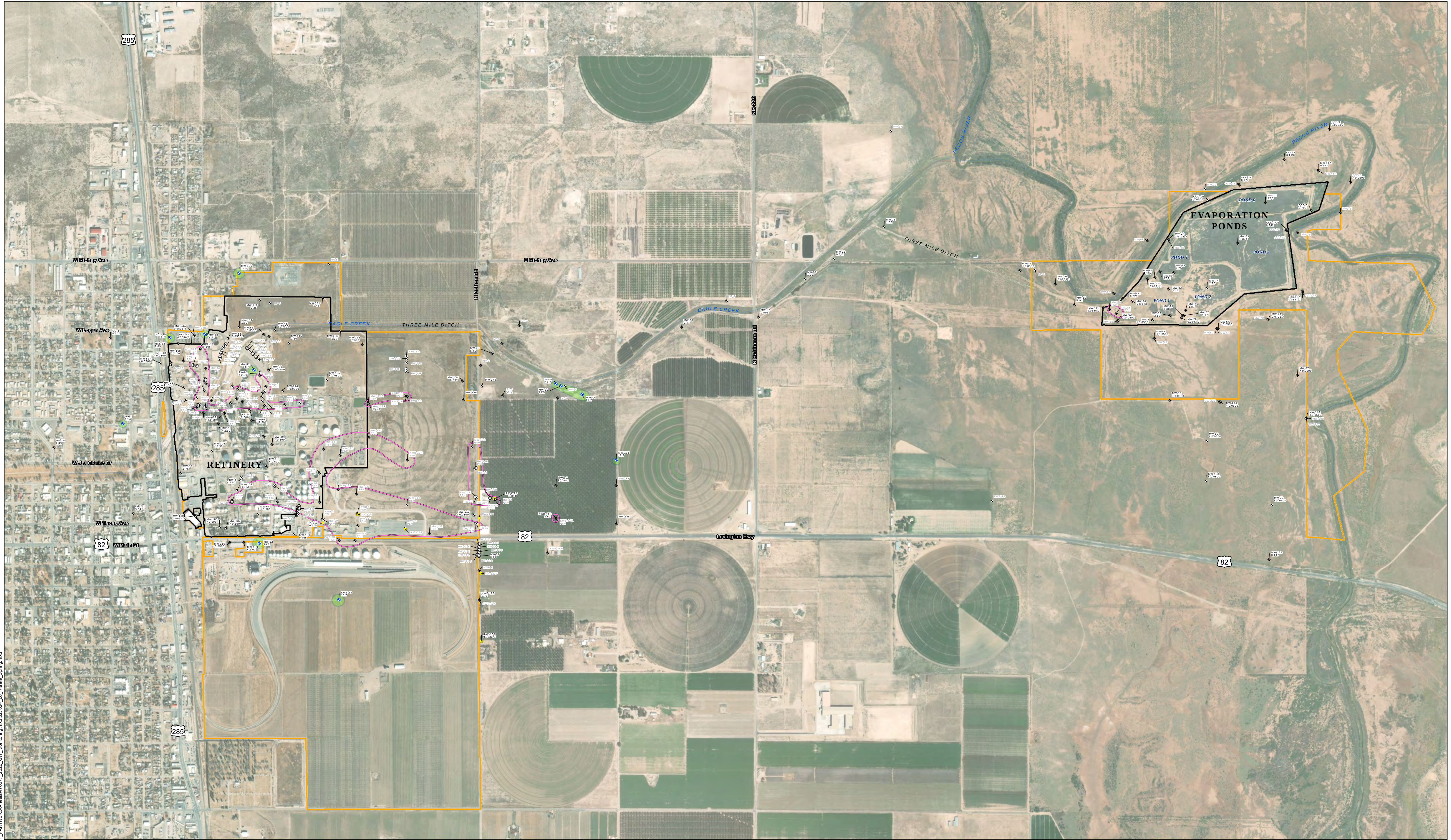
TOTAL DISSOLVED SOLIDS CRITICAL
GROUNDWATER SCREENING LEVEL
EXCEEDANCE MAP
2022 ANNUAL SEMIANNUAL EVENT
HF SINCLAIR NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

