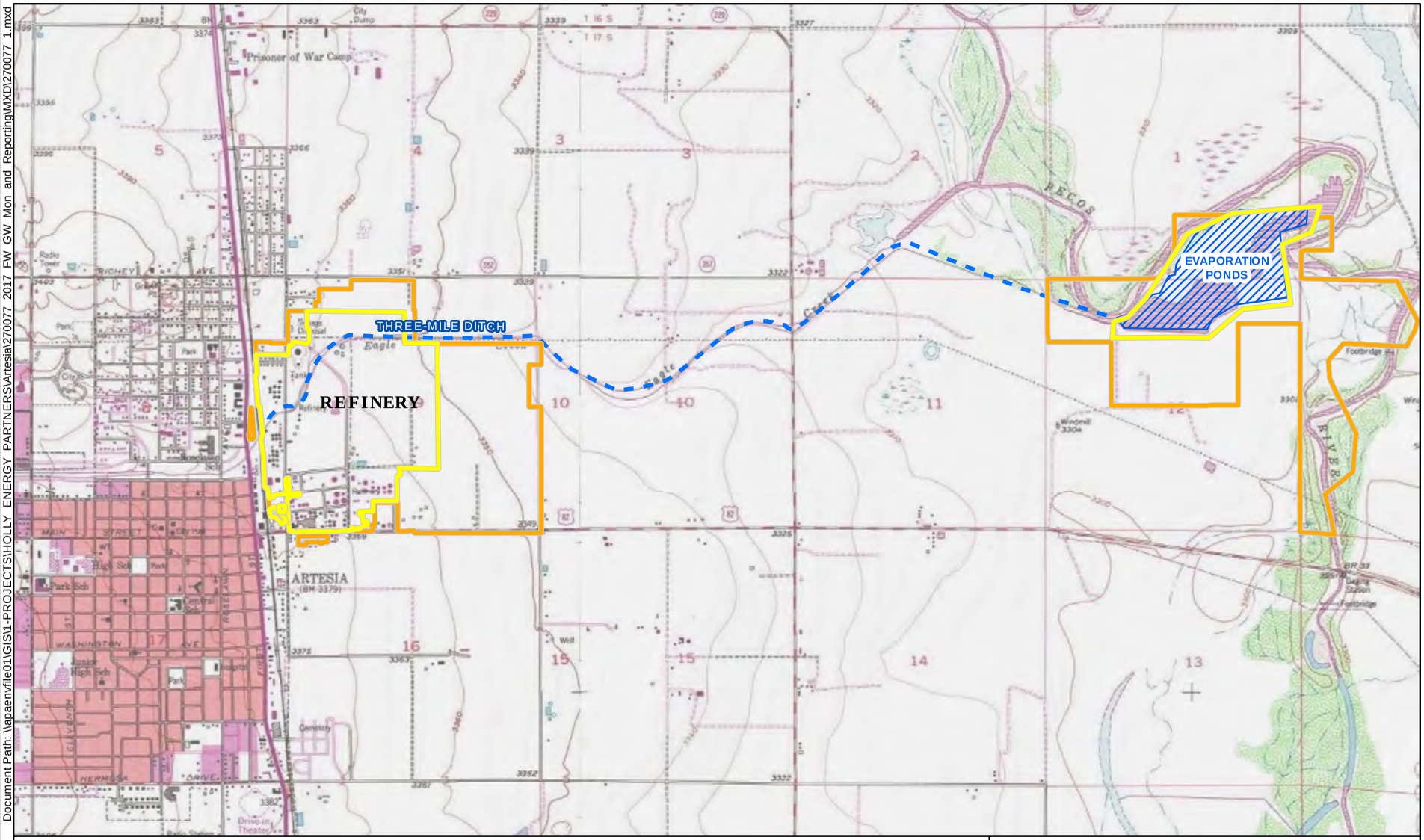
GW - __028__

2017
AGWMR
(7 of 7)

2018



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LEGEND

- FENCELINE
- NAVAJO PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)
- THREE-MILE DITCH
- EVAPORATION PONDS

SOURCE: BASE MAP USGS 7.5 MINUTE SERIES QUADS, ARTESIA AND SPRINGLAKE QUADRANGLES, 1955, PHOTOREVISED 1983.

N

0 1,600 3,200
Feet

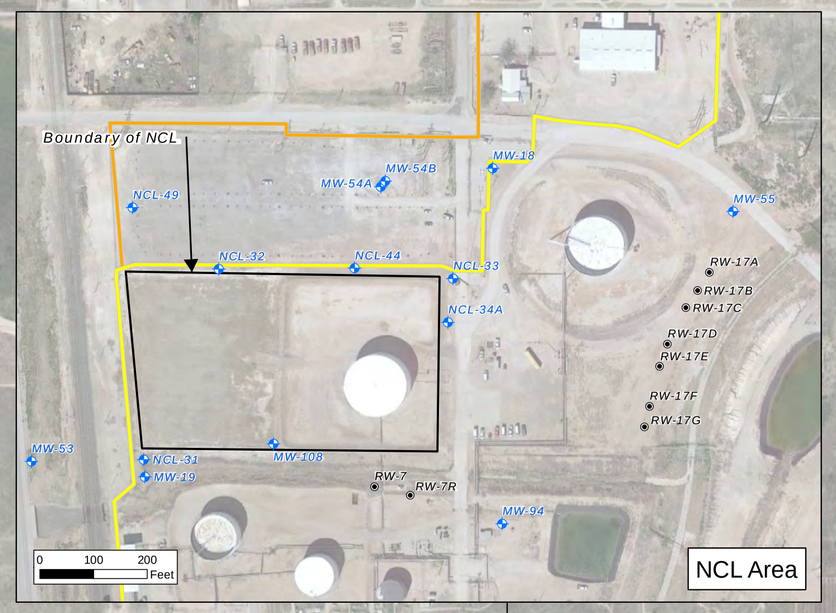
SITE LOCATION MAP

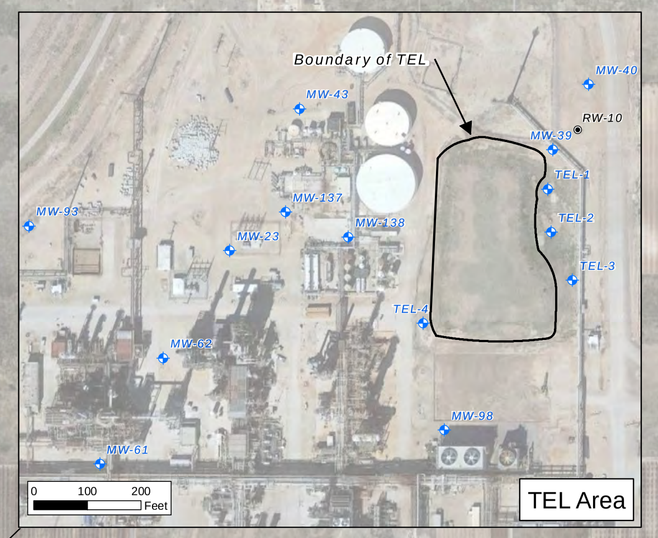
2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

PROJECT NUMBER: 270077	FILE NAME: 270077_1
AUTHOR: MREEVES	DATE: 2/27/2018

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FIGURE 1





LEGEND

- IRRIGATION WELL
- MONITORING WELL
- RECOVERY WELL
- FENCELINE
- NAVAJO PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)

N W E S

0 750 1,500 Feet

1 IN = 750 FT

NEW MEXICO

WELL LOCATION MAP

2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

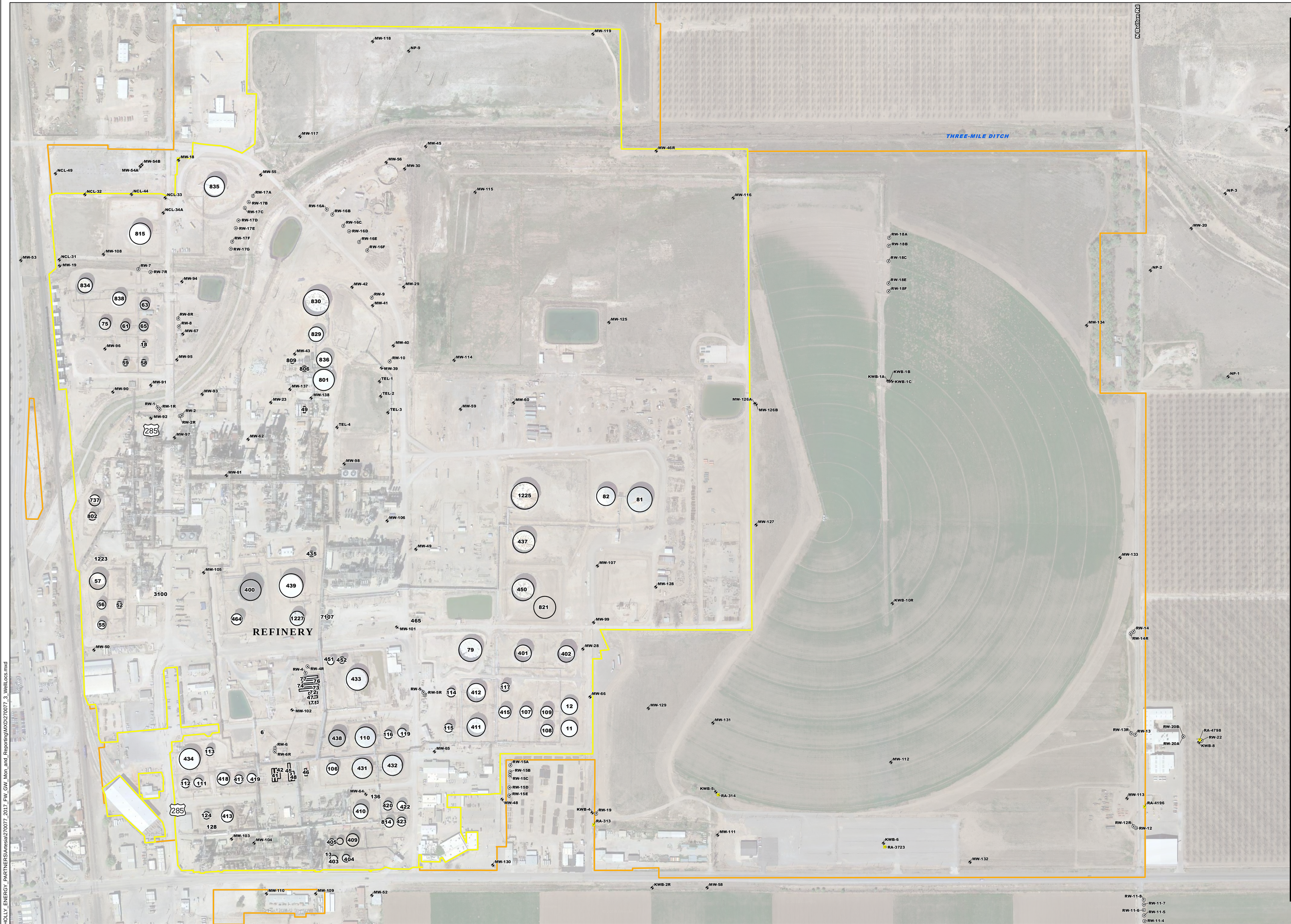
AUTHOR: MREEVES	SAVED: 2/27/2018	MXD: 270077_2

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FIGURE 2

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

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Tank Number	Location in Relation to AOCs & SWMUs	Diameter (ft)	Height / Length (ft)	Capacity (bbls)	Date Constructed	Contents
6	RW-6 between AOC 3 & AOC 4					Out of Service
11	AOC 3	89	29	31,500	B. 1983	Reformate
12	AOC 3	89	29	31,500	B. 1983	Reformate
13	AOC 8	10	20	250	1990	Slop
18	SWMU 17	29	24	2,250	B. 1979	Out of Service
40	Between AOC 3 & AOC 4	9	72	730	B. 1973	Spent Caustic
41	Between AOC 3 & AOC 4	9	72	730	B. 1973	Spent Caustic
42	Between AOC 3 & AOC 4	9	67	700		Wild Naphtha
45	Between AOC 3 & AOC4	11	90	1,400		Butane
46	Between AOC 3 & AOC 4	12	47	920		Isobutane
47	West of AOC 3	11	36	700		Out of Service
48	Between AOC 3 & AOC 4	11	36	700		Butane
52	AOC 7					Out of Service
55	AOC 7	45	36	10,800	RBLT 1979	Stripped Sour Water
56	AOC 7	48	36	10,800	B. 1976	Sweet Naphtha
57	AOC 7	90	49	55,000	1981	Benfree Unit Feed
58	SWMU 17	35	30	4,700	B. 1979	Out of Service
59	SWMU 17	35	30	4,700	B. 1979	Light Cycle Oil
61	SWMU 17	50	30	9,700	B. 1987	Light Cycle Oil
63	SWMU 17	51	30	10,000	B. 1987	Carbon Black Oil
65	SWMU 17	50	30	10,380	1999	Carbon Black Oil
71	West of AOC 3	10.5	44	714		Propane
72	West of AOC 3	10.5	44	714		Propane
73	West of AOC 3	10	103	1,525		Propane
74	West of AOC	3	10	103	1,525	Propane
75	SWMU 17	65	32	18,900	2003	Carbon Black Oil
76	West of AOC 3	11	79			Propane
77	West of AOC 3	11	79			Propane
79	AOC 3	125	40	70,000	2008	Reformate
81	AOC 6	108.5	40	60,000	2009	PG Asphalt
82	AOC 6	140	40	100,000	2009	PG Asphalt
106	AOC 3	67	40	22,500	B. 1971	Sour Water
107	AOC 3	67	40	22,500	B. 1971	Isomerate
108	AOC 3	67	40	22,500	1951	Alkylate
109	AOC 3	67	40	22,500	B. 1971	Alkylate
110	AOC 3	108	35	54,000	1929	Asphalt
111	AOC 4	49	30	9,100	B. 1981	Gasoline
112	AOC 4	49	30	9,100	B. 1981	Splitter Bottoms
113	AOC 4	48		10,300		Out of Service
114	AOC 3	38		5,100		N-Butane
115	AOC 3	51		12,300		N-Butane
116	AOC 3	48				Isobutane
117	AOC 3	48	48	15,470	1960	Splitter Bottoms
119	AOC 3	51		12,300		Isobutane
124	AOC 4	40	30	6,700	1955	Gasoline
400	AOC 5	120	48	96,786	1983	Gas Oil
401	AOC 3	90	50	55,000	1982	Benfree Product
402	AOC 3	90	50	55,000	1983	Light Cat Naphtha
403	AOC 8	45	36	8,250		Out of Service
404	AOC 8	45	36	8,250		Out of Service
405	AOC 8	37	28	4,575		Out of Service
406	AOC 8	38	28	5,400		Out of Service
409	AOC 8	67	40	21,450		Out of Service
410	AOC 8	79	40	30,850	B. 1973	Asphalt
411	AOC 3	100	40	52,000	1951	Isomerate
412	AOC 3	100	40	52,000	1951	Gasoline Blend
413	AOC 4	67	39	22,500	about 1960	Raw Kerosene
415	AOC 3	67	40	25,000	1953	Alkylate
417	AOC 4	50	30	9,300	B. 1981	Gasoline
418	AOC 4	67	33	25,000	B. 1987	Raw Kerosene
419	AOC 4	53	28	10,300	B. 1981	Diesel
420	AOC 8	50	30	8,200	B. 1989	Asphalt
422	AOC 8	50	30	8,200	B. 1973	Light Cycle Oil
423	AOC 8	50	30	8,200	B. 1970	Light Cycle Oil
431	AOC 3	109	32	45,800	B. 1984	Fuel Oil
432	AOC 3	109	32	45,800	B. 1973	Fuel Oil
433	AOC 3	117	42	72,500	B. 1984	Gas Oil
434	AOC 4	117	42	7,600	1979	Raw Diesel
435	AOC 5	30	40	5,000	Reloc. 1997	Sour Water
437	AOC 6	120	45	80,000	1976/2009	Crude Oil
438	AOC 3	90	48	54,500	1978	Gas Oil
439	AOC 5	130	46	107,900	1978	Sour Naphtha
450	AOC 3	120	40	80,570	1997	Sour Naphtha
451	AOC 3	35	40	6,800	2015	Biodiesel
452	AOC 3	35	40	6,800	2015	Ethanol
464	AOC 5	60	40	20,000	2016	RO Permeate
465	North of AOC 3					Fresh Water
737	AOC 7	63	40	20,000	2009	Sour Water
801	AOC 9	110	32	54,000	1987	Wastewater
802	AOC 7	45	40	10,000	2002	Sour Water
806	AOC 11	30	7	800		Separator (OOS)
809	West of AOC 11	20	16	850	1954	Treated Wastewater
814	AOC 8	50	32	10,000	2005	Pitch
821	AOC 3	105	40	65,000	2016	Light Cat Naphtha
815	SWMU 6	116	43	90,000	2005	ULSD
829	North of AOC 9	105	40	30,500	2015	Wastewater
830	North of AOC 9	150	40	100,000	2011	Stormwater (slop)
834	AOC 1	85	40	40,000	1967	Diesel
835	Northeast of SWMU 6	111	40	68,000		Diesel
836	AOC 9	82.5	32	30,460	1998	Wastewater
838	AOC 1	74	40	29,900		Diesel
1223	AOC 7	25	24	2,000	2002	Caustic
1225	AOC 6	150	40	100,000	2009	Crude Oil
1227	AOC 5	77	40	30,000	2009	Pitch
7107	East of AOC 5	25	40	3,300	2015	Treated Wastewater

TANK TABLE NOTES:
AOC = AREA OF CONCERN
SWMU = SOLID WASTE MANAGEMENT UNIT
ft = FEET
bbls = BARRELS
B. = BEFORE DATE SHOWN, ACTUAL DATE UNKNOWN
RBLT = REBUILT DATE SHOWN
RO = REVERSE OSMOSIS
OOS = OUT OF SERVICE
ULSD = ULTRA-LOW-SULFUR-DIESEL

LEGEND

- IRRIGATION WELL
- MONITORING WELL
- RECOVERY WELL
- FENCELINE
- NAVAJO PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)
- TANK

N W E S

0 250 500
Feet

1 IN = 250 FT

NEW MEXICO

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

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WELL LOCATIONS AND TANK INFORMATION WITHIN REFINERY

2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

AUTHOR: MREEVES	SAVED: 2/27/2018	MXD: 270077_3_WellLocs

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FIGURE 3



LEGEND

- MONITORING WELL
- RECOVERY WELL
- SHALLOW SATURATED ZONE POTENTIOMETRIC SURFACE CONTOURS (FEET ABOVE MEAN SEA LEVEL)
- GROUNDWATER FLOW DIRECTION
- FENCELINE
- 3351.83 GROUNDWATER ELEVATION (FEET)

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NOTE:
1. GROUNDWATER ELEVATION COULD NOT BE MEASURED IN RECOVERY WELL BECAUSE TOP OF RECOVERY PUMP WAS ABOVE GROUNDWATER.
2. GROUNDWATER ELEVATION NOT USED IN POTENTIOMETRIC SURFACE CONTOURING.



SHALLOW SATURATED ZONE POTENTIOMETRIC SURFACE MAP 2017 FIRST SEMIANNUAL EVENT

2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
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AUTHOR: MREEVES	SAVED: 2/27/2018	MXD: 270077_4_ShallowPot_Spring

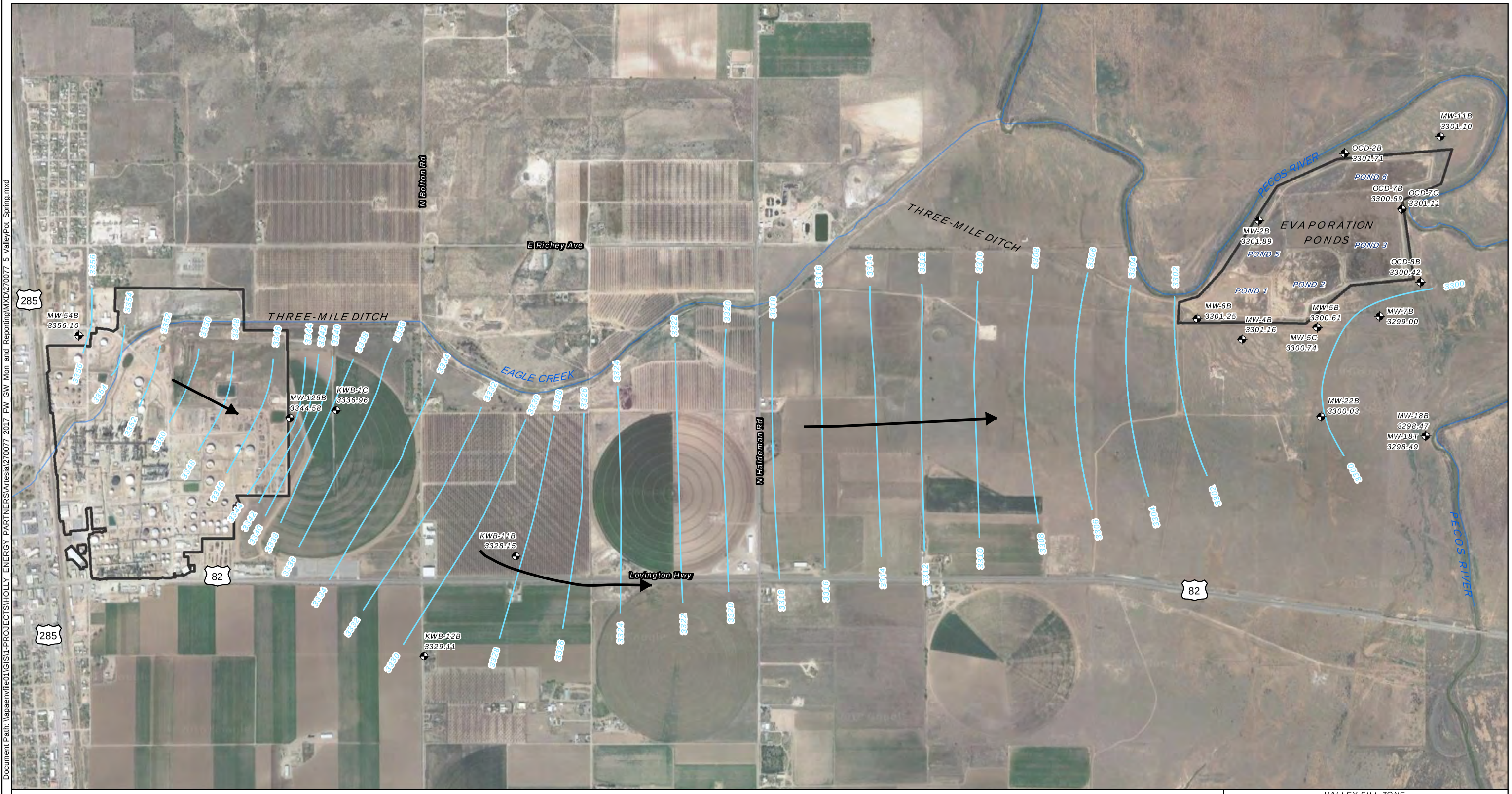
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FIGURE 4

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

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LEGEND

- MONITORING WELL
- FENCELINE
- VALLEY FILL ZONE POTENTIOMETRIC SURFACE CONTOURS (FEET ABOVE MEAN SEA LEVEL)
- GROUNDWATER FLOW DIRECTION
- 3301.10 GROUNDWATER ELEVATION (FEET)

N W E S

0 1,500 3,000

Feet

1 inch = 1,500 feet



AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS, 2017.

VALLEY FILL ZONE
POTENTIOMETRIC SURFACE MAP
2017 FIRST SEMIANNUAL EVENT

2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

AUTHOR: MREEVES	SAVED: 2/27/2018	MXD: 270077_5_ValleyPot_Spring

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FIGURE 5



LEGEND

- MONITORING WELL
- RECOVERY WELL
- SHALLOW SATURATED ZONE POTENTIOMETRIC SURFACE CONTOURS (FEET ABOVE MEAN SEA LEVEL)
- GROUNDWATER FLOW DIRECTION
- FENCELINE
- 3344.47 GROUNDWATER ELEVATION (FEET)

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NOTE:
1. WELL NOT GAUGED IN ACCORDANCE WITH WORK PLAN.
2. GROUNDWATER ELEVATION NOT USED IN POTENTIOMETRIC SURFACE CONTOURING.

NEW MEXICO

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

SHALLOW SATURATED ZONE POTENTIOMETRIC SURFACE MAP 2017 SECOND SEMIANNUAL EVENT

2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

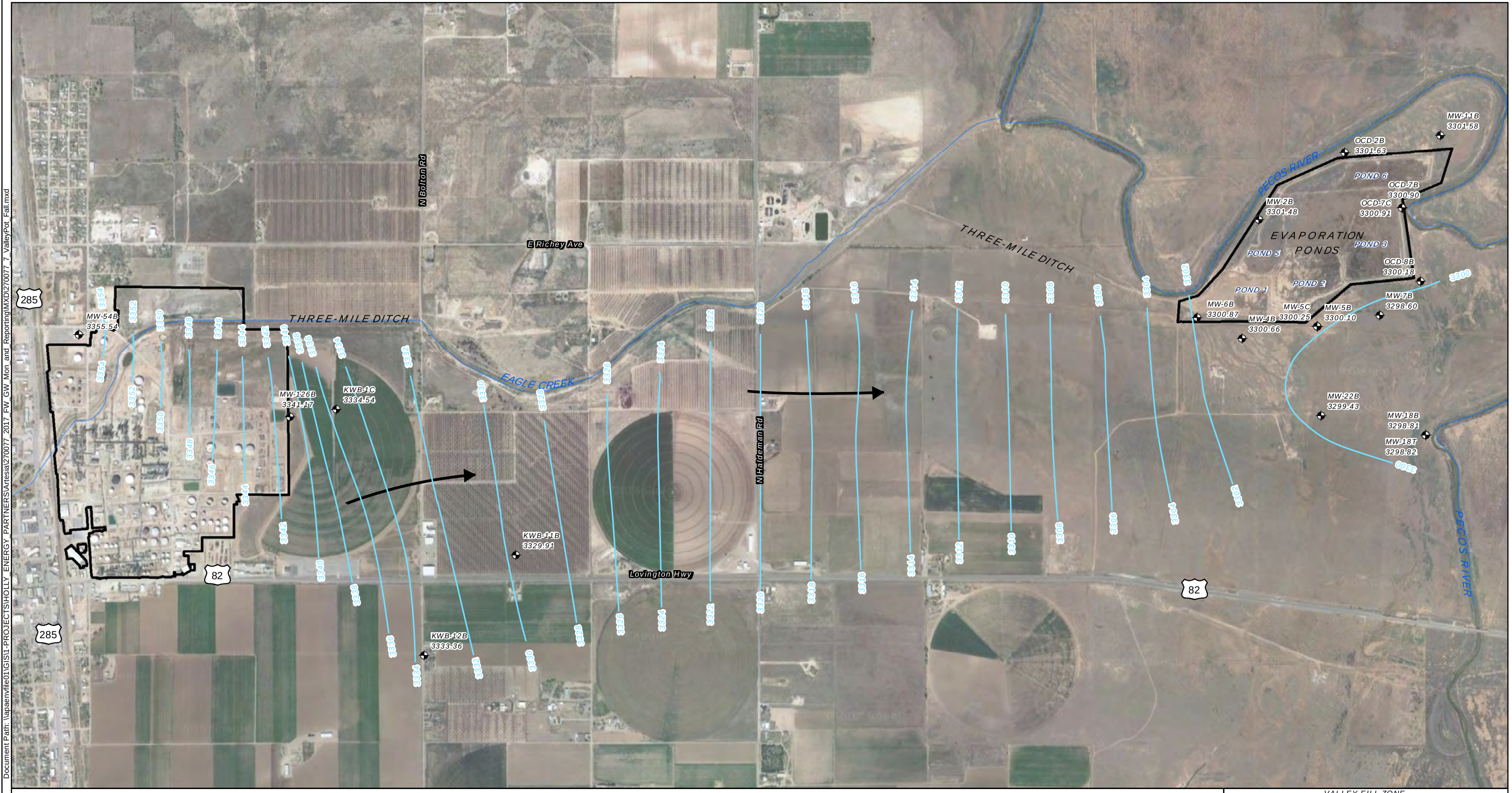
AUTHOR: MRIEEVES	SAVED: 2/27/2018	MXD: 270077_6_ShallowPot_Fall

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FIGURE 6

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LEGEND

- MONITORING WELL
- FENCELINE
- VALLEY FILL ZONE POTENTIOMETRIC SURFACE CONTOURS (FEET ABOVE MEAN SEA LEVEL)
- GROUNDWATER FLOW DIRECTION
- 3301.48 GROUNDWATER ELEVATION (FEET)

N W E S

0 1,500 3,000

Feet

1 inch = 1,500 feet



AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS, 2017.

VALLEY FILL ZONE
POTENTIOMETRIC SURFACE MAP
2017 SECOND SEMIANNUAL EVENT

2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
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FIGURE 7



LEGEND

- RECOVERY WELL
- MONITORING WELL
- IRRIGATION WELL
- FENCELINE

WELLS WITH PSH

- MONITORING WELL
- RECOVERY WELL

PSH THICKNESS IN

- 0.01 - 2.45 FEET
- RW-22 2.45 — PSH THICKNESS
- RW-15A — WELL NOT GAUGED

NOTE:

1. ALL PHASE-SEPARATED HYDROCARBON (PSH) THICKNESSES PROVIDED IN FEET.

2. PSH PRESENT, BUT TOTAL PSH THICKNESS IN RECOVERY WELLS RW-20A AND RW-20B COULD NOT BE MEASURED BECAUSE GROUNDWATER ELEVATION BELOW TOP OF RECOVERY PUMP.

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NEW MEXICO

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

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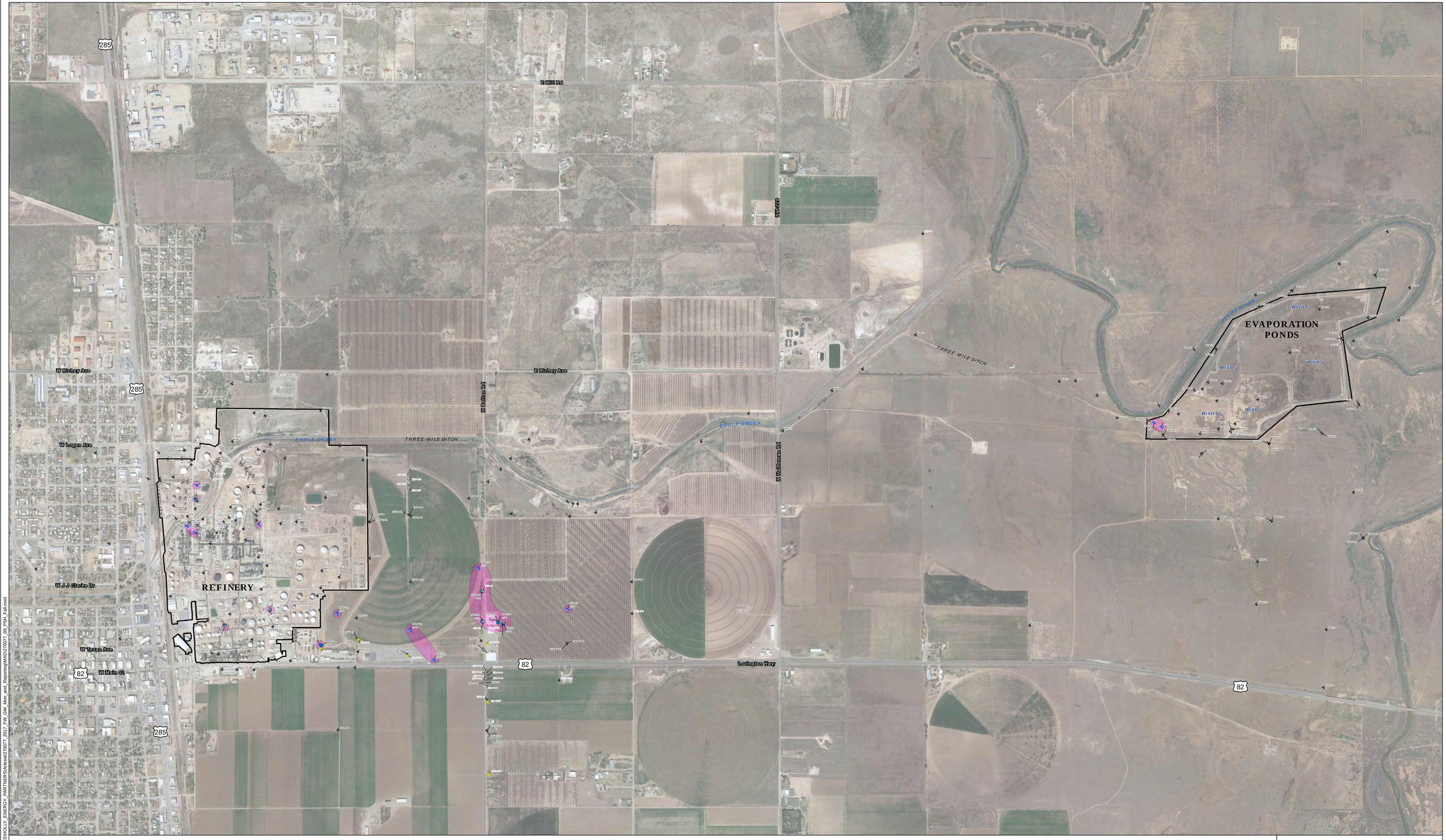
PHASE-SEPARATED HYDROCARBON THICKNESS MAP 2017 FIRST SEMIANNUAL EVENT

2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

AUTHOR: MREEVES	SAVED: 2/27/2018	MXD: 270077_08_PSH_Spring

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FIGURE 8



LEGEND

- RECOVERY WELL
- MONITORING WELL
- IRRIGATION WELL
- FENCELINE

WELLS WITH PSH

- MONITORING WELL
- RECOVERY WELL

PSH THICKNESS IN FEET

- 0.01 - 1.25 FEET
- RW-22 0.43 — PSH THICKNESS
- RW-15A — WELL NOT GAUGED

NOTE:

1. ALL PHASE-SEPARATED HYDROCARBON (PSH) THICKNESSES PROVIDED IN FEET.

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NEW MEXICO

PHASE-SEPARATED HYDROCARBON THICKNESS MAP 2017 SECOND SEMIANNUAL EVENT

2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

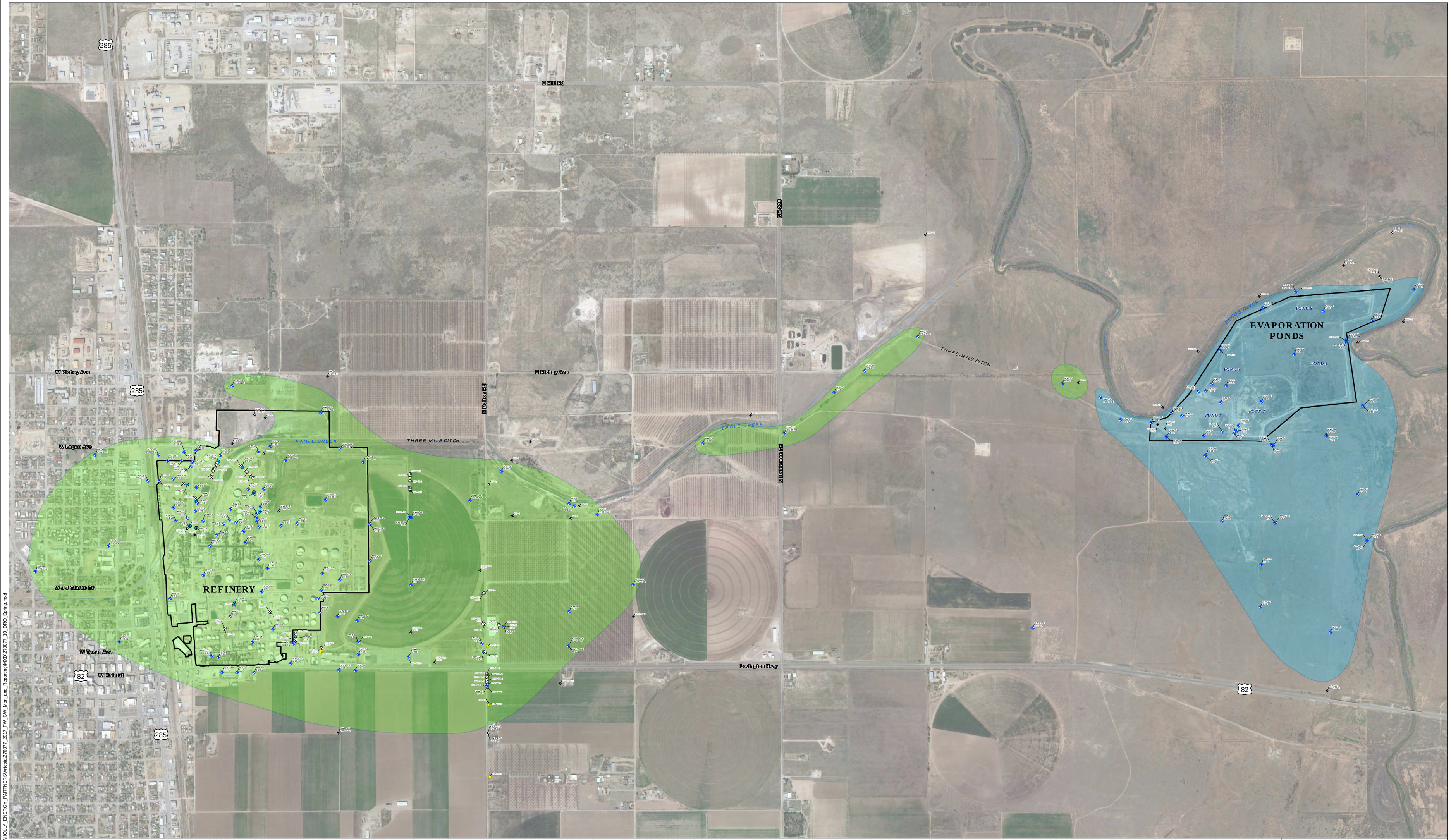
AUTHOR: MREEVES	SAVED: 2/27/2018	MXD: 270077_09_PSH_Fall

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FIGURE 9

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

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LEGEND

- MONITORING WELL EXCEEDS SCREENING LEVELS
- MONITORING WELL
- IRRIGATION WELL
- RECOVERY WELL EXCEEDS SCREENING LEVELS
- RECOVERY WELL
- 1.06 DRO CONCENTRATION
- MW-11A WELL NOT SAMPLED
- PSH PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (> 0.03 FEET THICK)
- DRO CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 0.0398 mg/L)
- DRO CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA, EVAPORATION PONDS (CONCENTRATION > 0.0473 mg/L)
- FENCELINE

NOTES:

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

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NEW MEXICO

DRO CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2017 FIRST SEMIANNUAL EVENT

2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

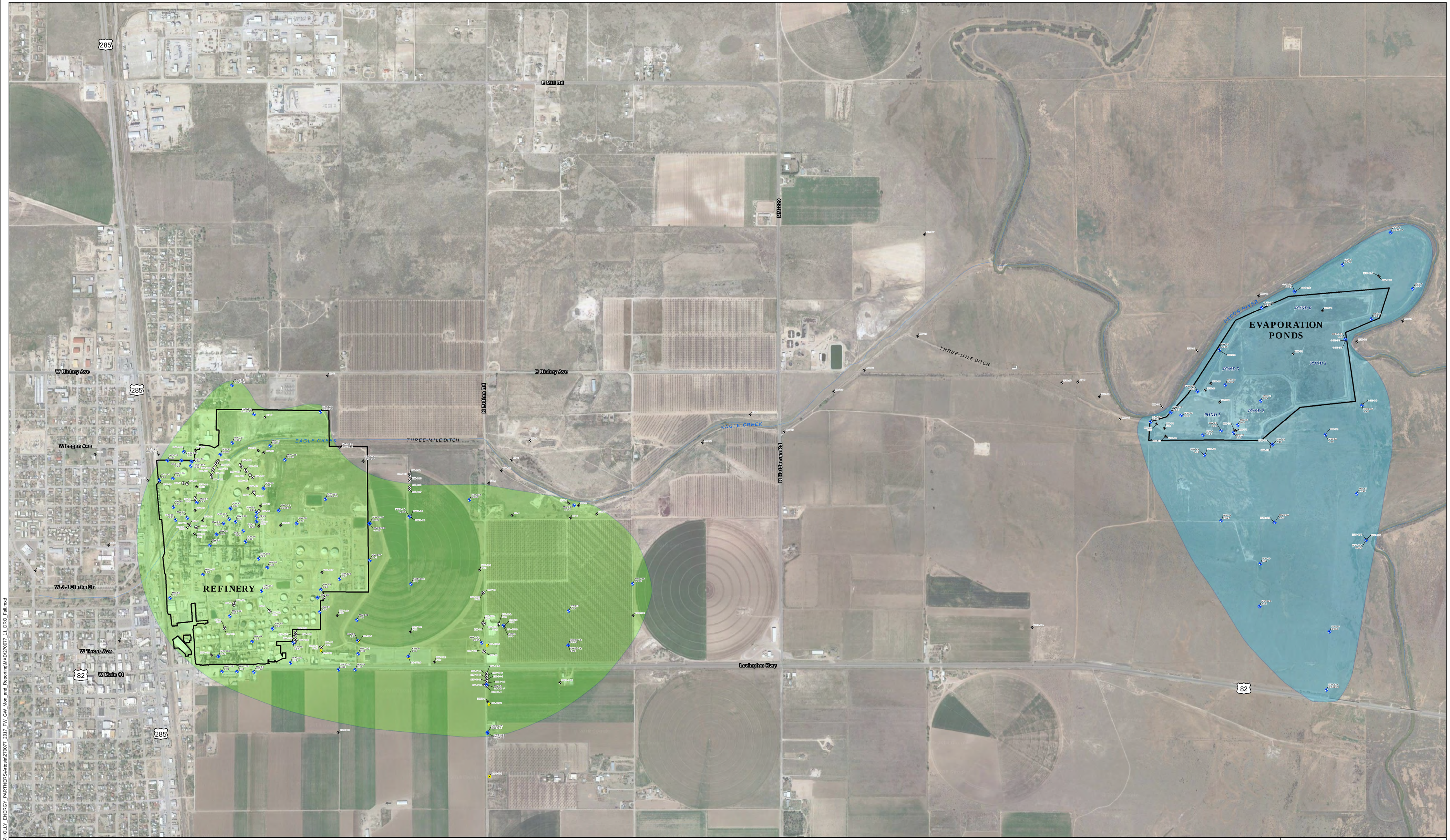
AUTHOR: MREEVES	SAVED: 2/27/2018	MXD: 270077_10_DRO_Spring

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FIGURE 10

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2016

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LEGEND

- MONITORING WELL EXCEEDS SCREENING LEVELS
- MONITORING WELL
- IRRIGATION WELL
- RECOVERY WELL
- 9.77 DRO CONCENTRATION
- MW-11A WELL NOT SAMPLED
- PSH PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (> 0.03 FEET THICK)
- DRO CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 0.0398 mg/L)
- DRO CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA, EVAPORATION PONDS (CONCENTRATION > 0.0473 mg/L)
- FENCELINE

NOTES:

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

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NEW MEXICO

DRO CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2017 SECOND SEMIANNUAL EVENT

2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

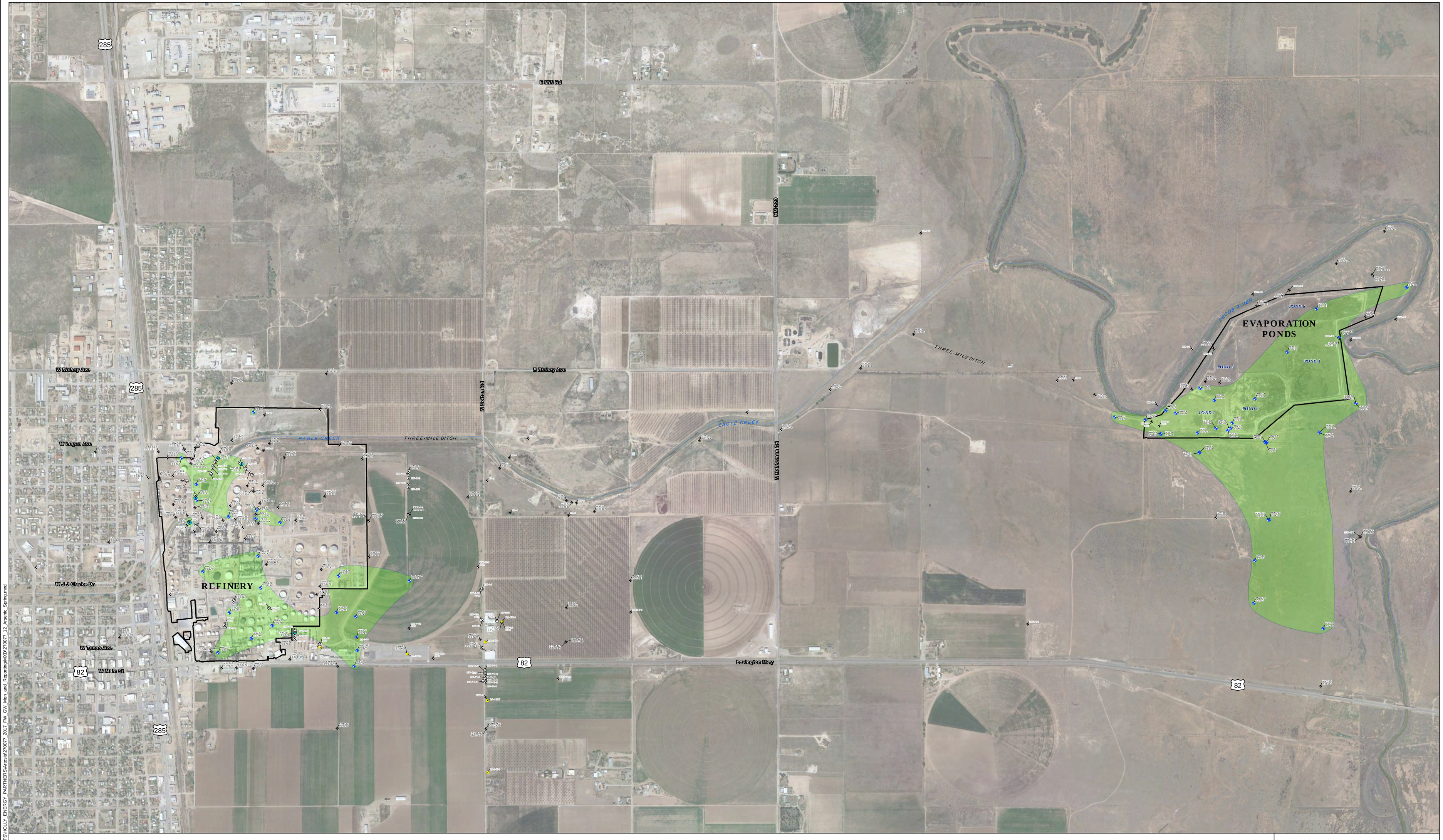
AUTHOR: MREEVES	SAVED: 2/27/2018	MXD: 270077_11_DRO_Fall