AUTHOR: MJAGOE SAVED: 1/27/2023 MXD: 5/27/24_27_TDS_Full



505 E. HUNTLAND DR.
SUITE 250
AUSTIN, TX 78752
PH: 512-329-6080

FIGURE
27



LEGEND

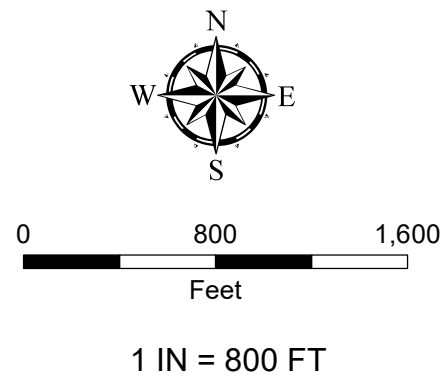
- ♦ MONITORING WELL EXCEEDS SCREENING LEVELS
- ♦ MONITORING WELL
- IRRIGATION WELL
- ⊙ RECOVERY WELL

- 15.7 NITRATE/NITRITE CONCENTRATION
- < 0.197 NITRATE/NITRITE NOT DETECTED ABOVE METHOD DETECTION LIMIT
- MW-19 WELL NOT SAMPLED
- PSH PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (≥ 0.03 FEET THICK)
- NITRATE/NITRITE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 10 mg/L)
- FENCELINE

- HFSNR PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)
- PHASE-SEPARATED HYDROCARBON (PSH)

NOTES:

- ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/L).
- J = CONCENTRATION QUALIFIED AS AN ESTIMATED VALUE.



NITRATE/NITRITE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2022 FIRST SEMIANNUAL EVENT

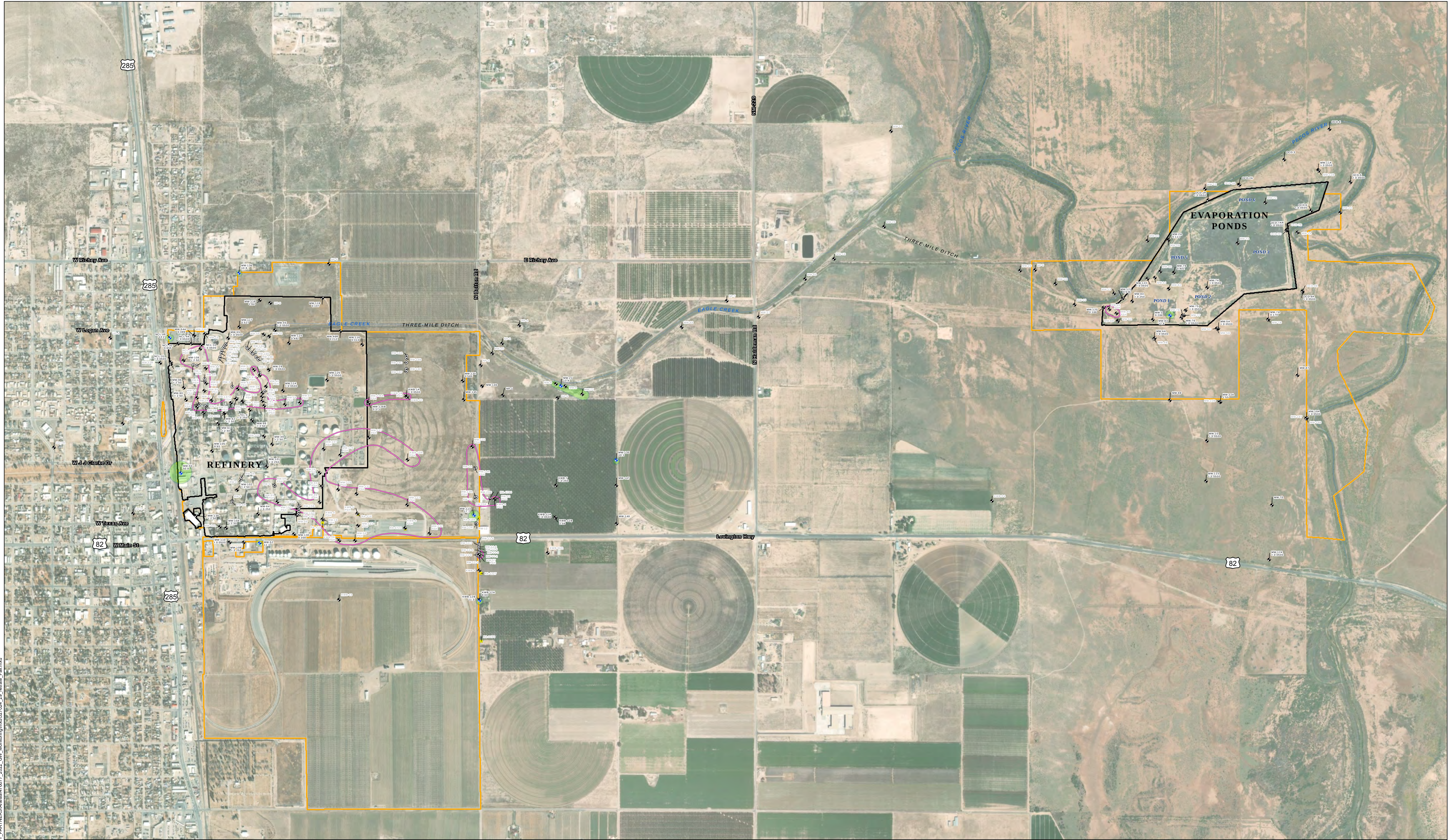
2022 ANNUAL GROUNDWATER REPORT
HF SINCLAIR NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