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FIGURE 11

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2016

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LEGEND

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

- 0.0798 ARSENIC CONCENTRATION
- MW-69 WELL NOT SAMPLED
- PSH PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (>0.03 FEET THICK)
- ARSENIC CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 0.01 mg/L)
- FENCELINE

NOTES:

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

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NEW MEXICO

ARSENIC CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2017 FIRST SEMIANNUAL EVENT

2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

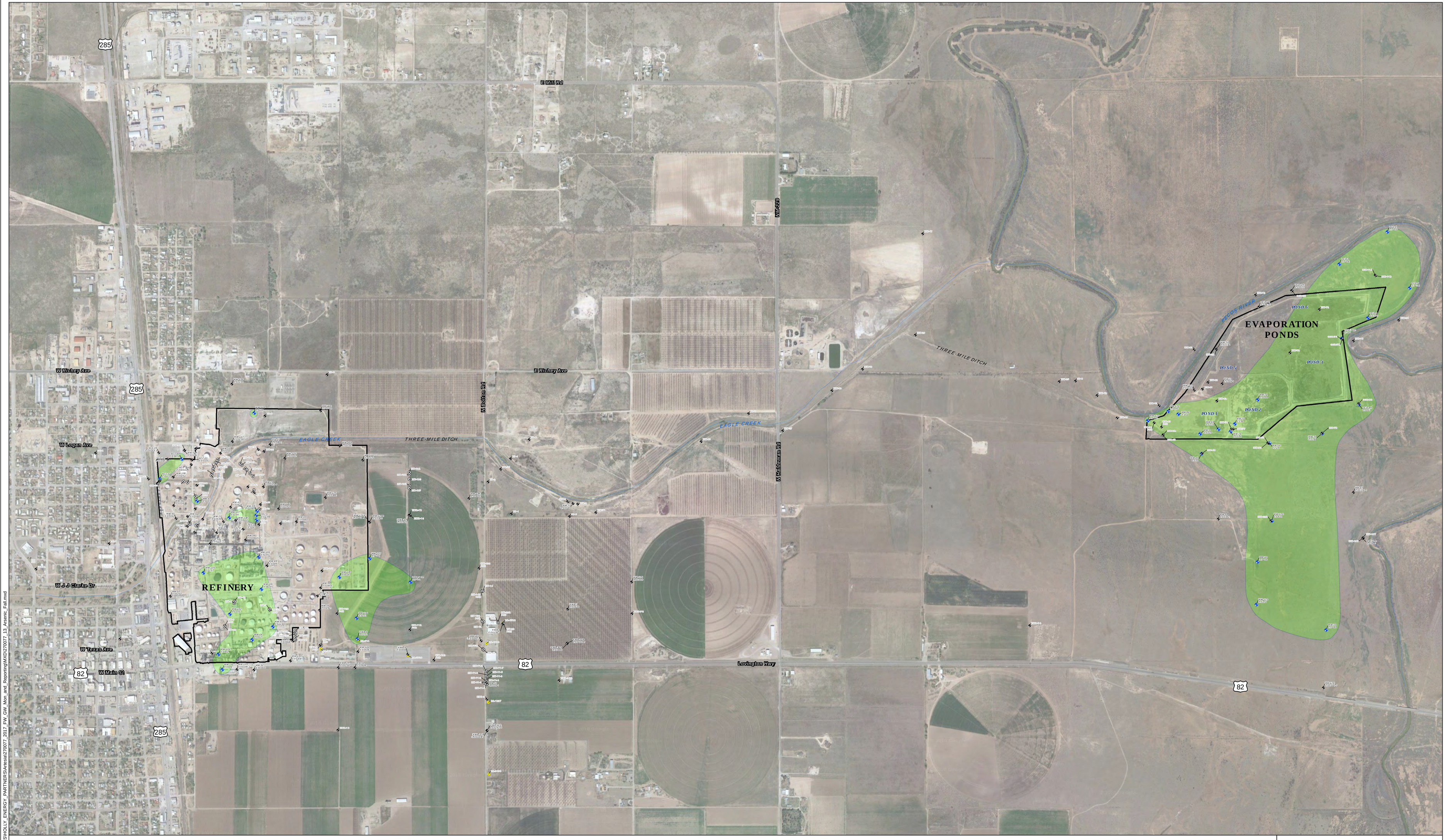
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FIGURE 12

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

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LEGEND

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

- 0.0520 ARSENIC CONCENTRATION
- MW-69 WELL NOT SAMPLED
- PSH PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (> 0.03 FEET THICK)
- ARSENIC CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 0.01 mg/L)
- FENCELINE

NOTES:

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

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NEW MEXICO

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

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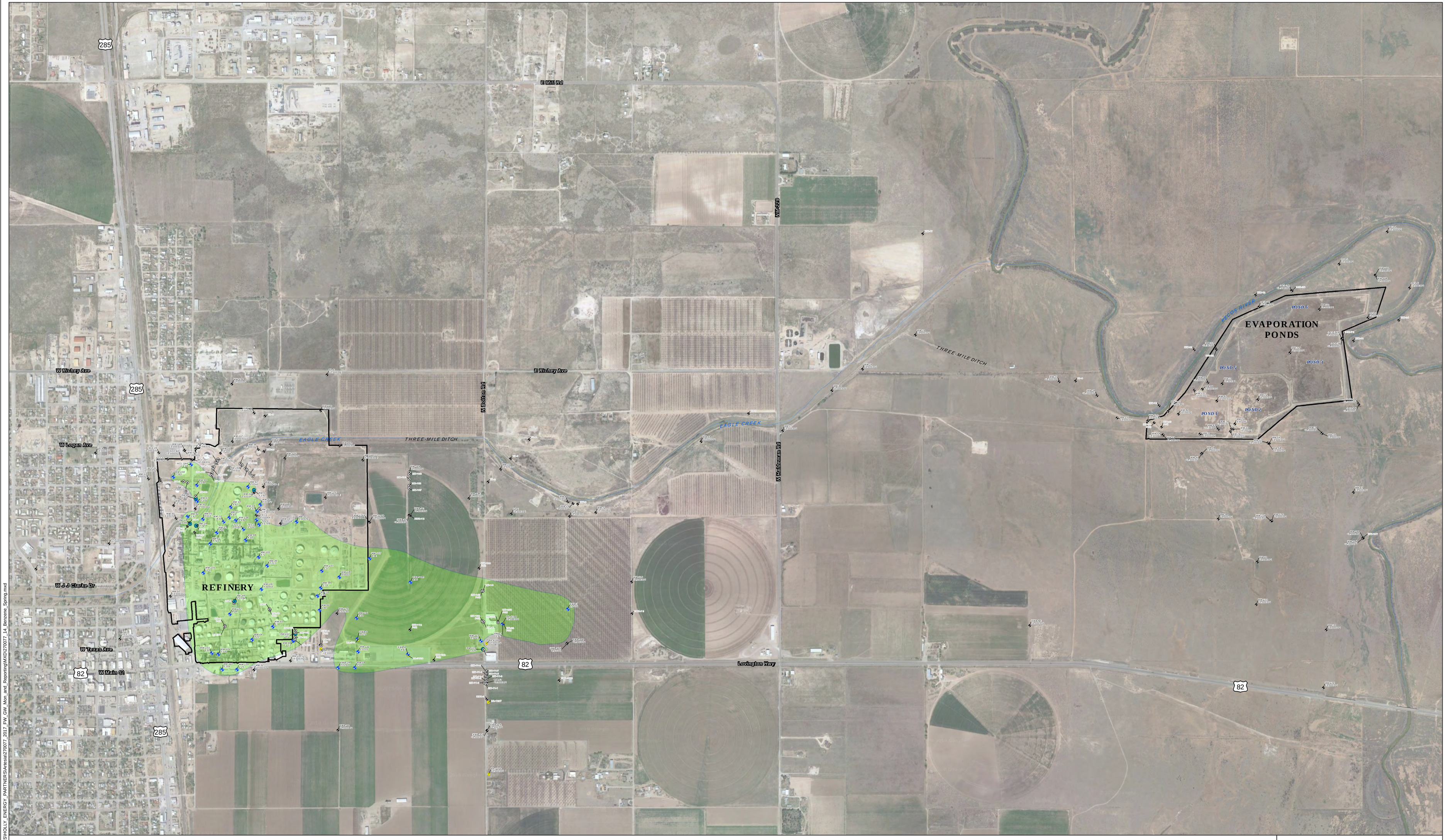
ARSENIC CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2017 SECOND SEMIANNUAL EVENT

2017 ANNUAL GROUNDWATER REPORT
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FIGURE 13



LEGEND

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

- 5.62 BENZENE CONCENTRATION
- <0.00331 BENZENE NOT DETECTED ABOVE METHOD DETECTION LIMIT
- MW-69 WELL NOT SAMPLED
- PSH PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (> 0.03 FEET THICK)
- BENZENE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 0.005 mg/L)
- FENCELINE

NOTES:

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

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NEW MEXICO

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

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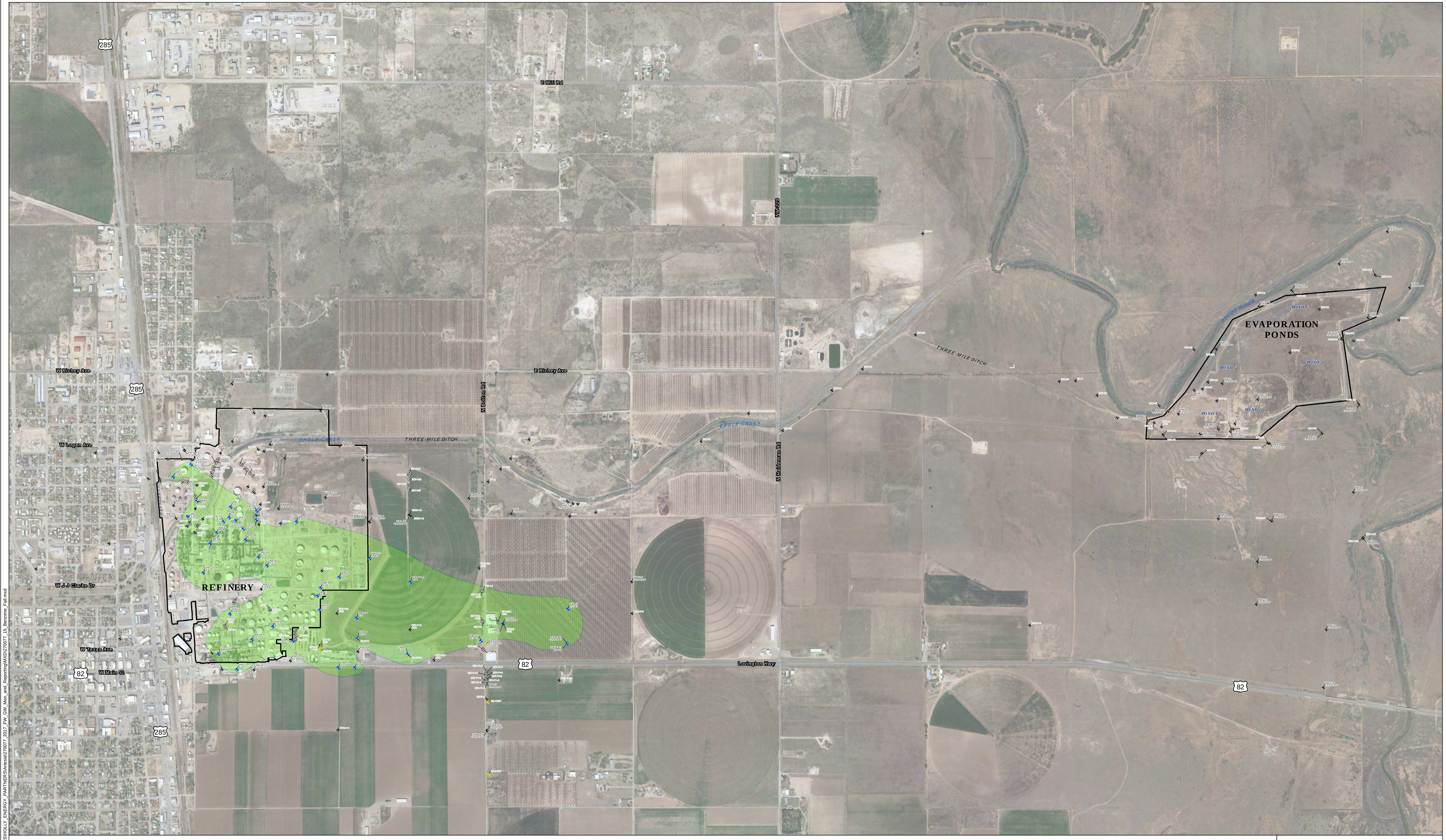
BENZENE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2017 FIRST SEMIANNUAL EVENT

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FIGURE 14



LEGEND

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

- 9.24 BENZENE CONCENTRATION
- <0.00331 BENZENE NOT DETECTED ABOVE METHOD DETECTION LIMIT
- MW-69 WELL NOT SAMPLED
- PSH PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (> 0.03 FEET THICK)
- BENZENE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 0.005 mg/L)
- FENCELINE

NOTES:

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

N W E S

0 750 1,500
Feet

1 IN = 750 FT

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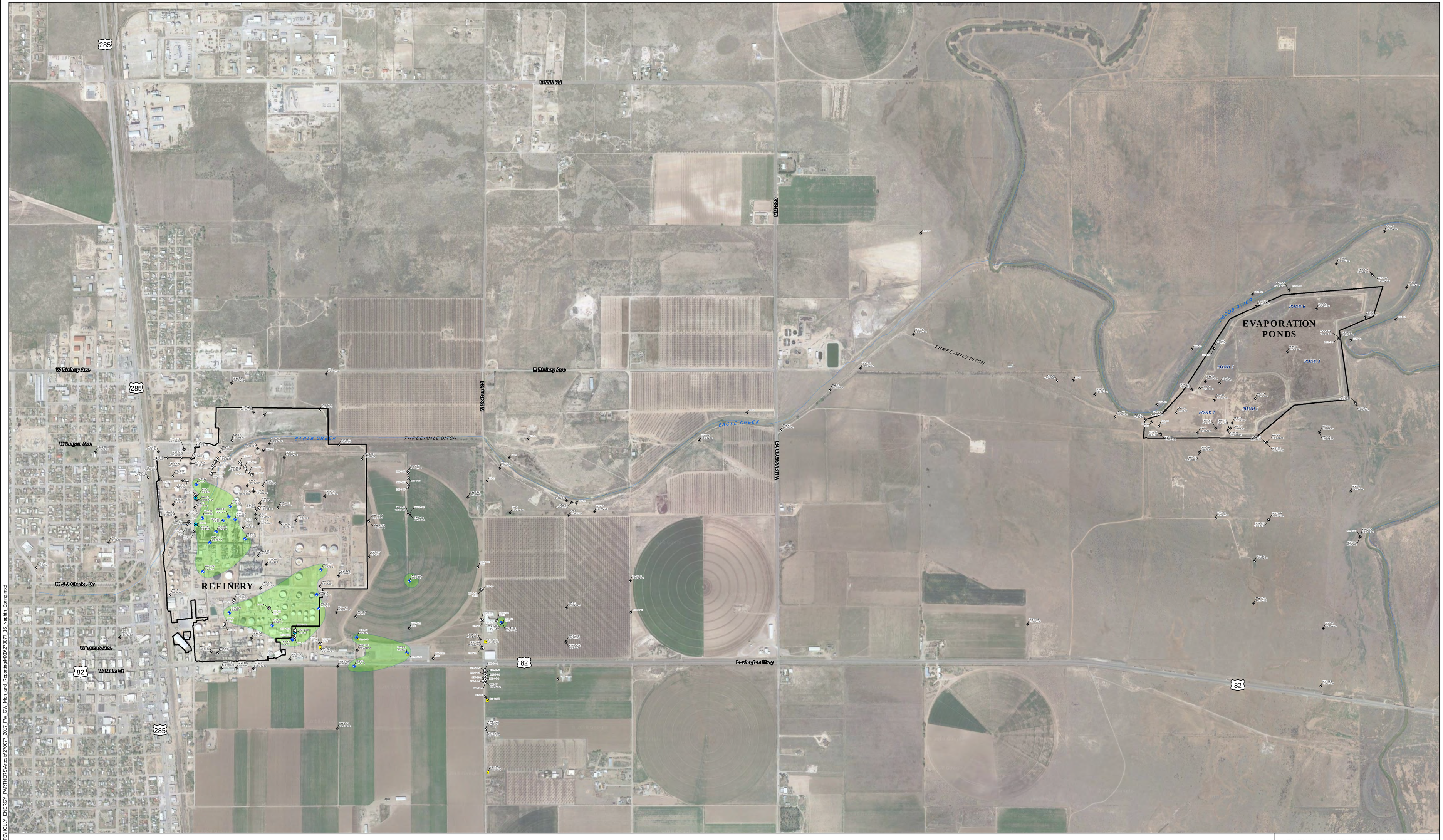
BENZENE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2017 SECOND SEMIANNUAL EVENT

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FIGURE 15



LEGEND

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

- 0.0668 NAPHTHALENE CONCENTRATION
- <0.00100 NAPHTHALENE NOT DETECTED ABOVE METHOD DETECTION LIMIT
- MW-69 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

NOTES:

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

N W E S

0 750 1,500
Feet

1 IN = 750 FT

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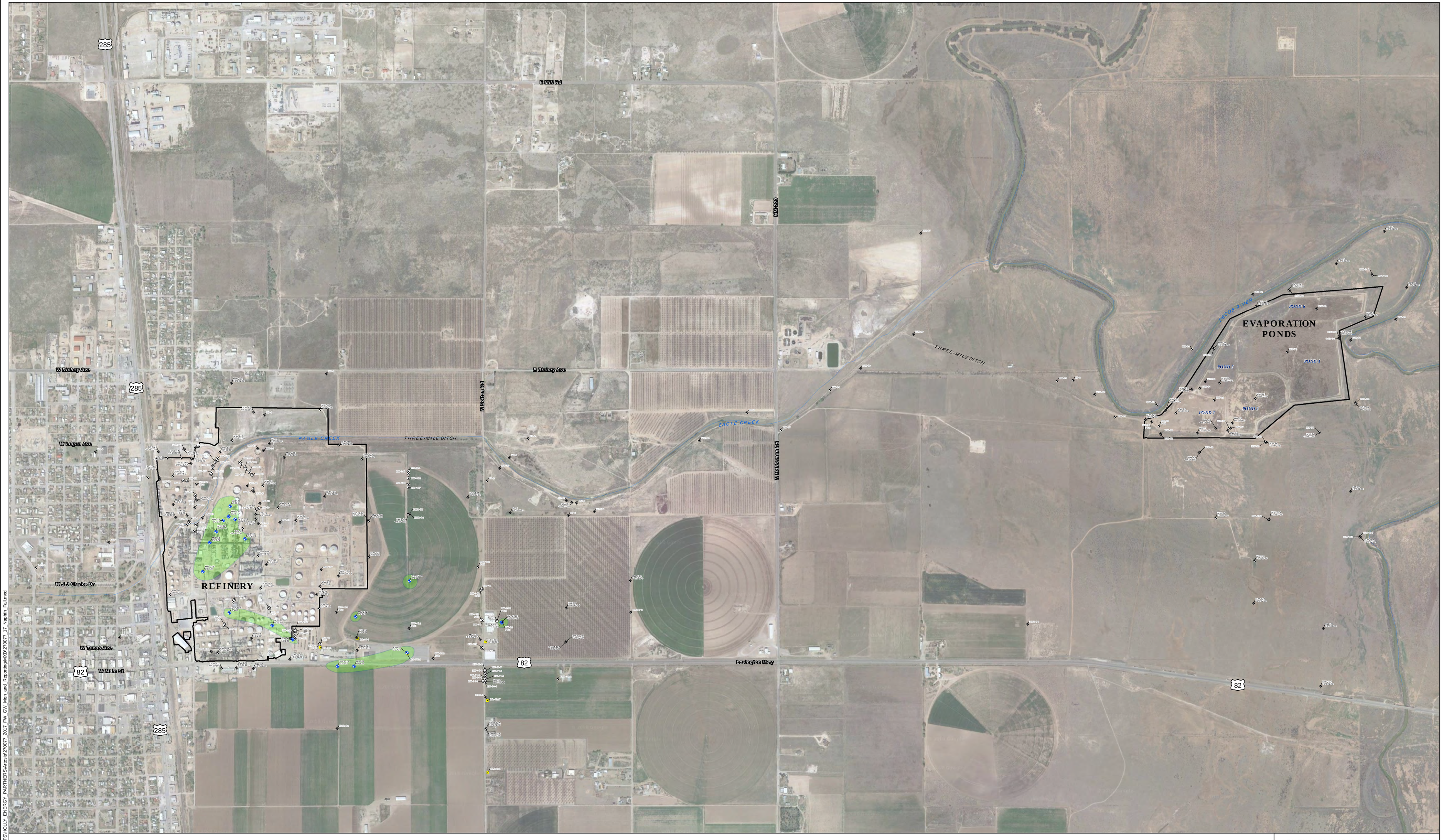
NAPHTHALENE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2017 FIRST SEMIANNUAL EVENT

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FIGURE 16



LEGEND

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

- 0.152 NAPHTHALENE CONCENTRATION
- < 0.00100 NAPHTHALENE NOT DETECTED ABOVE METHOD DETECTION LIMIT
- MW-69 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

NOTES:

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

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NEW MEXICO

NAPHTHALENE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2017 SECOND SEMIANNUAL EVENT

2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
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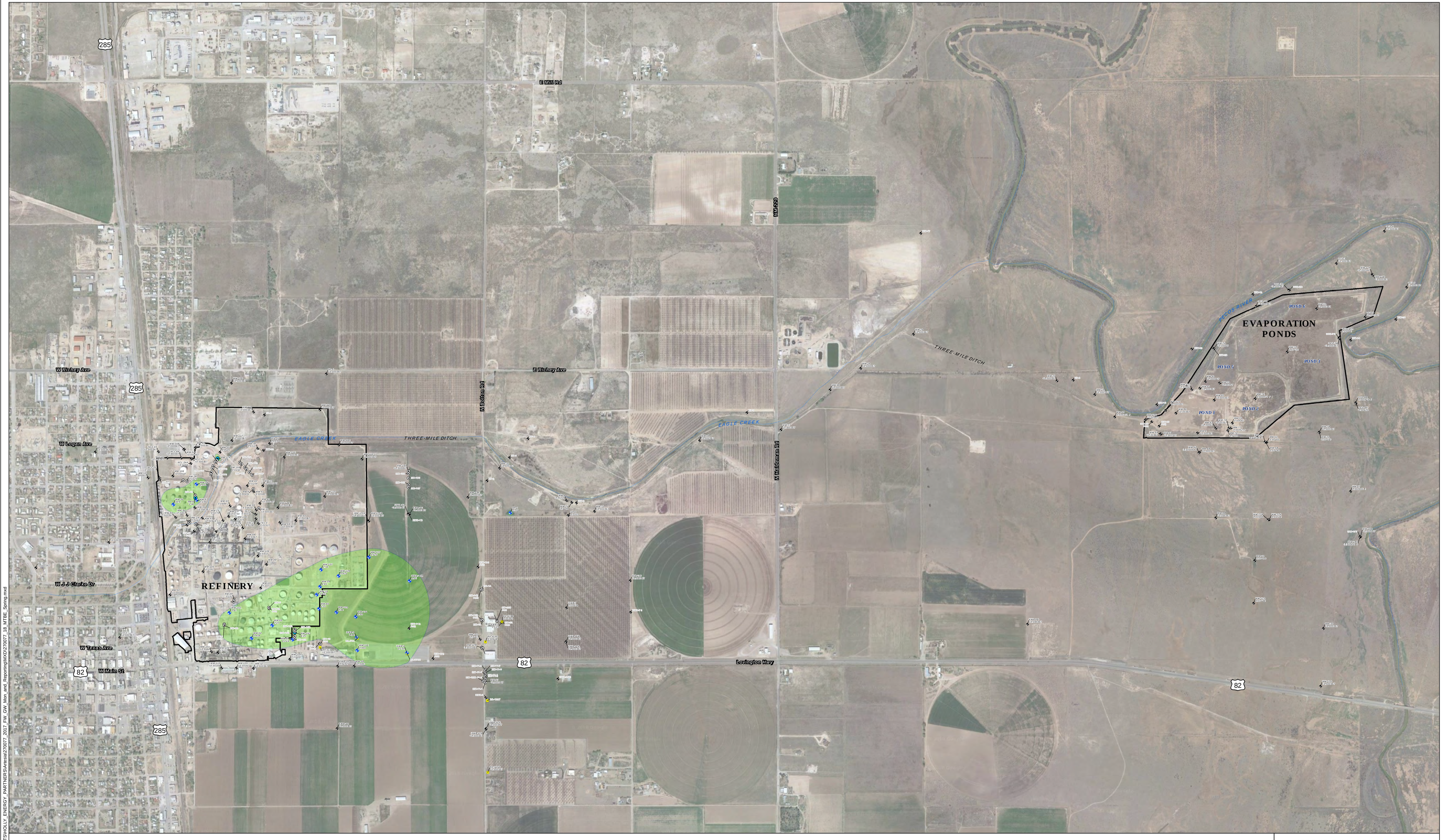
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FIGURE 17

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

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LEGEND

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

- 0.423 MTBE CONCENTRATION
- <0.000367 MTBE NOT DETECTED ABOVE METHOD DETECTION LIMIT
- MW-69 WELL NOT SAMPLED
- PSH PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (> 0.03 FEET THICK)
- MTBE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 0.143 mg/L)
- FENCELINE

NOTES:

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

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NEW MEXICO

MTBE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2017 FIRST SEMIANNUAL EVENT

2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

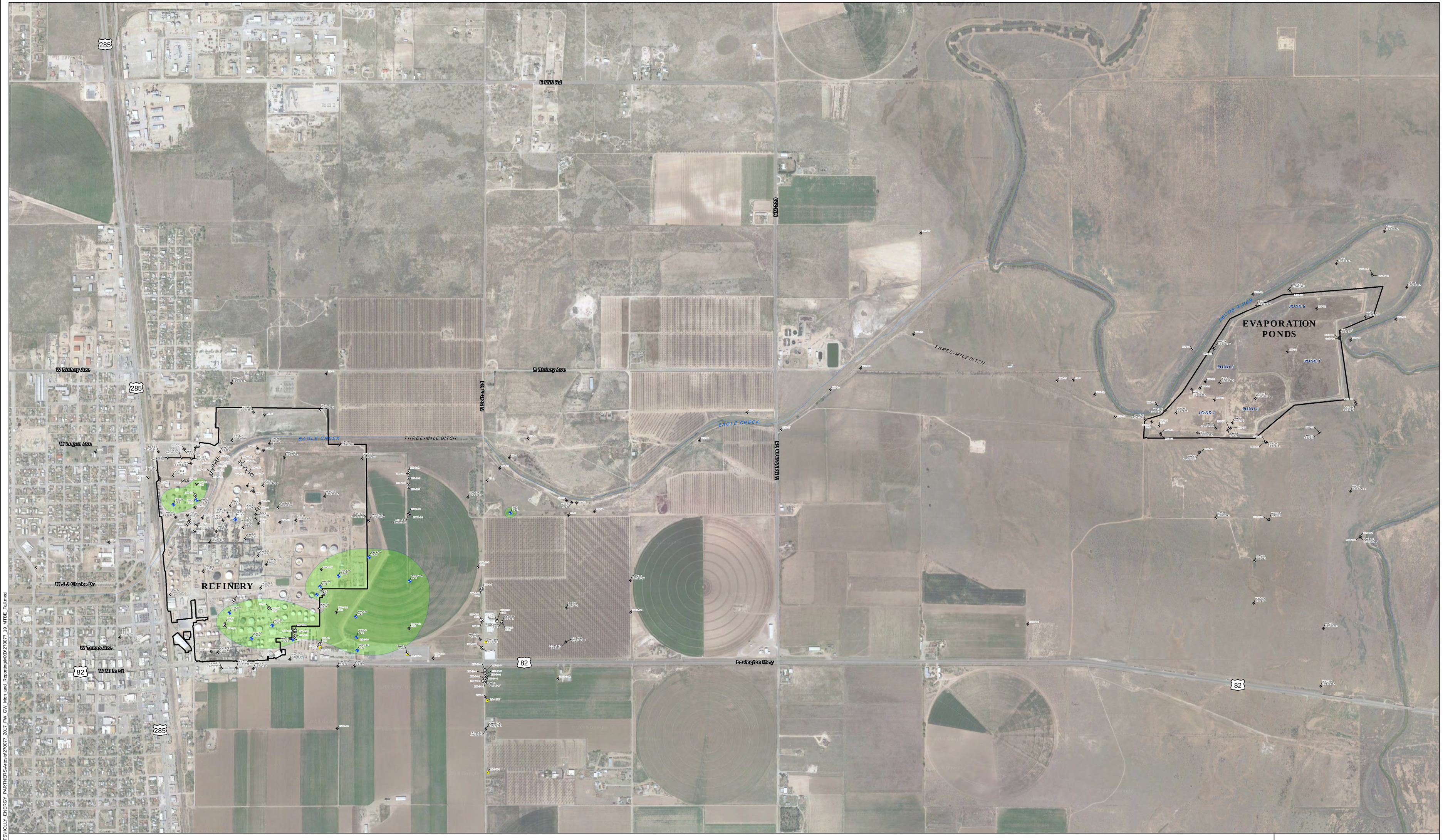
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FIGURE 18

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

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LEGEND

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

- 2.13 MTBE CONCENTRATION
- <0.0184 MTBE NOT DETECTED ABOVE METHOD DETECTION LIMIT
- MW-69 WELL NOT SAMPLED
- PSH PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (> 0.03 FEET THICK)
- MTBE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 0.143 mg/L)
- FENCELINE

NOTES:

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

N W E S

0 750 1,500
Feet

1 IN = 750 FT

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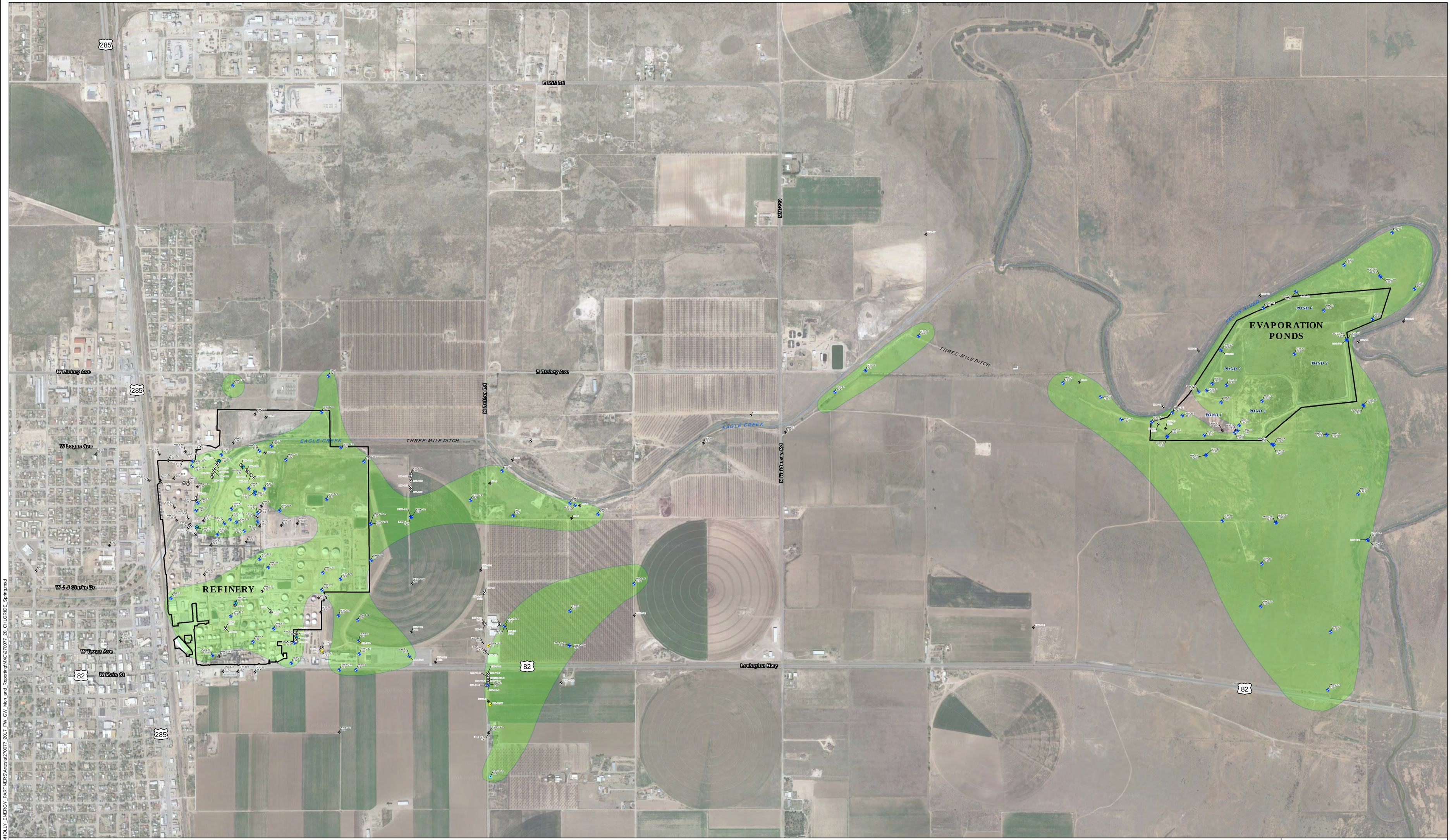
MTBE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2017 SECOND SEMIANNUAL EVENT

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FIGURE 19



LEGEND

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

456 CHLORIDE CONCENTRATION
MW-69 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

NOTES:

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

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NEW MEXICO

CHLORIDE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2017 FIRST SEMIANNUAL EVENT

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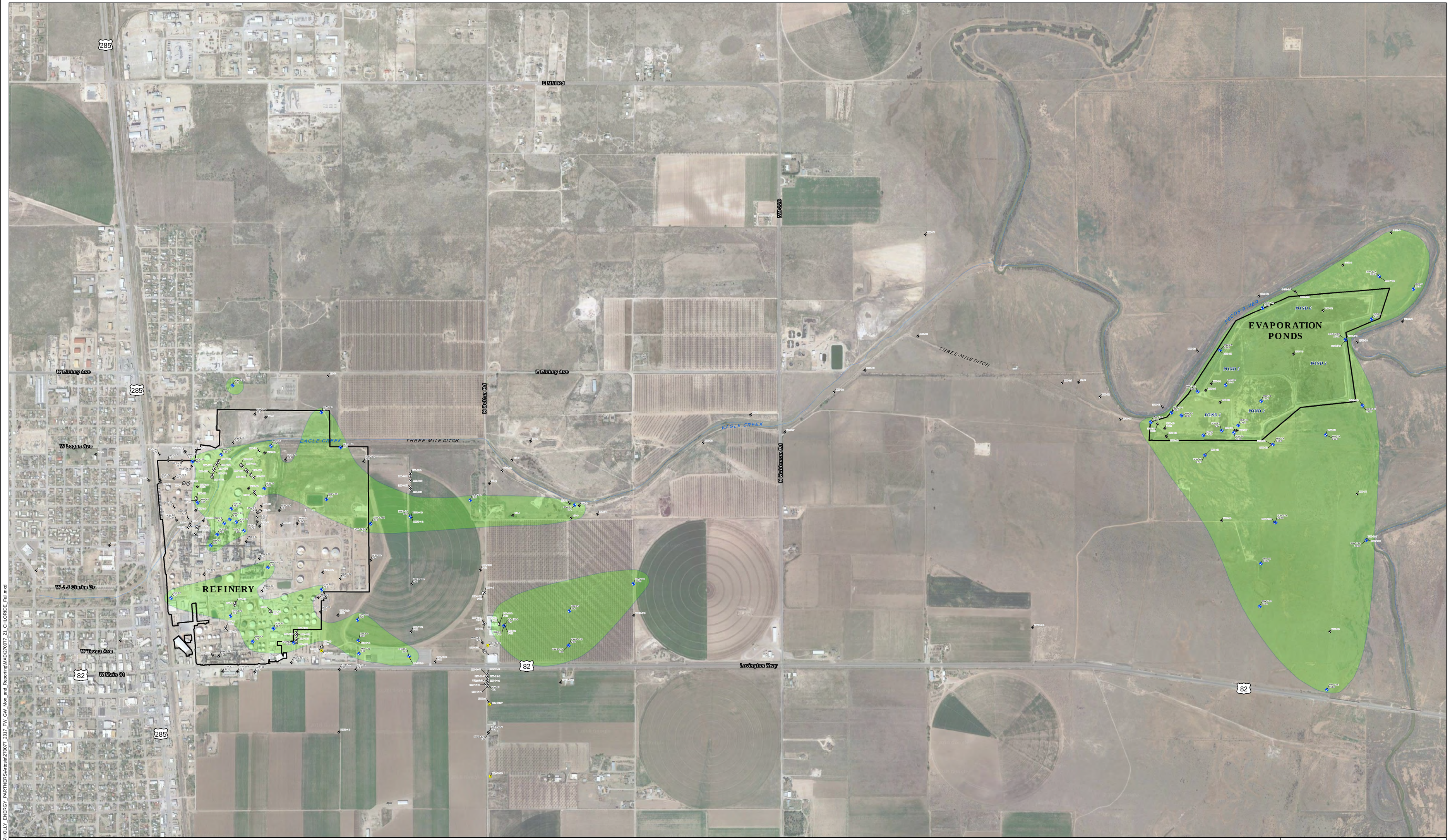
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FIGURE 20

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

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LEGEND

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

357 CHLORIDE CONCENTRATION

MW-69 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

NOTES:

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

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NEW MEXICO

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

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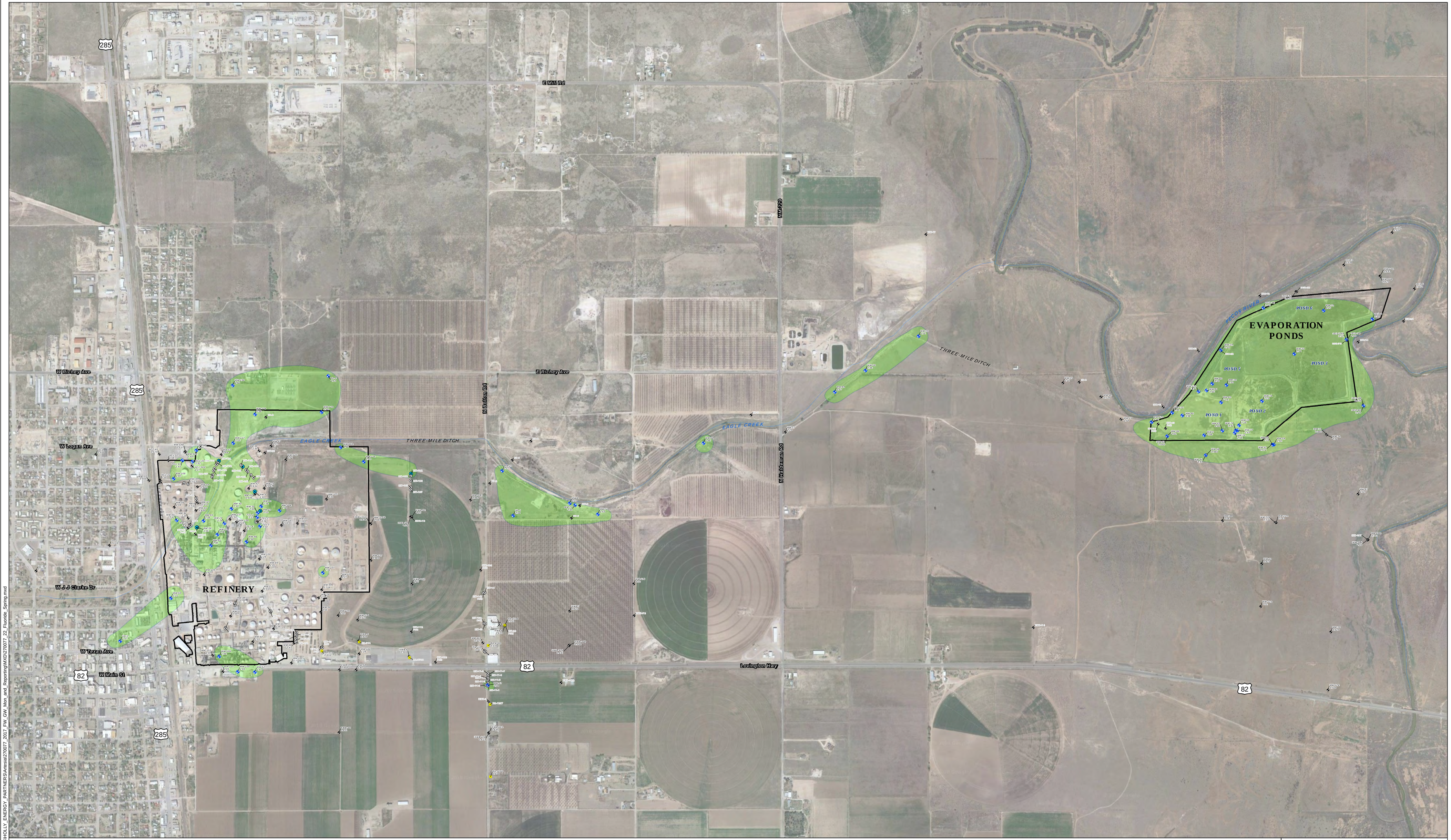
CHLORIDE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2017 SECOND SEMIANNUAL EVENT

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FIGURE 21



LEGEND

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

- 9.91 FLUORIDE CONCENTRATION
- MW-69 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

NOTES:

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

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NEW MEXICO

FLUORIDE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2017 FIRST SEMIANNUAL EVENT

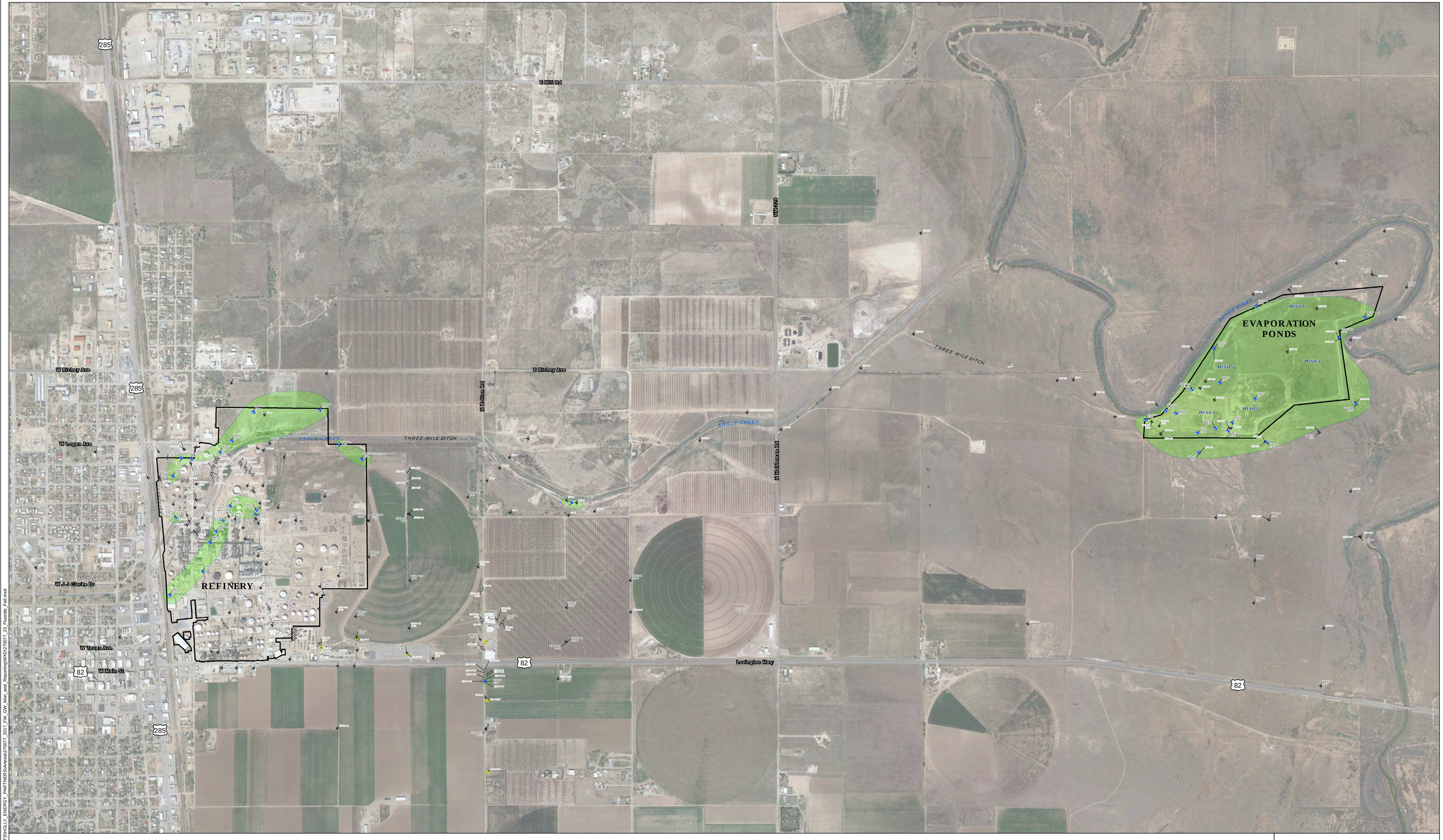
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FIGURE 22