AUTHOR: MJAGOE SAVED: 2/10/2023 MOD: 527024_28_Nitrate_Spring



505 E. HUNTLAND DR.
SUITE 250
AUSTIN, TX 78752
PH: 512-329-6080

FIGURE
28



LEGEND

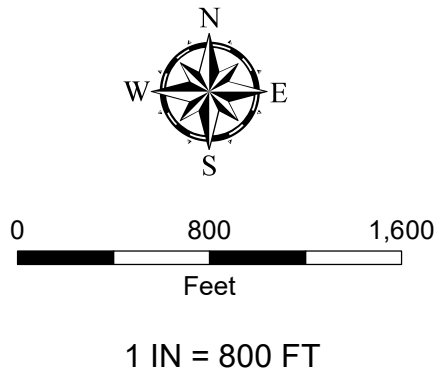
- ♦ MONITORING WELL EXCEEDS SCREENING LEVELS
- ♦ MONITORING WELL
- IRRIGATION WELL
- RECOVERY WELL

- 11.1 NITRATE/NITRITE CONCENTRATION
- < 0.394 NITRATE/NITRITE NOT DETECTED ABOVE METHOD DETECTION LIMIT
- WELL NOT SAMPLED
- PSH PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (≥ 0.03 FEET THICK)
- NITRATE/NITRITE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 10 mg/L)
- FENCELINE

- HFSNR PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)
- PHASE-SEPARATED HYDROCARBON (PSH)

NOTES:

1. ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/L).
2. J = CONCENTRATION QUALIFIED AS AN ESTIMATED VALUE.



NITRATE/NITRITE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2022 SECOND SEMIANNUAL EVENT

2022 ANNUAL GROUNDWATER REPORT
HF SINCLAIR NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

AUTHOR: MJAGOE SAVED: 2/8/2023 MOD: 5/27/2024_29_Nitrate_Fall



505 E. HUNTLAND DR.
SUITE 250
AUSTIN, TX 78752
PH: 512-329-6080

FIGURE
29

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 227897

CONDITIONS

Operator: HF Sinclair Navajo Refining LLC ATTN: GENERAL COUNSEL Dallas, TX 75201	OGRID:
	15694
	Action Number: 227897
Action Type: [UF-DP] Discharge Permit (DISCHARGE PERMIT)	

CONDITIONS

Created By	Condition	Condition Date
Ibarr	None	10/3/2023