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LEGEND

- MONITORING WELL EXCEEDS SCREENING LEVELS
- MONITORING WELL
- IRRIGATION WELL
- RECOVERY WELL
- 7.81 FLUORIDE CONCENTRATION
- MW-69 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

NOTES:

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

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NEW MEXICO

FLUORIDE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2017 SECOND SEMIANNUAL EVENT

2017 ANNUAL GROUNDWATER REPORT
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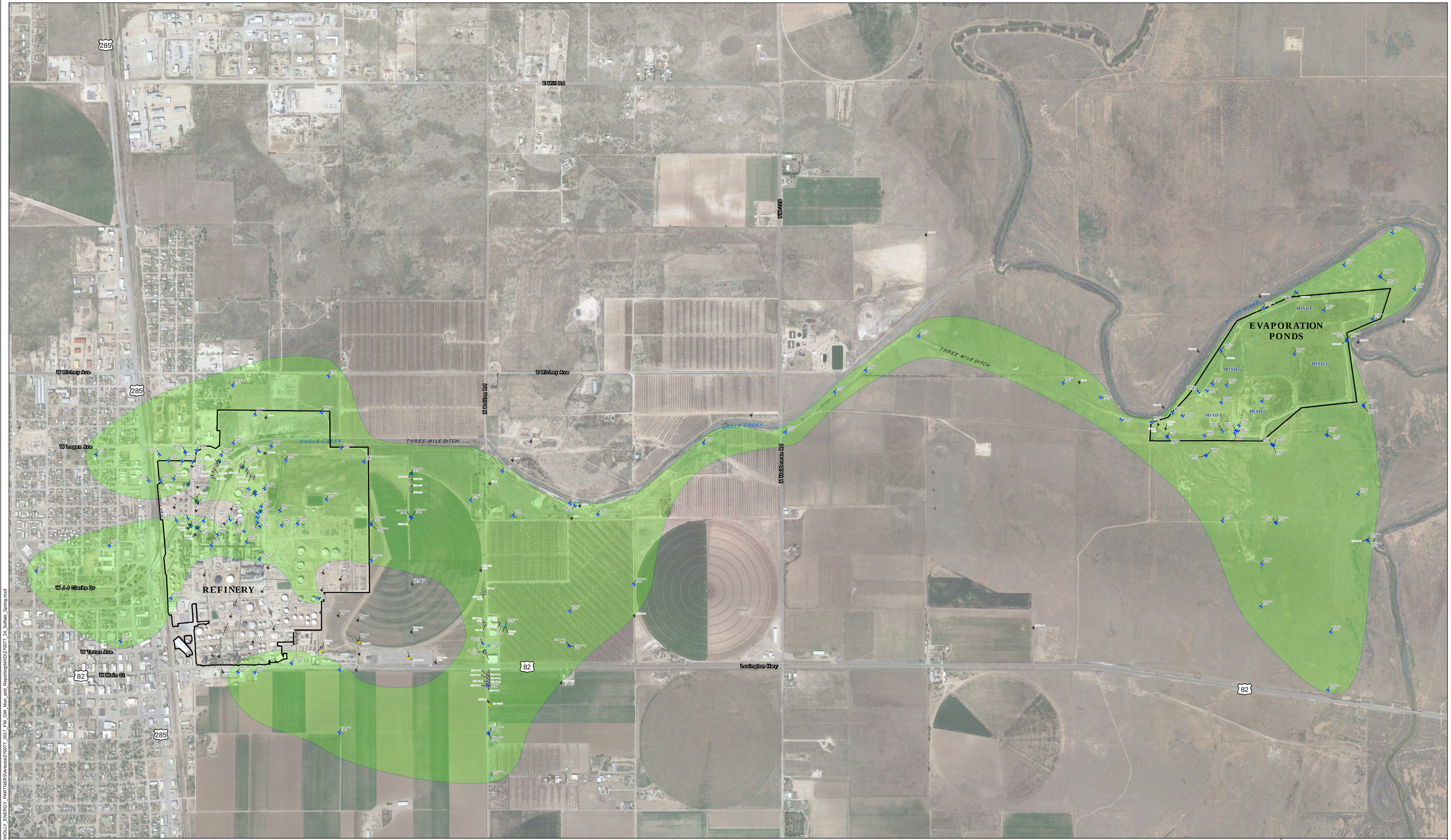
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FIGURE 23

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

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LEGEND

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

- 3840 SULFATE CONCENTRATION
- MW-69 WELL NOT SAMPLED
- < 0.0774 SULFATE NOT DETECTED ABOVE METHOD DETECTION LIMIT
- PSH PHASE-SEPARATED HYDROCARBON PRESENT IN WELL (> 0.03 FEET THICK)
- SULFATE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREA (CONCENTRATION > 600 mg/L)
- FENCELINE

NOTES:

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

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NEW MEXICO

SULFATE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2017 FIRST SEMIANNUAL EVENT

2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

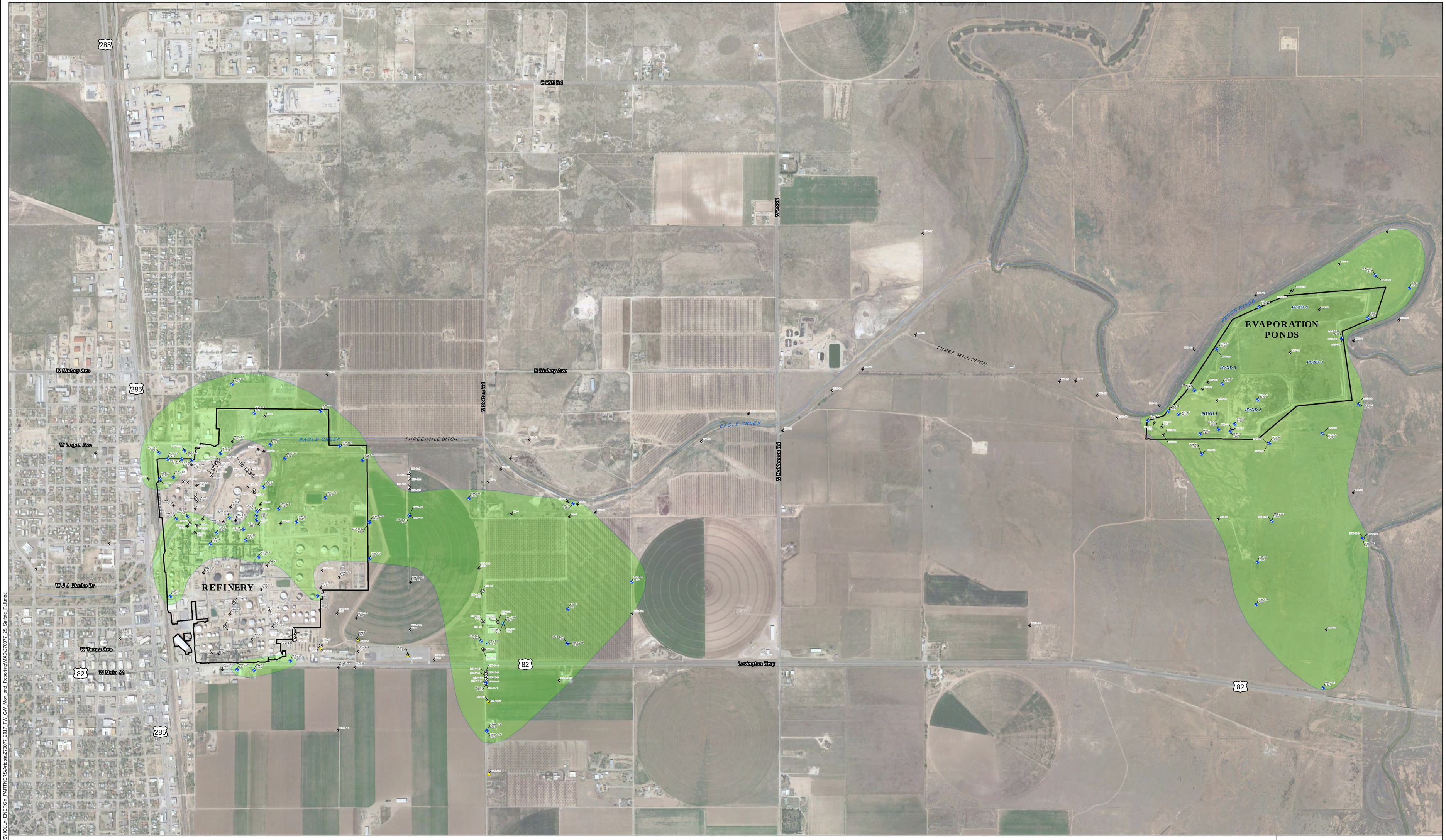
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AUSTIN, TX 78752
PH:512-329-6080

FIGURE 24

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

Document Path: \\plateriver\fil01\GIS\1-PROJECTS\HOLLY_ENERGY_PARTNERS\Artesia\270077_2017_FW_GW_Mon_and_Reporting\MXD\270077_24_Sulfate_Spring.mxd



LEGEND

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

907 SULFATE CONCENTRATION

MW-69 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

NOTES:

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

N W E S

0 750 1,500

Feet

1 IN = 750 FT

NEW MEXICO

SULFATE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2017 SECOND SEMIANNUAL EVENT

2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

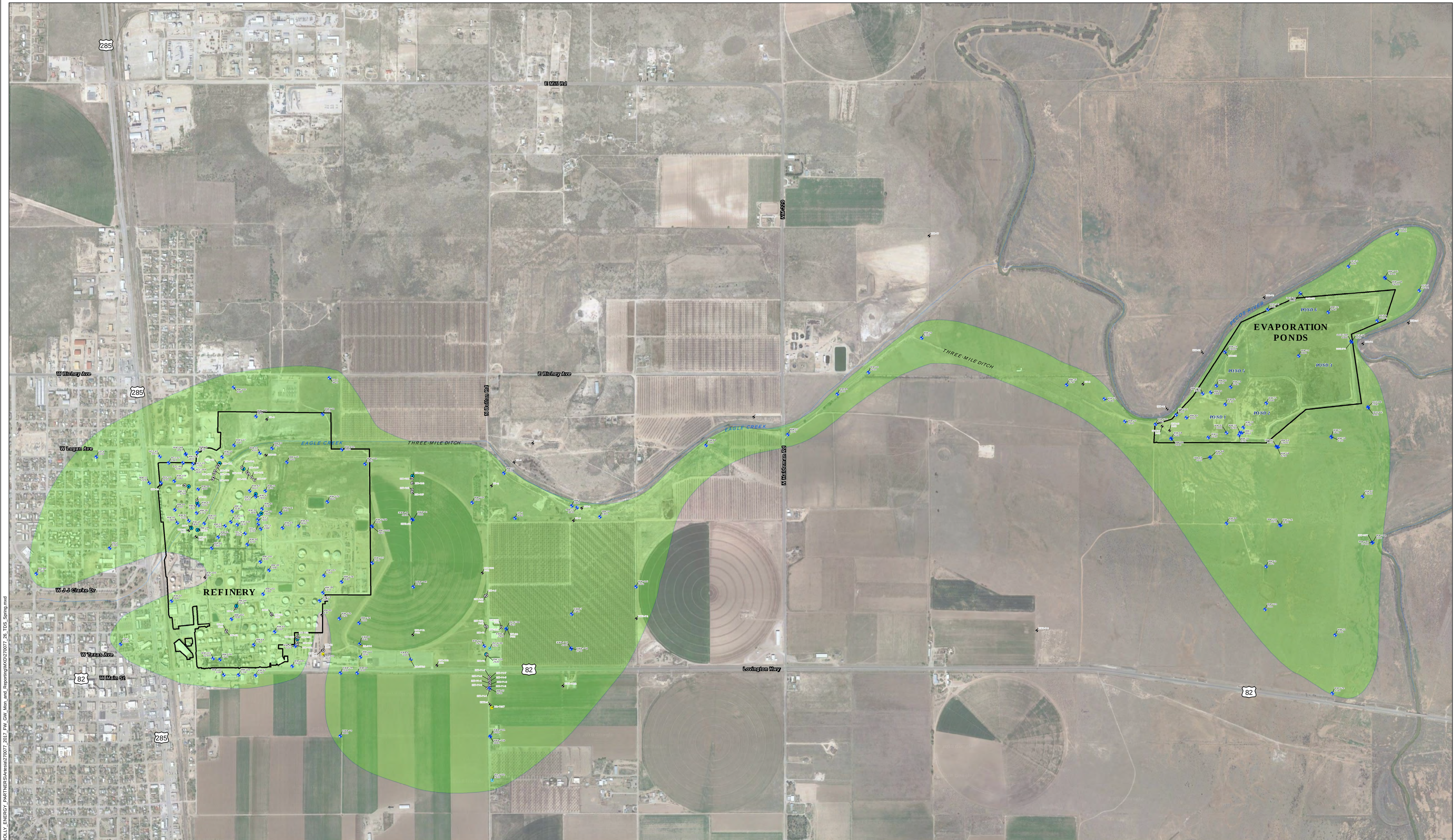
AUTHOR: MREEVES	SAVED: 2/27/2018	MXD: 270077_25_Sulfate_Fall

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FIGURE 25

Document Path: \\plsenvnfile01\GIS\1-PROJECTS\HOLLY_ENERGY_PARTNERS\Artesia\270077_2017_PW_GW_Mon_and_Reporting\MXD\270077_25_Sulfate_Fall.mxd

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017



LEGEND

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

- 3840 TOTAL DISSOLVED SOLIDS CONCENTRATION
- MW-69 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

NOTES:

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

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NEW MEXICO

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

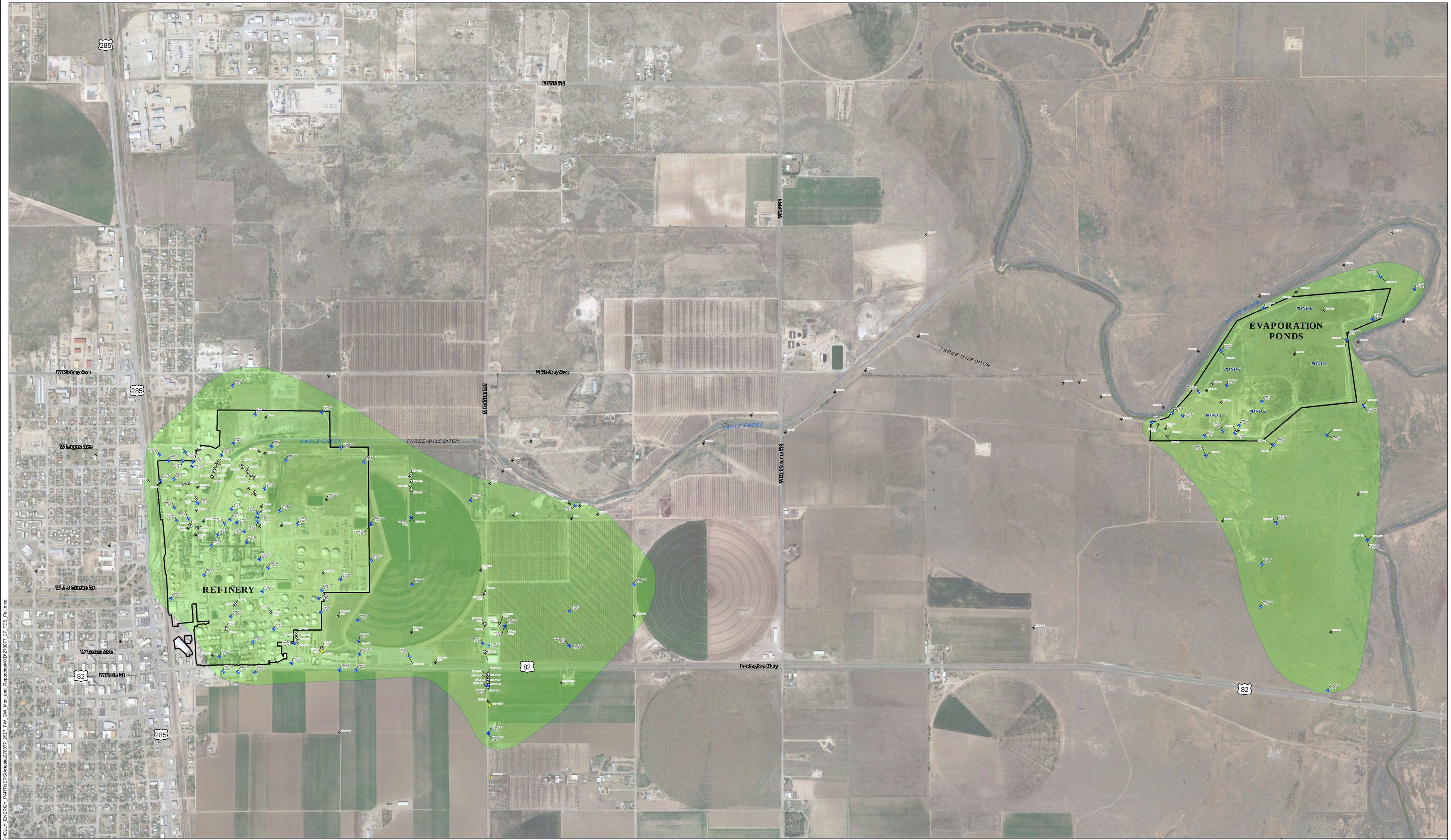
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TOTAL DISSOLVED SOLIDS CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP
2017 FIRST SEMIANNUAL EVENT
2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

AUTHOR: MREEVES	SAVED: 2/27/2018	MXD: 270077_26_TDS_Spring

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FIGURE 26



LEGEND

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

8860 TOTAL DISSOLVED SOLIDS CONCENTRATION
MW-69 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

NOTES:

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

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NEW MEXICO

TOTAL DISSOLVED SOLIDS CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP
2017 SECOND SEMIANNUAL EVENT
2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

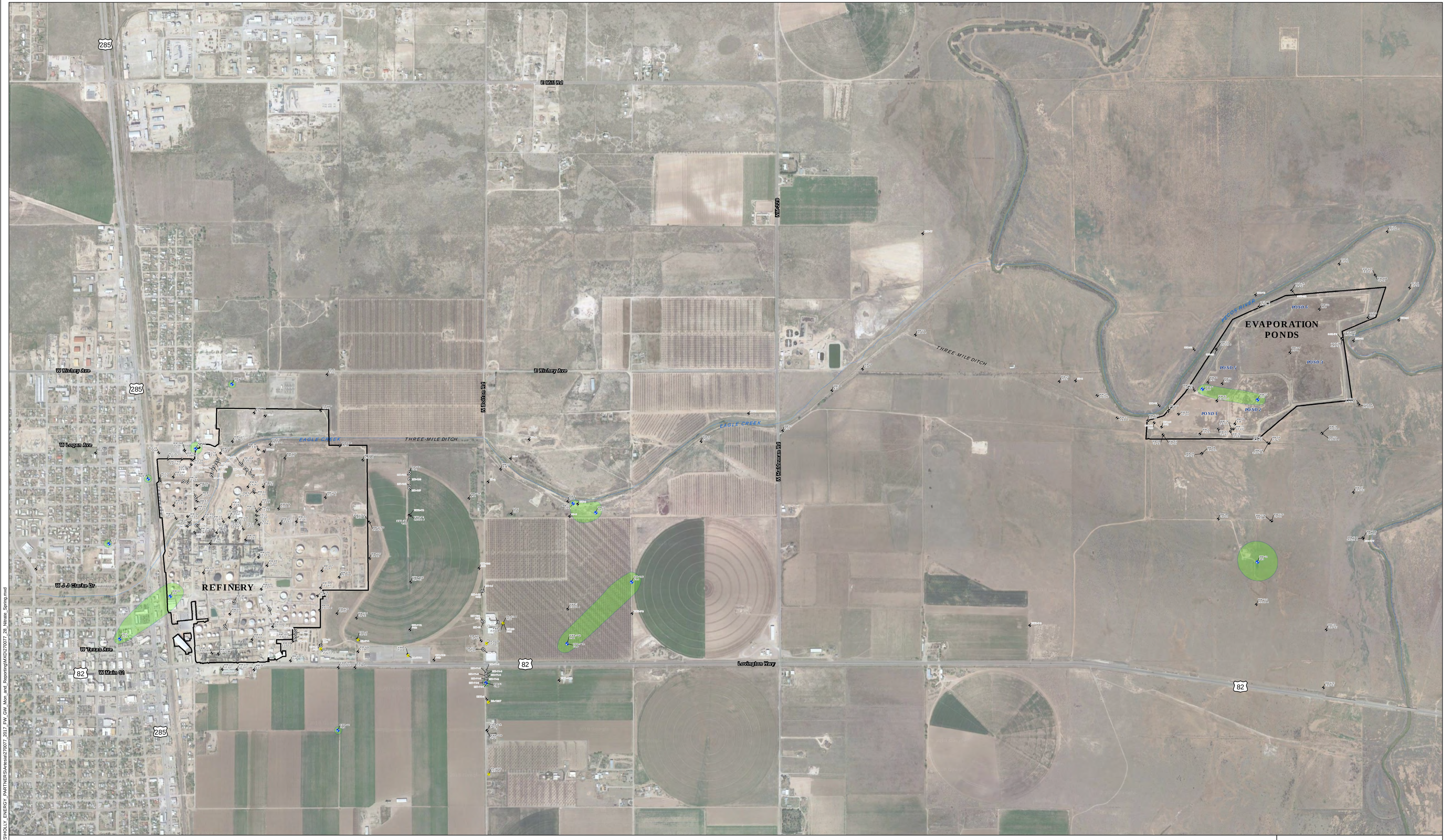
AUTHOR: MREEVES | SAVED: 2/27/2018 | MXD: 270077_27_TDS_Fall

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FIGURE 27

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

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LEGEND

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

- 155 NITRATE/NITRITE CONCENTRATION
- < 0.197 NITRATE/NITRITE NOT DETECTED ABOVE METHOD DETECTION LIMIT
- MW-69 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

NOTES:

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

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NEW MEXICO

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

Document Path: \\plsenvfile01\GIS\1-PROJECTS\HOLLY_ENERGY_PARTNERS\Artesia\270077_2017_FW_GW_Mon_and_Reporting\MXD\270077_28_Nitrate_Spring.mxd

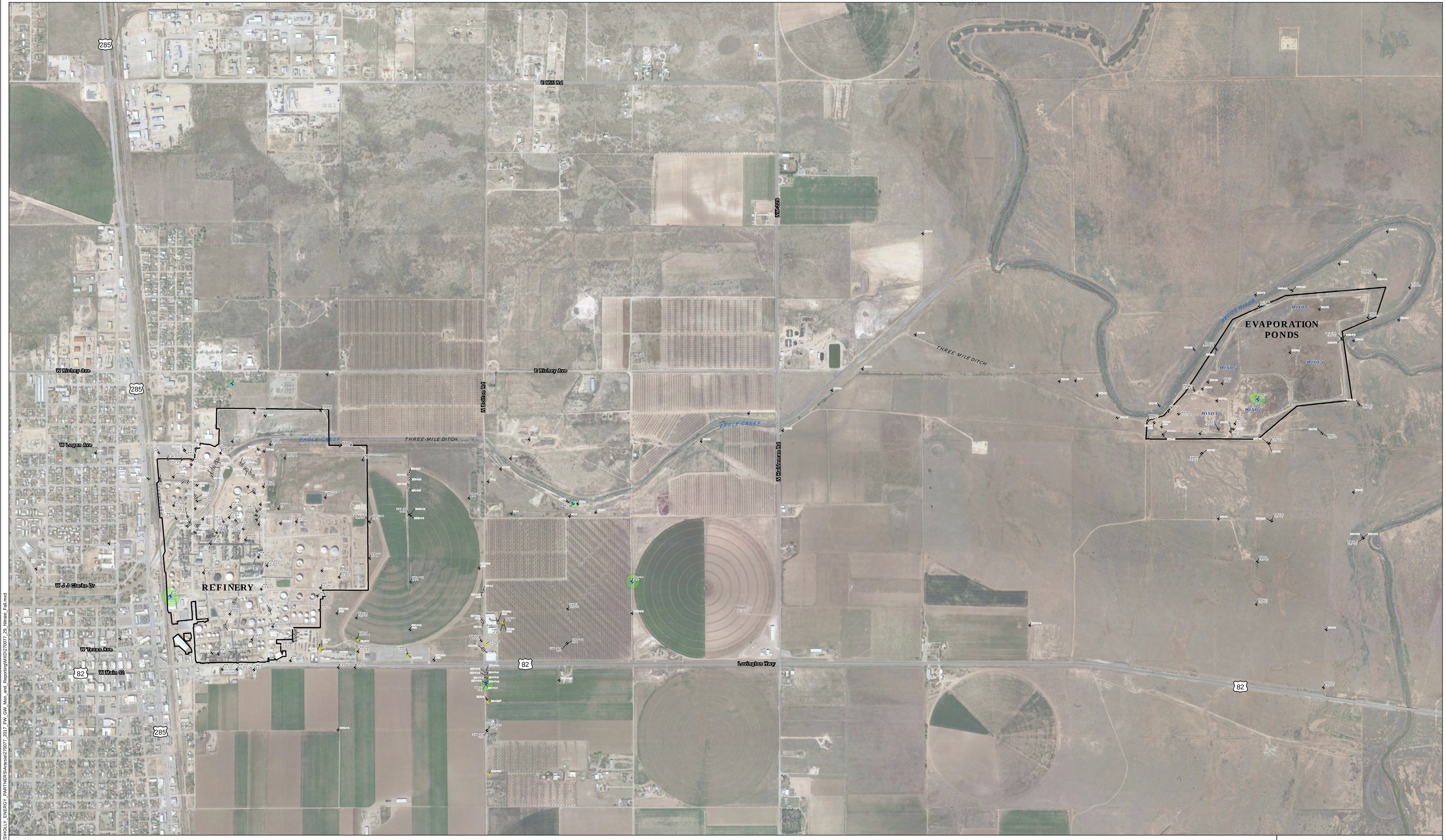
NITRATE/NITRITE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2017 FIRST SEMIANNUAL EVENT

2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

AUTHOR: MREEVES	SAVED: 2/27/2018	MXD: 270077_28_Nitrate_Spring

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FIGURE 28



LEGEND

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

- 44.7 NITRATE/NITRITE CONCENTRATION
- < 0.394 NITRATE/NITRITE NOT DETECTED ABOVE METHOD DETECTION LIMIT
- MW-69 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

NOTES:

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

N W E S

0 750 1,500
Feet

1 IN = 750 FT

NEW MEXICO

NITRATE/NITRITE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE MAP 2017 SECOND SEMIANNUAL EVENT

2017 ANNUAL GROUNDWATER REPORT
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

AUTHOR: MREEVES	SAVED: 2/27/2018	MXD: 270077_29_Nitrate_Fall

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FIGURE 29

AERIAL IMAGERY SOURCE: GOOGLE AND THEIR DATA PARTNERS 2017

Document Path: \\plsenvnfile01\GIS\1-PROJECTS\HOLLY_ENERGY_PARTNERS\Artesia\270077_2017_FW_GW_Mon_and_Reporting\MXD\270077_29_Nitrate_Fall.mxd

Table 1 - Well Information and Gauging Data

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well ID	Water-Bearing Zone [1]	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation [2] (ft amsl)	PSH Thickness (ft)
Cross-Gradient	KWB-13	Shallow	669077.00	524892.42	3366.02	3365.67	Unknown	Unknown	4/25/2017	--	24.51	3,341.16	--
									10/3/2017	--	21.20	3,344.47	--
	NP-5	Shallow	675512.24	524698.19	3,346.31	3,349.29	3,336.06	10.25 to 20	4/25/2017	--	11.56	3,337.73	--
									10/3/2017	--	12.71	3,336.58	--
	MW-136	Shallow	675343.45	522975.40	3,358.62	3,360.83	3,348.62	10 to 25	4/25/2017	--	11.11	3,349.72	--
									10/3/2017	--	10.55	3,350.28	--
Evaporation Ponds	MW-1R	Shallow	675135.17	538636.78	3,311.58	3,313.28	3,303.58	8 to 23	4/25/2017	--	10.95	3,302.33	--
									10/3/2017	--	10.43	3,302.85	--
	MW-2A	Shallow	675979.09	540803.91	3,310.55	3,312.97	Unknown	Unknown	4/25/2017	--	10.72	3,302.25	--
									10/3/2017	--	10.27	3,302.70	--
	MW-2B	Valley Fill	675969.73	540801.44	3,309.94	3,312.49	3,271.44	38.5 to 48	4/25/2017	--	10.60	3,301.89	--
									10/3/2017	--	11.01	3,301.48	--
	MW-3	Shallow	674443.34	540503.24	3,309.07	3,310.32	Unknown	Unknown	4/25/2017	--	9.06	3,301.26	--
									10/3/2017	--	9.45	3,300.87	--
	MW-4A	Shallow	674083.00	540529.44	3,308.64	3,312.71	Unknown	Unknown	4/25/2017	--	11.59	3,301.12	--
									10/3/2017	--	12.11	3,300.60	--
	MW-4B	Valley Fill	674089.71	540541.34	3,308.73	3,312.01	3,248.48	60.25 to 70	4/25/2017	--	10.85	3,301.16	--
									10/3/2017	--	11.35	3,300.66	--
	MW-5A	Shallow	674272.84	541759.78	3,306.59	3,308.62	Unknown	Unknown	4/25/2017	--	8.18	3,300.44	--
									10/3/2017	--	8.94	3,299.68	--
	MW-5B	Valley Fill	674272.33	541739.12	3,306.71	3,308.95	3,265.21	41.5 to 50.5	4/25/2017	--	8.34	3,300.61	--
									10/3/2017	--	8.85	3,300.10	--
	MW-5C	Valley Fill	674279.57	541728.80	3,306.55	3,309.28	3,247.30	59.25 to 68.75	4/25/2017	--	8.54	3,300.74	--
									10/3/2017	--	9.03	3,300.25	--
	MW-6A	Shallow	674427.07	539833.47	3,310.40	3,313.46	Unknown	Unknown	4/25/2017	--	12.21	3,301.25	--
									10/3/2017	--	12.61	3,300.85	--
	MW-6B	Valley Fill	674418.57	539834.04	3,310.09	3,313.35	3,270.59	39.5 to 49	4/25/2017	--	12.10	3,301.25	--
									10/3/2017	--	12.48	3,300.87	--
	MW-7A	Shallow	674447.64	542716.01	3,306.04	3,309.24	Unknown	Unknown	4/25/2017	--	7.57	3,301.67	--
									10/3/2017	--	7.96	3,301.28	--
	MW-7B	Valley Fill	674455.63	542715.61	3,306.05	3,307.87	3,266.55	39.5 to 49	4/25/2017	--	8.87	3,299.00	--
									10/3/2017	--	9.27	3,298.60	--
	MW-10	Shallow	672121.15	541540.05	3,304.14	3,304.76	3,304.14	0 to 19.4	4/25/2017	--	5.20	3,299.56	--
									10/3/2017	--	5.93	3,298.83	--
	MW-11A	Shallow	677317.73	543675.36	3,308.42	3,310.76	3,302.92	5.5 to 20	4/25/2017	--	9.69	3,301.07	--
									10/3/2017	--	9.23	3,301.53	--

Table 1 - Well Information and Gauging Data

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well ID	Water-Bearing Zone [1]	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation [2] (ft amsl)	PSH Thickness (ft)
Evaporation Ponds	MW-11B	Valley Fill	677305.72	543685.50	3,308.34	3,310.76	3,272.84	35.5 to 45	4/25/2017	--	9.66	3,301.10	--
									10/3/2017	--	9.18	3,301.58	--
	MW-12	Shallow	676952.63	541505.50	3,310.37	3,312.73	3,303.87	6.5 to 16	4/25/2017	--	10.76	3,301.97	--
									10/3/2017	--	9.74	3,302.99	--
	MW-13	Shallow	674951.80	539762.62	3,311.95	3,314.24	3,302.45	9.5 to 19	4/25/2017	--	12.40	3,301.84	--
									10/3/2017	--	11.88	3,302.36	--
	MW-14	Shallow	676122.48	543280.49	3,309.44	3,311.84	3,303.94	5.5 to 20	4/25/2017	--	11.84	3,300.00	--
									10/3/2017	--	10.59	3,301.25	--
	MW-15	Shallow	674731.39	539003.75	3,310.97	3,313.72	3,301.97	9 to 19	4/25/2017	--	11.85	3,301.87	--
									10/3/2017	--	11.53	3,302.19	--
	MW-18A	Shallow	672548.16	543447.78	3,306.33	3,308.58	3,296.33	10 to 20	4/25/2017	--	10.29	3,298.29	--
									10/3/2017	--	10.00	3,298.58	--
	MW-18B	Valley Fill	672557.96	543458.22	3,306.23	3,308.74	3,269.23	37 to 47	4/25/2017	--	10.27	3,298.47	--
									10/3/2017	--	9.93	3,298.81	--
	MW-18T	Valley Fill	672559.79	543449.75	3,306.30	3,308.55	3,269.30	37 to 47	4/25/2017	--	10.06	3,298.49	--
									10/3/2017	--	9.73	3,298.82	--
	MW-22A	Shallow	672866.82	541801.63	3,305.24	3,307.62	3,299.74	5.5 to 20.5	4/25/2017	--	7.75	3,299.87	--
									10/3/2017	--	8.38	3,299.24	--
	MW-22B	Valley Fill	672866.58	541786.97	3,305.08	3,307.63	3,262.78	42.3 to 52	4/25/2017	--	7.60	3,300.03	--
									10/3/2017	--	8.20	3,299.43	--
	MW-24	Shallow	676498.23	544101.56	3,310.33	3,312.85	3,295.33	15 to 20	4/25/2017	--	12.46	3,300.39	--
									10/3/2017	--	11.48	3,301.37	--
	MW-69	Shallow	675962.29	540401.29	3,311.40	3,313.86	3,306.40	5 to 20	4/25/2017	--	11.53	3,302.33	--
									10/3/2017	--	10.51	3,303.35	--
	MW-70	Shallow	670892.66	542787.60	3,303.84	3,306.30	3,298.84	5 to 20	4/25/2017	--	8.10	3,298.20	--
									10/3/2017	--	8.29	3,298.01	--
	MW-72	Shallow	676691.27	542662.31	3,306.40	3,308.45	3,304.40	2 to 12	4/25/2017	--	7.06	3,301.39	--
									10/3/2017	--	7.70	3,300.75	--
	MW-73	Shallow	675910.20	542130.56	3,308.02	3,310.18	3,306.02	2 to 17	4/25/2017	--	8.75	3,301.43	--
									10/3/2017	--	10.82	3,299.36	--
	MW-74	Shallow	675059.14	541546.30	3,307.78	3,310.03	3,305.78	2 to 17	4/25/2017	--	8.81	3,301.22	--
									10/3/2017	--	9.57	3,300.46	--
	MW-75	Shallow	674622.31	541132.78	3,307.80	3,310.21	3,304.80	3 to 18	4/25/2017	--	9.08	3,301.13	--
									10/3/2017	--	9.57	3,300.64	--
	MW-76	Shallow	674482.47	541053.83	3,309.70	3,311.84	3,306.70	3 to 18	4/25/2017	--	10.68	3,301.16	--
									10/3/2017	--	11.15	3,300.69	--

Table 1 - Well Information and Gauging Data

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well ID	Water-Bearing Zone [1]	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation [2] (ft amsl)	PSH Thickness (ft)
Evaporation Ponds	MW-77	Shallow	674529.89	541104.86	3,307.97	3,310.07	3,304.97	3 to 18	4/25/2017	--	8.92	3,301.15	--
									10/3/2017	--	9.38	3,300.69	--
	MW-78	Shallow	674529.23	541073.45	3,307.94	3,310.14	3,305.94	2 to 17	4/25/2017	--	8.92	3,301.22	--
									10/3/2017	--	9.42	3,300.72	--
	MW-79	Shallow	675349.67	540906.08	3,309.08	3,311.43	3,307.08	2 to 17	4/25/2017	--	9.84	3,301.59	--
									10/3/2017	--	10.17	3,301.26	--
	MW-80	Shallow	675371.74	540646.46	3,310.27	3,310.79	3,308.27	2 to 17	4/25/2017	--	8.90	3,301.89	--
									10/3/2017	--	9.04	3,301.75	--
	MW-81	Shallow	675252.80	540544.47	3,310.19	3,312.34	3,308.19	2 to 17	4/25/2017	--	10.71	3,301.63	--
									10/3/2017	--	10.80	3,301.54	--
	MW-82	Shallow	675035.42	540806.88	3,308.64	3,310.75	3,306.64	2 to 17	4/25/2017	--	9.05	3,301.70	--
									10/3/2017	--	9.71	3,301.04	--
	MW-83	Shallow	674524.97	540832.80	3,307.93	3,310.19	3,305.93	2 to 17	4/25/2017	--	8.91	3,301.28	--
									10/3/2017	--	9.41	3,300.78	--
	MW-84	Shallow	674798.43	540109.13	3,309.83	3,311.59	3,307.83	2 to 17	4/25/2017	--	9.22	3,302.37	--
									10/3/2017	--	9.32	3,302.27	--
	MW-85	Shallow	674566.12	539805.49	3,308.99	3,311.09	3,305.99	3 to 18	4/25/2017	9.70	10.42	3,301.25	0.72
									10/3/2017	9.94	11.19	3,300.90	1.25
	MW-86	Shallow	674645.96	539671.17	3,308.98	3,311.06	3,306.98	2 to 17	4/25/2017	9.52	9.55	3,301.53	0.03
									10/3/2017	9.69	10.03	3,301.30	0.34
	MW-87	Shallow	673379.98	543280.45	3,305.42	3,307.64	3,303.42	2 to 17	4/25/2017	--	8.58	3,299.06	--
									10/3/2017	--	8.65	3,298.99	--
	MW-88	Shallow	672899.14	540832.09	3,306.43	3,308.68	3,303.43	3 to 18	4/25/2017	--	8.45	3,300.23	--
									10/3/2017	--	9.17	3,299.51	--
	MW-120	Shallow	674678.95	539555.77	3,310.66	3,313.55	3,300.66	10 to 25	4/25/2017	--	12.14	3,301.41	--
									10/3/2017	--	12.23	3,301.32	--
	MW-121	Shallow	674851.38	539923.70	3,311.77	3,314.68	3,301.77	10 to 25	4/25/2017	--	12.71	3,301.97	--
									10/3/2017	--	12.21	3,302.47	--
	MW-122	Shallow	675231.06	540401.60	3,308.78	3,311.69	3,298.78	10 to 20	4/25/2017	--	10.38	3,301.31	--
									10/3/2017	--	10.40	3,301.29	--
	MW-123	Shallow	671352.15	541523.94	3,302.78	3,303.98	3,292.78	10 to 25	4/25/2017	--	5.59	3,298.39	--
									10/3/2017	--	6.34	3,297.64	--
	MW-124	Shallow	669844.77	542735.51	3,302.99	3,305.84	3,297.99	5 to 20	4/25/2017	--	9.62	3,296.22	--
									10/3/2017	--	8.96	3,296.88	--
	OCD-1R	Shallow	676741.31	541568.00	3,310.69	3,314.27	Unknown	Unknown	4/25/2017	--	12.33	3,301.94	--
									10/3/2017	--	11.70	3,302.57	--

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HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well ID	Water-Bearing Zone [1]	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation [2] (ft amsl)	PSH Thickness (ft)
Evaporation Ponds	OCD-2A	Shallow	677036.12	542157.14	3,310.83	3,314.16	3,302.33	8.5 to 23.5	4/25/2017	--	12.42	3,301.74	--
									10/3/2017	--	11.61	3,302.55	--
	OCD-2B	Valley Fill	677034.65	542167.57	3,310.66	3,313.07	3,272.16	38.5 to 48	4/25/2017	--	11.36	3,301.71	--
									10/3/2017	--	11.44	3,301.63	--
	OCD-3	Shallow	677516.31	543024.47	3,310.89	3,314.43	3,304.39	6.5 to 21.5	4/25/2017	--	12.94	3,301.49	--
									10/3/2017	--	12.29	3,302.14	--
	OCD-4	Shallow	678099.52	543893.55	3,310.31	3,313.68	3,303.81	6.5 to 21.5	4/25/2017	--	12.20	3,301.48	--
									10/3/2017	--	11.57	3,302.11	--
	OCD-5	Shallow	677081.54	544295.35	3,308.76	3,311.27	Unknown	Unknown	4/25/2017	--	10.40	3,300.87	--
									10/3/2017	--	9.70	3,301.57	--
	OCD-6	Shallow	676538.82	543540.03	3,308.11	3,311.40	3,300.11	8 to 23	4/25/2017	--	10.95	3,300.45	--
									10/3/2017	--	10.28	3,301.12	--
	OCD-7AR	Shallow	676169.74	543071.88	3,308.86	3,310.03	3,303.36	5.5 to 19.5	4/25/2017	--	9.72	3,300.31	--
									10/3/2017	--	9.41	3,300.62	--
	OCD-7B	Valley Fill	676157.36	543081.99	3,307.57	3,310.26	3,264.07	43.5 to 52.5	4/25/2017	--	9.57	3,300.69	--
									10/3/2017	--	9.36	3,300.90	--
	OCD-7C	Valley Fill	676155.95	543069.21	3,307.74	3,310.10	3,247.49	60.25 to 69.75	4/25/2017	--	8.99	3,301.11	--
									10/3/2017	--	9.19	3,300.91	--
	OCD-8A	Shallow	674976.41	543376.95	3,306.43	3,308.72	3,303.43	3 to 18	4/25/2017	--	8.61	3,300.11	--
									10/3/2017	--	9.41	3,299.31	--
	OCD-8B	Valley Fill	674992.24	543375.06	3,306.11	3,309.19	3,262.61	43.5 to 53	4/25/2017	--	8.77	3,300.42	--
									10/3/2017	--	9.01	3,300.18	--
Field East of Refinery	KWB-1A	Shallow	672969.12	526181.36	3,351.25	3,353.46	3,333.25	18 to 32	4/25/2017	--	12.20	3,341.26	--
									10/3/2017	--	14.55	3,338.91	--
	KWB-1B	Shallow	672968.90	526191.02	3,351.14	3,352.83	3,333.14	18 to 32	4/25/2017	--	13.85	3,338.98	--
									10/3/2017	--	16.25	3,336.58	--
	KWB-1C	Valley Fill	672968.22	526202.95	3,351.18	3,351.38	3,320.68	30.5 to 49.5	4/25/2017	--	14.42	3,336.96	--
									10/3/2017	--	16.84	3,334.54	--
	KWB-7	Shallow	671266.72	529055.47	3,343.00	3,346.16	3,325.00	18 to 32	4/25/2017	--	18.54	3,327.62	--
									10/3/2017	17.77	17.78	3,328.39	0.01
	KWB-8	Shallow	671000.57	527874.87	3,347.90	3,350.41	3,332.90	15 to 34	4/25/2017	19.26	19.27	3,331.15	0.01
									10/3/2017	16.65	16.66	3,333.76	0.01
	KWB-10R	Shallow	671756.34	526206.06	3,351.23	3,350.97	3,342.23	9 to 29	4/25/2017	--	15.31	3,335.66	--
									10/3/2017	--	15.65	3,335.32	--
	KWB-11A	Shallow	670643.67	529043.46	3,346.13	3,348.72	3,316.13	30 to 39.5	4/25/2017	--	19.14	3,329.58	--
									10/3/2017	--	17.43	3,331.29	--

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HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well ID	Water-Bearing Zone [1]	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation [2] (ft amsl)	PSH Thickness (ft)
Field East of Refinery	KWB-11B	Valley Fill	670653.84	529044.06	3,345.91	3,348.03	3,295.91	50 to 69.5	4/25/2017	--	19.88	3,328.15	--
									10/3/2017	--	18.12	3,329.91	--
	KWB-12A	Shallow	669074.44	527590.88	3,352.01	3,351.81	3,336.51	15.5 to 24.5	4/25/2017	--	22.71	3,329.10	--
									10/3/2017	--	18.48	3,333.33	--
	KWB-12B	Valley Fill	669064.18	527590.12	3,351.84	3,351.63	3,326.34	25.5 to 39.5	4/25/2017	--	22.52	3,329.11	--
									10/3/2017	--	18.27	3,333.36	--
	KWB-P4	Shallow	670970.10	537416.92	3,305.76	3,305.39	Unknown	Unknown	4/25/2017	--	4.36	3,301.03	--
									10/3/2017	--	--	--	--
	MW-57	Shallow	669935.59	527579.02	3,350.95	3,350.91	3,340.95	10 to 30	4/25/2017	--	19.91	3,331.00	--
									10/3/2017	--	15.88	3,335.03	--
	MW-58	Shallow	670207.27	525197.99	3,362.56	3,362.22	3,349.56	13 to 28	4/25/2017	--	20.12	3,342.10	--
									10/3/2017	--	17.73	3,344.49	--
	MW-111	Shallow	670494.22	525254.30	3,362.52	3,365.51	3,337.52	25 to 40	4/25/2017	--	23.40	3,342.11	--
									10/3/2017	--	21.79	3,343.72	--
	MW-112	Shallow	670890.64	526198.73	3,355.38	3,358.38	3,330.38	25 to 35	4/25/2017	20.05	20.37	3,338.27	0.32
									10/3/2017	18.85	19.15	3,339.47	0.30
	MW-113	Shallow	670693.80	527483.95	3,350.06	3,352.93	3,330.06	20 to 35	4/25/2017	--	20.98	3,331.95	--
									10/3/2017	--	18.44	3,334.49	--
	MW-125	Shallow	673288.01	524663.00	3,355.60	3,358.81	3,340.60	15 to 25	4/25/2017	--	6.48	3,352.33	--
									10/3/2017	--	11.29	3,347.52	--
	MW-126A	Shallow	672845.69	525458.24	3,353.60	3,356.60	3,334.60	19 to 34	4/25/2017	--	12.20	3,344.40	--
									10/3/2017	--	15.67	3,340.93	--
	MW-126B	Valley Fill	672843.26	525464.41	3,353.60	3,356.67	3,313.60	40 to 50	4/25/2017	--	12.09	3,344.58	--
									10/3/2017	--	15.50	3,341.17	--
	MW-127	Shallow	672184.21	525464.20	3,355.50	3,358.39	3,335.50	20 to 50	4/25/2017	--	17.43	3,340.96	--
									10/3/2017	--	18.95	3,339.44	--
	MW-128	Shallow	671846.09	524917.06	3,358.80	3,358.77	3,343.80	15 to 35	4/26/2017	--	12.96	3,345.81	--
									10/3/2017	--	14.01	3,344.76	--
	MW-129	Shallow	671185.08	524876.72	3,361.60	3,364.38	3,341.60	20 to 50	4/25/2017	--	20.80	3,343.58	--
									10/3/2017	20.48	20.49	3,343.90	0.01
	MW-130	Shallow	670331.35	524029.44	3,370.20	3,369.86	3,340.20	30 to 45	4/25/2017	--	18.89	3,350.97	--
									10/3/2017	--	17.83	3,352.03	--
	MW-131	Shallow	671104.83	525228.77	3,360.40	3,363.49	3,340.40	20 to 50	4/25/2017	--	22.00	3,341.49	--
									10/3/2017	--	21.59	3,341.90	--
	MW-132	Shallow	670346.80	526629.79	3,354.30	3,357.12	3,339.30	15 to 40	4/25/2017	18.58	18.84	3,338.49	0.26
									10/3/2017	16.46	16.51	3,340.65	0.05

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Area	Well ID	Water-Bearing Zone [1]	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation [2] (ft amsl)	PSH Thickness (ft)
Field East of Refinery	MW-133	Shallow	672005.89	527446.73	3,343.40	3,349.45	3,328.40	15 to 35	4/25/2017	16.77	17.06	3,332.62	0.29
									10/3/2017	16.89	17.16	3,332.51	0.27
	MW-134	Shallow	673271.80	527263.99	3,343.10	3,346.23	3,323.10	20 to 30	4/25/2017	--	14.16	3,332.07	--
									10/3/2017	--	16.52	3,329.71	--
	MW-135	Shallow	671758.72	530211.23	3,338.00	3,337.65	3,303.00	35 to 65	4/25/2017	--	26.53	3,311.12	--
									10/3/2017	--	26.35	3,311.30	--
	RW-12R	Shallow	670542.50	527519.20	3,350.58	3,351.54	3,335.58	15 to 35	4/25/2017	--	21.04	3,330.50	--
									10/3/2017	--	18.14	3,333.40	--
	RW-13R	Shallow	671049.37	527506.74	3,349.60	3,351.54	3,334.60	15 to 35	4/25/2017	19.53	19.64	3,331.99	0.11
									10/3/2017	17.05	17.28	3,334.44	0.23
	RW-14R	Shallow	671592.73	527504.45	3,347.39	3,349.37	3,332.39	15 to 35	4/25/2017	16.92	17.98	3,332.24	1.06
									10/3/2017	16.59	17.71	3,332.56	1.12
	RW-18A	Shallow	673750.19	526188.64	3,349.04	3,350.84	Unknown	Unknown	4/25/2017	--	10.09	3,340.75	--
									10/3/2017	--	13.06	3,337.78	--
	RW-20A	Shallow	671032.06	527790.95	3,347.75	3,348.44	Unknown	Unknown	4/25/2017	>19.98 [3]	--	--	>0.00 [3]
									10/3/2017	19.94	20.01	3,328.49	0.07
	RW-20B	Shallow	671032.06	527790.95	3,347.75	3,348.44	Unknown	Unknown	4/25/2017	>20.3 [3]	--	--	>0.18 [3]
									10/3/2017	19.98	20.37	3,328.38	0.39
	RW-22	Shallow	671009.70	527889.44	3,347.17	3,349.21	3,335.67	11.5 to 39	4/25/2017	26.68	29.13	3,322.04	2.45
									10/3/2017	16.88	17.31	3,332.24	0.43
North Refinery	MW-23	Shallow	672851.25	522821.05	3,365.09	3,368.38	3,350.09	15 to 20	4/25/2017	--	10.31	3,358.07	--
									10/3/2017	--	12.88	3,355.50	--
	MW-29	Shallow	673481.15	523544.65	3,359.79	3,360.64	3,350.04	9.75 to 19.25	4/25/2017	--	7.49	3,353.15	--
									10/3/2017	--	11.65	3,348.99	--
	MW-30	Shallow	674124.92	523550.16	3,359.14	3,361.98	Unknown	Unknown	4/25/2017	--	8.30	3,353.68	--
									10/3/2017	--	9.43	3,352.55	--
	MW-39	Shallow	673039.50	523422.93	3,357.94	3,358.79	3,343.94	14 to 24	4/25/2017	--	5.25	3,353.54	--
									10/3/2017	--	9.31	3,349.48	--
	MW-40	Shallow	673161.12	523489.02	3,356.56	3,356.93	Unknown	Unknown	4/25/2017	--	3.30	3,353.63	--
									10/3/2017	--	7.54	3,349.39	--
	MW-41	Shallow	673379.87	523374.64	3,356.38	3,356.58	3,342.38	14 to 19	4/25/2017	--	3.41	3,353.17	--
									10/3/2017	--	7.10	3,349.48	--
	MW-42	Shallow	673480.27	523263.53	3,355.64	3,358.44	Unknown	Unknown	4/25/2017	--	6.60	3,351.84	--
									10/3/2017	--	9.86	3,348.58	--
	MW-43	Shallow	673115.86	522950.40	3,363.38	3,365.49	3,347.88	15.5 to 20.5	4/25/2017	--	7.03	3,358.46	--
									10/3/2017	--	9.75	3,355.74	--

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Area	Well ID	Water-Bearing Zone [1]	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation [2] (ft amsl)	PSH Thickness (ft)
North Refinery	MW-59	Shallow	672814.66	523854.12	3,359.44	3,362.43	3,344.44	15 to 30	4/25/2017	--	5.85	3,356.58	--
									10/3/2017	--	10.00	3,352.43	--
	MW-60	Shallow	672849.58	524143.12	3,359.26	3,361.98	3,344.26	15 to 30	4/25/2017	--	7.11	3,354.87	--
									10/3/2017	--	11.23	3,350.75	--
	MW-61	Shallow	672453.76	522578.38	3,369.45	3,369.47	3,355.45	14 to 29	4/25/2017	--	10.03	3,359.44	--
									10/3/2017	--	11.57	3,357.90	--
	MW-62	Shallow	672650.76	522696.50	3,368.35	3,368.81	3,354.35	14 to 29	4/25/2017	--	10.84	3,357.97	--
									10/3/2017	--	12.88	3,355.93	--
	MW-67	Shallow	673224.88	522342.43	3,365.59	3,365.45	3,353.59	12 to 27	4/25/2017	--	8.18	3,357.27	--
									10/3/2017	--	9.06	3,356.39	--
	MW-90	Shallow	672909.28	521960.18	3,367.13	3,369.42	3,362.13	5 to 20	4/25/2017	--	10.47	3,358.95	--
									10/3/2017	--	11.29	3,358.13	--
	MW-91	Shallow	672945.86	522167.26	3,365.72	3,367.73	3,358.72	7 to 22	4/25/2017	--	9.53	3,358.20	--
									10/3/2017	--	10.54	3,357.19	--
	MW-92	Shallow	672766.10	522167.26	3,366.75	3,368.72	3,361.75	5 to 20	4/25/2017	10.15	10.19	3,358.56	0.04
									10/3/2017	11.26	11.31	3,357.45	0.05
	MW-93	Shallow	672897.25	522446.83	3,364.22	3,363.79	3,359.22	5 to 20	4/25/2017	--	5.83	3,357.96	--
									10/3/2017	--	7.37	3,356.42	--
	MW-94	Shallow	673510.54	522336.27	3,365.82	3,367.97	3,360.82	5 to 20	4/25/2017	--	10.52	3,357.45	--
									10/3/2017	11.73	11.80	3,356.23	0.07
	MW-95	Shallow	673084.72	522308.89	3,366.48	3,368.70	3,359.48	7 to 22	4/25/2017	--	11.02	3,357.68	--
									10/3/2017	--	12.03	3,356.67	--
	MW-96	Shallow	673143.60	521917.50	3,366.83	3,368.92	3,359.83	7 to 22	4/25/2017	--	10.28	3,358.64	--
									10/4/2017	--	10.93	3,357.99	--
	MW-97	Shallow	672660.45	522295.96	3,366.38	3,365.92	3,358.38	8 to 23	4/25/2017	8.20	8.23	3,357.71	0.03
									10/3/2017	9.45	10.29	3,356.30	0.84
	MW-98	Shallow	672517.05	523220.39	3,358.96	3,361.36	3,345.96	13 to 23	4/25/2017	--	6.48	3,354.88	--
									10/3/2017	--	8.73	3,352.63	--
	MW-137	Shallow	672923.48	522924.27	3,363.15	3,364.83	3,353.15	10 to 30	4/25/2017	--	5.04	3,359.79	--
									10/3/2017	--	7.93	3,356.90	--
	MW-138	Shallow	672876.52	523041.05	3,364.73	3,363.24	3,354.73	10 to 25	4/25/2017	--	6.78	3,356.46	--
									10/3/2017	--	9.49	3,353.75	--
	RW-1R	Shallow	672825.27	522204.68	3,365.29	3,367.03	Unknown	Unknown	4/25/2017	--	9.09	3,357.94	--
									10/3/2017	--	10.18	3,356.85	--
	RW-2R	Shallow	672781.86	522337.29	3,368.17	3,368.17	Unknown	Unknown	4/25/2017	10.19	10.20	3,357.98	0.01
									10/3/2017	--	11.48	3,356.69	--

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Area	Well ID	Water-Bearing Zone [1]	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation [2] (ft amsl)	PSH Thickness (ft)
North Refinery	RW-7R	Shallow	673579.35	522098.94	3,365.03	3,367.09	Unknown	Unknown	4/25/2017	--	15.61	3,351.48	--
									10/3/2017	--	10.11	3,356.98	--
	RW-8R	Shallow	673266.20	522321.21	3,364.89	3,368.10	Unknown	Unknown	4/25/2017	--	9.96	3,358.14	--
									10/3/2017	10.70	10.74	3,357.39	0.04
	RW-9	Shallow	673423.49	523371.16	3,356.30	3,359.51	Unknown	Unknown	4/27/2017	--	5.74	3,353.77	--
									10/3/2017	--	9.44	3,350.07	--
	RW-10	Shallow	673076.17	523469.29	3,356.12	3,360.61	Unknown	Unknown	4/27/2017	--	4.99	3,355.62	--
									10/3/2017	--	9.14	3,351.47	--
	RW-16B	Shallow	673876.71	523156.09	3,357.20	3,360.97	Unknown	Unknown	4/25/2017	--	9.78	3,351.19	--
									10/3/2017	--	11.72	3,349.25	--
	RW-17A	Shallow	673978.33	522723.59	3,362.76	3,364.72	Unknown	Unknown	4/25/2017	--	9.02	3,355.70	--
									10/3/2017	--	10.06	3,354.66	--
North RO Reject Field	MW-117	Shallow	674301.52	522979.73	3,360.07	3,363.01	3,350.07	10 to 25	4/25/2017	--	9.19	3,353.82	--
									10/3/2017	--	8.65	3,354.36	--
	MW-118	Shallow	674819.18	523375.94	3,359.62	3,361.95	3,349.62	10 to 25	4/25/2017	--	11.69	3,350.26	--
									10/3/2017	--	5.83	3,356.12	--
	MW-119	Shallow	674860.11	524575.80	3,353.83	3,356.11	3,343.83	10 to 25	4/25/2017	--	10.41	3,345.70	--
									10/3/2017	--	10.69	3,345.42	--
NCL	MW-18	Shallow	674172.45	522318.86	3,363.06	3,365.42	3,348.06	15 to 19	4/25/2017	--	9.55	3,355.87	--
									10/3/2017	--	10.13	3,355.29	--
	MW-19	Shallow	673597.29	521670.75	3,366.00	3,368.00	3,361.00	5 to 19.5	4/25/2017	--	9.27	3,358.73	--
									10/3/2017	--	8.38	3,359.62	--
	MW-45	Shallow	674247.07	523663.75	3,351.32	3,351.51	3,340.82	10.5 to 15.5	4/25/2017	--	4.10	3,347.41	--
									10/3/2017	--	4.63	3,346.88	--
	MW-53	Shallow	673626.07	521459.12	3,368.86	3,368.73	3,355.06	13.8 to 23.8	4/25/2017	--	9.54	3,359.19	--
									10/3/2017	--	9.25	3,359.48	--
	MW-54A	Shallow	674138.65	522110.51	3,363.55	3,366.49	3,350.85	12.7 to 27.7	4/25/2017	--	10.39	3,356.10	--
									10/3/2017	--	10.83	3,355.66	--
	MW-54B	Valley Fill	674148.44	522118.80	3,363.47	3,366.47	3,329.67	33.8 to 43.8	4/25/2017	--	10.37	3,356.10	--
									10/3/2017	--	10.93	3,355.54	--
	MW-55	Shallow	674091.95	522766.46	3,361.90	3,364.77	3,348.20	13.7 to 23.7	4/25/2017	--	9.73	3,355.04	--
									10/3/2017	--	10.23	3,354.54	--
	MW-56	Shallow	674160.38	523450.14	3,354.84	3,357.44	3,341.44	13.4 to 23.4	4/25/2017	--	9.55	3,347.89	--
									10/3/2017	--	10.32	3,347.12	--
	MW-108	Shallow	673659.33	521910.16	3,366.25	3,369.11	3,357.25	9 to 24	4/25/2017	--	12.31	3,356.80	--
									10/3/2017	--	10.78	3,358.33	--

Table 1 - Well Information and Gauging Data

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well ID	Water-Bearing Zone [1]	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation [2] (ft amsl)	PSH Thickness (ft)
NCL	NCL-31	Shallow	673629.51	521669.01	3,366.21	3,367.54	3,353.21	13 to 18	4/25/2017	--	8.91	3,358.63	--
									10/3/2017	--	8.11	3,359.43	--
	NCL-32	Shallow	673984.83	521808.14	3,364.96	3,364.91	3,347.96	17 to 22	4/25/2017	--	8.26	3,356.65	--
									10/3/2017	--	8.39	3,356.52	--
	NCL-33	Shallow	673967.20	522245.18	3,364.26	3,363.97	3,351.26	13 to 18	4/25/2017	--	7.89	3,356.08	--
									10/3/2017	--	8.01	3,355.96	--
	NCL-34A	Shallow	673885.52	522235.08	3,364.82	3,365.49	3,348.82	16 to 21	4/25/2017	--	9.81	3,355.68	--
									10/3/2017	--	9.51	3,355.98	--
	NCL-44	Shallow	673986.41	522062.11	3,364.01	3,364.45	Unknown	Unknown	4/25/2017	--	8.12	3,356.33	--
									10/3/2017	--	7.97	3,356.48	--
	NCL-49	Shallow	674099.16	521648.40	3,368.26	3,371.13	3,351.46	16.8 to 17.8	4/25/2017	--	14.03	3,357.10	--
									10/3/2017	--	15.08	3,356.05	--
South Refinery	KWB-2R	Shallow	670207.24	524897.59	3,364.56	3,364.32	Unknown	Unknown	4/25/2017	--	21.13	3,343.19	--
									10/3/2017	--	18.80	3,345.52	--
	KWB-4	Shallow	670616.38	524572.44	3,368.36	3,370.25	3,348.36	20 to 39	4/25/2017	22.96	23.05	3,347.27	0.09
									10/3/2017	21.88	22.16	3,348.31	0.28
	KWB-5	Shallow	670729.55	525244.51	3,362.60	3,364.72	3,337.90	24.7 to 38.7	4/25/2017	--	22.28	3,342.44	--
									10/3/2017	--	21.09	3,343.63	--
	KWB-6	Shallow	670449.36	526158.70	3,358.02	3,360.30	3,340.52	17.5 to 36.5	4/25/2017	--	21.02	3,339.28	--
									10/3/2017	--	18.81	3,341.49	--
	MW-28	Shallow	671508.38	524521.56	3,366.79	3,370.27	3,341.79	25 to 30	4/25/2017	--	20.31	3,349.96	--
									10/3/2017	--	20.74	3,349.53	--
	MW-48	Shallow	670689.39	524080.35	3,363.04	3,362.97	Unknown	Unknown	4/25/2017	--	17.03	3,345.94	--
									10/3/2017	--	16.30	3,346.67	--
	MW-50	Shallow	671502.45	521857.84	3,368.91	3,371.05	Unknown	Unknown	4/25/2017	--	14.24	3,356.81	--
									10/3/2017	--	14.34	3,356.71	--
	MW-52	Shallow	670165.24	523370.99	3,368.36	3,368.30	Unknown	Unknown	4/25/2017	--	17.74	3,350.56	--
									10/3/2017	--	16.33	3,351.97	--
	MW-64	Shallow	670716.03	523338.61	3,365.56	3,369.52	3,350.56	15 to 30	4/25/2017	--	18.50	3,351.02	--
									10/3/2017	--	18.20	3,351.32	--
	MW-65	Shallow	670949.22	523711.75	3,363.84	3,363.60	3,349.34	14.5 to 29.5	4/25/2017	--	14.32	3,349.28	--
									10/3/2017	--	13.95	3,349.65	--
	MW-66	Shallow	671247.57	524560.06	3,363.66	3,363.46	3,349.06	14.6 to 29.6	4/25/2017	--	15.00	3,348.46	--
									10/3/2017	--	14.82	3,348.64	--
	MW-99	Shallow	671652.52	524579.74	3,365.11	3,364.51	3,353.11	12 to 27	4/25/2017	--	16.02	3,348.49	--
									10/3/2017	--	15.47	3,349.04	--

Table 1 - Well Information and Gauging Data

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HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well ID	Water-Bearing Zone [1]	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation [2] (ft amsl)	PSH Thickness (ft)
South Refinery	MW-101	Shallow	671628.25	523506.58	3,362.07	3,364.23	3,354.07	8 to 23	4/25/2017	--	12.27	3,351.96	--
									10/3/2017	--	12.48	3,351.75	--
	MW-102	Shallow	671176.70	522937.01	3,365.51	3,367.64	3,353.51	12 to 27	4/25/2017	--	13.95	3,353.69	--
									10/3/2017	--	14.12	3,353.52	--
	MW-103	Shallow	670472.55	522607.80	3,370.89	3,372.47	3,363.89	7 to 22	4/25/2017	--	17.10	3,355.37	--
									10/3/2017	--	17.00	3,355.47	--
	MW-104	Shallow	670450.35	522729.44	3,369.41	3,371.43	3,366.41	3 to 18	4/25/2017	--	16.48	3,354.95	--
									10/3/2017	--	16.10	3,355.33	--
	MW-105	Shallow	671924.44	522454.93	3,365.20	3,364.99	3,357.20	8 to 18	4/25/2017	--	8.60	3,356.39	--
									10/3/2017	--	9.26	3,355.73	--
	MW-106	Shallow	672207.14	523454.55	3,359.29	3,358.98	3,359.29	0 to 11	4/25/2017	--	5.70	3,353.28	--
									10/3/2017	--	6.97	3,352.01	--
	MW-107	Shallow	671961.38	524600.45	3,359.63	3,359.44	3,347.63	12 to 22	4/25/2017	--	9.91	3,349.53	--
									10/3/2017	--	11.68	3,347.76	--
	MW-109	Shallow	670174.25	523065.52	3,368.27	3,368.09	3,353.27	15 to 29.5	4/25/2017	--	16.01	3,352.08	--
									10/3/2017	--	14.63	3,353.46	--
	MW-110	Shallow	670174.33	522796.69	3,368.46	3,368.03	3,353.46	15 to 29.5	4/25/2017	--	13.99	3,354.04	--
									10/3/2017	--	13.26	3,354.77	--
	RW-4R	Shallow	671378.27	523010.47	3,364.41	3,364.86	Unknown	Unknown	4/25/2017	--	12.48	3,352.38	--
									10/3/2017	--	12.62	3,352.24	--
	RW-5R	Shallow	671258.01	523662.01	3,362.79	3,368.56	3,349.79	13 to 33	4/25/2017	14.72	14.85	3,353.81	0.13
									10/3/2017	14.75	14.86	3,353.79	0.11
	RW-6	Shallow	670969.39	522843.22	3,366.03	3,368.36	Unknown	Unknown	4/25/2017	13.55	13.62	3,354.80	0.07
									10/3/2017	13.65	13.74	3,354.69	0.09
	RW-11-0	Shallow	669938.15	527541.66	3,351.48	3,353.95	Unknown	Unknown	4/25/2017	--	22.08	3,331.87	--
									10/3/2017	--	17.81	3,336.14	--
	RW-15C	Shallow	670820.45	524123.41	3,362.65	3,361.41	Unknown	Unknown	4/25/2017	--	14.74	3,346.67	--
									10/3/2017	--	14.19	3,347.22	--
	RW-19	Shallow	670611.43	524592.99	3,367.09	3,369.11	3,356.09	11 to 46	4/25/2017	23.16	23.19	3,345.94	0.03
									10/3/2017	22.10	22.26	3,346.98	0.16
South RO Reject Field	MW-114	Shallow	673082.16	523818.86	3,358.62	3,361.68	3,338.62	20 to 35	4/25/2017	--	3.63	3,358.05	--
									10/3/2017	--	8.49	3,353.19	--
	MW-115	Shallow	673997.34	523932.93	3,356.48	3,359.31	3,346.48	10 to 25	4/25/2017	--	5.43	3,353.88	--
									10/3/2017	--	7.42	3,351.89	--
	MW-116	Shallow	673966.06	525339.63	3,350.99	3,353.77	3,340.99	10 to 25	4/25/2017	--	7.06	3,346.71	--
									10/3/2017	--	8.13	3,345.64	--

Table 1 - Well Information and Gauging Data

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HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well ID	Water-Bearing Zone [1]	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation [2] (ft amsl)	PSH Thickness (ft)
TEL	MW-49	Shallow	672051.80	523610.79	3,359.69	3,359.77	Unknown	Unknown	4/25/2017	--	7.60	3,352.17	--
									10/3/2017	--	8.77	3,351.00	--
	TEL-1	Shallow	672966.33	523412.82	3,356.79	3,358.23	3,343.79	13 to 23	4/25/2017	--	4.66	3,353.57	--
									10/3/2017	--	8.79	3,349.44	--
	TEL-2	Shallow	672885.90	523419.29	3,356.80	3,359.12	3,343.80	13 to 23	4/25/2017	--	5.45	3,353.67	--
									10/3/2017	--	9.63	3,349.49	--
	TEL-3	Shallow	672796.06	523459.33	3,356.43	3,358.33	3,343.43	13 to 23	4/25/2017	--	4.78	3,353.55	--
									10/3/2017	8.79	8.84	3,349.53	0.05
	TEL-4	Shallow	672715.99	523181.18	3,358.21	3,360.24	3,345.21	13 to 23	4/25/2017	--	5.81	3,354.43	--
									10/3/2017	--	9.04	3,351.20	--
TMD	MW-8	Shallow	673215.93	529055.18	3,334.81	3,336.42	Unknown	Unknown	4/25/2017	--	9.04	3,327.38	--
									10/3/2017	--	9.80	3,326.62	--
	MW-9	Shallow	673169.56	529232.03	3,334.50	3,336.20	Unknown	Unknown	4/25/2017	--	9.51	3,326.69	--
									10/3/2017	--	10.21	3,325.99	--
	MW-16	Shallow	675613.35	534389.17	3,313.50	3,316.12	3,305.00	8.5 to 19	4/25/2017	--	8.18	3,307.94	--
									10/3/2017	--	7.63	3,308.49	--
	MW-20	Shallow	673800.56	527834.67	3,338.43	3,340.91	3,328.93	9.5 to 23.5	4/25/2017	--	10.28	3,330.63	--
									10/3/2017	--	12.24	3,328.67	--
	MW-21	Shallow	673180.38	529150.62	3,334.65	3,337.31	3,327.15	7.5 to 22	4/25/2017	--	10.41	3,326.90	--
									10/3/2017	--	11.13	3,326.18	--
	MW-25	Shallow	675386.30	537955.86	3,310.35	3,312.29	3,294.60	15.75 to 25.25	4/25/2017	--	11.62	3,300.67	--
									10/3/2017	--	13.92	3,298.37	--
	MW-26	Shallow	676229.18	535348.61	3,312.08	3,314.87	3,296.83	15.25 to 24.25	4/25/2017	--	9.39	3,305.48	--
									10/3/2017	--	9.38	3,305.49	--
	MW-27	Shallow	674495.64	532942.65	3,319.46	3,320.85	3,301.21	18.25 to 27.75	4/25/2017	--	16.06	3,304.79	--
									10/3/2017	--	14.88	3,305.97	--
	MW-46R	Shallow	674223.03	524920.28	3,350.41	3,350.11	3,346.91	3.5 to 18.5	4/25/2017	--	4.29	3,345.82	--
									10/3/2017	--	5.18	3,344.93	--
	MW-68	Shallow	674301.02	531466.90	3,325.81	3,328.21	3,311.06	14.75 to 24.5	4/25/2017	--	15.46	3,312.75	--
									10/3/2017	--	15.81	3,312.40	--
	MW-71	Shallow	673016.80	529560.41	3,332.99	3,335.29	3,323.24	9.75 to 19.5	4/25/2017	--	11.71	3,323.58	--
									10/3/2017	--	12.43	3,322.86	--
	MW-89	Shallow	675221.56	533835.00	3,316.38	3,318.32	3,314.38	2 to 17	4/25/2017	--	9.78	3,308.54	--
									10/3/2017	--	8.33	3,309.99	--
	NP-1	Shallow	672992.73	528035.04	3,339.69	3,342.40	3,330.19	9.5 to 19	4/25/2017	--	13.44	3,328.96	--
									10/3/2017	--	15.29	3,327.11	--

Table 1 - Well Information and Gauging Data

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well ID	Water-Bearing Zone [1]	Northing (ft)	Easting (ft)	Land Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Corrected Groundwater Elevation [2] (ft amsl)	PSH Thickness (ft)
TMD	NP-2	Shallow	673571.19	527611.64	3,340.58	3,342.77	3,331.08	9.5 to 18.5	4/25/2017	--	12.83	3,329.94	--
									10/3/2017	--	15.47	3,327.30	--
	NP-3	Shallow	673990.66	528019.54	3,340.40	3,342.93	3,330.90	9.5 to 18.5	4/25/2017	--	11.74	3,331.19	--
									10/3/2017	--	19.04	3,323.89	--
	NP-4	Shallow	674337.35	528351.85	3,343.24	3,345.73	3,318.74	24.5 to 33.5	4/25/2017	--	17.79	3,327.94	--
									10/3/2017	--	25.10	3,320.63	--
	NP-6	Shallow	672945.23	529083.91	3,336.31	3,338.05	3,327.56	8.75 to 18.75	4/25/2017	--	10.23	3,327.82	--
									10/3/2017	--	11.33	3,326.72	--
	NP-8	Shallow	675399.60	538245.49	3,310.53	3,314.67	Unknown	Unknown	4/25/2017	--	12.65	3,302.02	--
									10/3/2017	--	12.46	3,302.21	--
	NP-9	Shallow	674767.14	523571.69	3,357.86	3,360.62	Unknown	Unknown	4/25/2017	--	10.69	3,349.93	--
									10/3/2017	--	6.84	3,353.78	--
Up-Gradient	UG-1	Shallow	672453.27	520746.73	3,373.02	3,372.94	3,365.02	8 to 23	4/25/2017	--	13.22	3,359.72	--
									10/3/2017	--	--	--	--
	UG-2	Shallow	670726.77	520942.36	3,380.30	3,380.41	3,365.30	15 to 30	4/25/2017	--	17.42	3,362.99	--
									10/3/2017	--	--	--	--
	UG-3R	Shallow	671992.70	519424.77	3,384.62	3,384.08	3,367.62	17 to 37	4/25/2017	--	24.62	3,359.46	--
									10/3/2017	--	--	--	--
	UG-4	Shallow	674087.85	520541.74	3,377.78	3,377.36	3,358.28	19.5 to 39.5	4/25/2017	--	18.09	3359.27	--
									10/3/2017	--	--	--	--

Notes:

[1] Wells screened in the shallow water-bearing zone are typically screened at depths of 20 to 25 ft bgs. The shallow water-bearing zone varies between confined and unconfined conditions. Wells screened in the valley fill zone are typically screened at depths ranging between 35 and 70 ft bgs. The clay lens separating the shallow and valley fill zones is discontinuous in some locations resulting in connectivity between the two zones.

[2] Water elevations corrected for PSH, if present, using a specific gravity of 0.8.

[3] Top of recovery pump prevented deeper measurement

Definitions:

ft = feet
-- = not applicable
amsl = above mean sea level
bgs = below ground surface
btoc = below top of casing
NCL = North Colony Landfarm
PSH = phase separated hydrocarbons
RO = Reverse Osmosis
TEL = Tetra Ethyl Lead Surface Impoundment
TMD = Three Mile Ditch
TOC = Top of Casing
unknown = screen interval not readily availble

Table 2 - Well Purging and Water Quality Field Measurement Data

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well	Purge Method[1]	Date	Time	Temperature (°C)	Specific Conductivity (S/m)	DO (mg/L)	pH (std units)	ORP (mV)	Field Observations of Purge Water[2]
Cross-Gradient	KWB-13	Bladder	4/26/2017	11:20	18.0	0.3980	3.7	6.89	102.9	Colorless and slightly cloudy to colorless and cloudy
	NP-5	Low Flow	4/25/2017	14:10	18.8	0.5410	1.7	7.04	102.5	Clear; colorless
	RA-3156	Grab	4/26/2017	10:15	20.5	0.2862	4.2	6.84	-46.3	Cloudy with brown particles
	MW-136	Low Flow	4/25/2017	13:20	19.2	0.4490	1.4	11.18	109.5	Colorless and slightly cloudy to colorless and clear
			10/3/2017	10:55	17.9	0.3990	1.7	6.86	99.5	Colorless and slightly cloudy to colorless and clear
Evaporation Ponds	MW-1R	Low Flow	4/26/2017	16:00	18.7	1.2460	0.5	7.23	-122.8	Clear with orange algae particles
	MW-2A	Low Flow	4/26/2017	15:00	19.0	1.3680	0.7	7.05	-86.5	Clear
			10/3/2017	13:40	23.4	0.8220	1.0	7.04	-88.6	Slightly cloudy with small particles to clear with small particles
	MW-3	Low Flow	4/26/2017	14:55	18.9	0.7480	1.1	7.11	-14.9	Clear
			10/3/2017	15:15	23.3	0.7500	1.1	7.04	-28.1	Clear
	MW-4A	Low Flow	4/26/2017	9:25	17.5	0.7050	2.4	7.15	-178.9	Clear with black particles
			10/3/2017	11:10	22.7	0.6030	2.4	7.14	-174.5	Clear with black particles
	MW-4B	Low Flow	4/26/2017	10:10	18.8	0.5460	3.0	7.09	-125.4	Clear
	MW-5A	Low Flow	4/25/2017	12:35	21.1	1.5520	1.1	7.24	-142.1	Clear with orange particles
			10/3/2017	10:15	21.9	0.9380	1.1	7.05	-137.4	Clear with orange particles
	MW-5B	Low Flow	4/25/2017	13:30	21.2	0.8970	0.9	7.00	-96.1	Clear
	MW-5C	Low Flow	4/25/2017	14:15	21.8	0.4480	1.1	7.21	-93.8	Clear with white particles
	MW-6A	Low Flow	4/26/2017	18:10	20.2	0.5600	1.3	7.69	-114.3	Clear
	MW-6B	Low Flow	4/26/2017	18:50	20.4	0.5770	0.7	7.58	-53.0	Clear
	MW-7A	Low Flow	4/25/2017	10:55	19.2	1.0390	1.0	7.21	-81.3	Cloudy with orange particles
			10/3/2017	9:15	21.3	0.9220	1.2	7.16	-74.6	Clear with orange particles
	MW-7B	Low Flow	4/25/2017	11:50	21.1	0.5810	0.9	7.08	-9.3	Clear
	MW-10	Low Flow	4/26/2017	13:20	19.1	0.7190	1.1	6.80	-20.8	Clear with small orange particles
			10/3/2017	13:40	21.9	0.6426	1.7	6.87	-31.8	Clear with small orange particles
	MW-11A	Low Flow	4/26/2017	11:20	19.0	2.7800	0.7	7.02	-3.4	Clear
			10/3/2017	16:00	22.6	2.7500	0.6	6.79	-34.5	Clear
	MW-11B	Low Flow	4/26/2017	12:05	19.8	1.8660	0.8	7.17	-82.7	Clear
	MW-15	Low Flow	4/26/2017	16:50	20.2	0.9810	0.6	7.39	45.3	Clear
	MW-18A	Low Flow	4/25/2017	13:30	21.2	0.6730	0.6	7.16	-152.7	Clear
			10/3/2017	10:25	20.6	2.3400	0.9	7.06	-90.3	Clear
	MW-18B	Low Flow	4/25/2017	14:20	22.5	0.4940	0.6	7.03	-5.3	Clear
	MW-22A	Low Flow	4/26/2017	11:40	18.0	0.9010	1.2	7.01	-35.6	Clear with orange particles to slightly cloudy to clear
			10/3/2017	12:40	22.8	0.7540	1.3	6.95	-33.8	Clear with orange particles
	MW-22B	Low Flow	4/26/2017	12:35	18.7	0.7370	1.2	7.04	-47.9	Clear
	MW-70	Low Flow	4/25/2017	15:20	21.4	0.6320	0.5	7.16	-82.9	Clear with orange algae particles to clear
			10/3/2017	11:10	21.7	0.6930	0.8	7.11	-82.1	Clear with orange algae particles
	MW-72	Low Flow	4/25/2017	12:55	22.9	1.3340	0.7	7.00	33.0	Clear

Table 2 - Well Purging and Water Quality Field Measurement Data

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HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well	Purge Method[1]	Date	Time	Temperature (°C)	Specific Conductivity (S/m)	DO (mg/L)	pH (std units)	ORP (mV)	Field Observations of Purge Water[2]
Evaporation Ponds	MW-73	Low Flow	4/25/2017	14:05	20.4	1.1910	1.1	7.51	49.9	Slightly cloudy
	MW-74	Low Flow	4/25/2017	14:50	21.6	1.1810	0.7	7.23	75.7	Clear
			10/4/2017	11:25	21.6	1.1350	1.0	6.86	28.9	Clear
	MW-75	Low Flow	4/26/2017	18:50	19.6	0.8310	1.1	7.08	-106.5	Clear; gold tint; odor
			10/3/2017	17:45	22.8	0.7950	1.4	7.01	-94.9	Clear; gold tint; odor
	MW-76	Low Flow	4/26/2017	16:40	19.8	0.7470	1.4	6.92	-89.7	Clear
			10/3/2017	16:45	22.8	0.6400	1.3	6.76	-85.8	Clear
	MW-77	Low Flow	4/26/2017	17:25	19.2	0.8670	2.6	6.89	-83.9	Clear; gold tint; odor
	MW-78	Low Flow	4/26/2017	18:05	19.0	0.4830	2.0	6.99	54.2	Clear with gold tint
	MW-79	Low Flow	4/26/2017	11:55	17.2	0.7260	1.1	7.57	-192.4	Clear
			10/4/2017	8:55	20.2	0.7080	1.3	6.78	-43.8	Clear
	MW-80	Low Flow	4/26/2017	12:45	17.7	0.9260	1.6	7.12	-161.1	Clear
	MW-81	Low Flow	4/26/2017	13:30	19.2	0.7990	2.5	7.32	-79.9	Clear
	MW-82	Low Flow	4/25/2017	16:05	21.5	0.8090	0.7	7.41	-47.2	Clear with orange particles
	MW-83	Low Flow	4/26/2017	15:15	19.9	0.6080	1.2	7.01	-123.1	Clear with gold tint
			10/3/2017	16:00	23.0	0.5470	1.2	6.84	-135.2	Clear with gold tint
	MW-84	Low Flow	4/26/2017	14:15	19.8	1.0620	0.6	7.19	-21.0	Clear with gold tint
			10/3/2017	10:15	22.2	0.1059	0.8	6.79	-181.5	Clear with gold tint
	MW-87	Low Flow	4/25/2017	17:20	20.4	1.5230	0.6	7.34	-122.9	Clear
			10/3/2017	9:35	21.4	1.7380	0.5	7.03	-113.6	Clear
	MW-88	Low Flow	4/26/2017	10:55	17.6	0.8070	1.2	7.01	-70.4	Clear with orange particles
			10/3/2017	11:55	21.8	0.6300	1.1	7.16	-73.9	Clear with orange particles
	MW-120	Low Flow	4/25/2017	17:25	19.7	1.1940	0.4	7.41	-137.8	Clear
			10/3/2017	10:55	21.5	1.0230	0.7	7.04	-203.1	Clear
	MW-121	Low Flow	4/26/2017	16:40	19.6	0.7050	0.7	7.67	-31.1	Clear
			10/3/2017	11:35	23.2	0.6480	1.0	7.08	-50.2	particles
	MW-122	Low Flow	4/26/2017	15:15	18.4	1.1680	0.5	7.22	-57.1	Clear with orange particles
			10/3/2017	12:30	22.0	0.6900	0.7	7.08	-125.1	particles
	MW-123	Low Flow	4/26/2017	14:05	19.2	0.8160	1.3	6.99	-18.6	Clear with white particles
			10/3/2017	14:25	21.6	0.6780	1.4	6.98	-30.1	Clear
	MW-124	Low Flow	4/25/2017	16:20	19.6	1.1660	0.6	7.20	-94.1	Clear with orange algae particles
			10/3/2017	11:50	21.7	1.2780	0.9	6.94	-85.7	Clear with orange algae particles
	OCD-1R	Low Flow	4/26/2017	14:25	19.0	1.0140	0.7	7.22	22.4	Clear
			10/3/2017	13:00	22.3	1.0070	0.6	7.17	-18.4	Clear
	OCD-2A	Low Flow	4/26/2017	13:40	19.0	0.7270	0.5	7.37	-122.8	Clear with orange algae particles
			10/3/2017	16:40	22.4	0.6890	0.6	7.47	-117.3	Clear with orange algae particles

Table 2 - Well Purging and Water Quality Field Measurement Data

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HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well	Purge Method[1]	Date	Time	Temperature (°C)	Specific Conductivity (S/m)	DO (mg/L)	pH (std units)	ORP (mV)	Field Observations of Purge Water[2]
Evaporation Ponds	OCD-3	Low Flow	4/26/2017	12:50	19.8	0.8170	1.1	7.23	86.2	Clear
			10/3/2017	15:25	22.0	0.7990	0.8	7.24	-17.9	Clear
	OCD-4	Low Flow	4/26/2017	9:50	18.8	1.3230	0.6	7.33	-5.7	Clear with orange algae particles
			10/3/2017	14:50	22.3	1.4610	0.5	7.13	-80.4	Clear with orange algae particles
	OCD-5	Low Flow	4/26/2017	10:35	18.9	1.4720	0.6	7.40	-52.6	Slightly cloudy; orange algae particles
			10/3/2017	14:15	21.8	1.6830	0.7	7.35	-105.8	Slightly cloudy; orange algae particles
	OCD-6	Low Flow	4/25/2017	10:05	21.6	1.5700	0.6	6.87	31.1	Slightly cloudy to clear
			10/4/2017	9:55	20.4	1.5150	0.9	6.89	-114.2	Slightly cloudy with small particles to clear with small particles
	OCD-7AR	Low Flow	4/25/2017	10:55	21.7	1.2610	0.7	7.05	10.4	Clear with orange particles
			10/4/2017	10:40	21.8	1.2350	0.8	6.98	-156.7	Clear with orange particles
	OCD-8A	Low Flow	4/25/2017	10:10	21.2	1.3410	1.2	7.06	-145.3	Clear with orange particles
			10/3/2017	8:15	21.5	1.1060	1.1	6.72	-143.3	Clear with orange particles
	OCD-8B	Low Flow	4/25/2017	9:25	21.3	0.9820	0.8	6.92	-95.3	Clear
Field East of Refinery	KWB-1A	Low Flow	4/25/2017	11:15	19.7	0.5390	0.8	6.71	57.3	Clear; colorless
			10/3/2017	12:30	18.1	0.4400	2.3	6.82	29.1	Clear; colorless
	KWB-1C	Low Flow	4/25/2017	11:50	19.7	0.5370	1.6	6.73	90.1	Clear; colorless
	KWB-7	Low Flow	4/25/2017	18:20	20.2	0.3389	0.8	6.77	-105.9	Clear; strong hydrocarbon odor
			10/3/2017	13:30	19.3	0.3177	0.6	6.79	-101.7	Clear; strong hydrocarbon odor
	KWB-8	Low Flow	4/25/2017	17:35	21.2	0.3622	0.9	6.76	-197.7	Clear; strong hydrocarbon odor
			10/3/2017	16:40	26.1	0.3418	0.7	6.74	-234.6	Clear; strong hydrocarbon odor
	KWB-10R	Low Flow	4/25/2017	10:30	20.6	0.1897	0.9	6.60	-163.2	Clear; colorless; odor
			10/3/2017	11:45	18.8	0.1564	1.6	6.67	-124.2	Clear; colorless; odor
	KWB-11A	Low Flow	4/25/2017	19:10	19.1	0.6244	0.9	6.69	-12.3	Clear
			10/3/2017	14:55	19.3	0.5164	0.7	6.82	-95.4	Clear
	KWB-11B	Low Flow	4/25/2017	20:00	18.6	0.2962	0.8	6.88	69.2	Clear
			10/3/2017	14:15	20.1	0.2840	0.8	6.91	67.2	Clear
	KWB-12A	Low Flow	4/26/2017	12:10	18.9	0.3770	3.5	6.79	101.1	Clear; colorless
			10/3/2017	14:15	19.2	0.3180	3.5	6.90	84.8	Clear; colorless
	KWB-12B	Bladder	4/26/2017	12:50	18.6	0.3870	4.3	6.84	80.8	Clear; colorless
			10/3/2017	15:00	19.0	0.3270	3.5	6.87	-40.0	Clear; colorless
	KWB-P4	Low Flow	4/26/2017	8:55	16.9	0.5610	1.2	7.29	83.6	Clear
	MW-57	Low Flow	4/26/2017	13:45	19.2	0.5040	1.0	6.71	103.6	Colorless and slightly cloudy to colorless and clear
			10/3/2017	13:35	19.2	0.4520	1.7	6.89	81.1	Clear; colorless
	MW-58	Low Flow	4/25/2017	16:30	20.6	0.2340	1.6	6.82	-246.0	Clear; colorless; odor
			10/4/2017	10:30	20.8	0.2140	1.0	6.70	-298.8	Clear; odor

Table 2 - Well Purging and Water Quality Field Measurement Data

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HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well	Purge Method[1]	Date	Time	Temperature (°C)	Specific Conductivity (S/m)	DO (mg/L)	pH (std units)	ORP (mV)	Field Observations of Purge Water[2]
Field East of Refinery	MW-111	Low Flow	4/26/2017	15:35	21.0	0.2980	2.0	6.62	-101.1	Colorless and slightly cloudy to colorless and clear
			10/4/2017	10:55	20.2	0.2540	2.0	6.68	-69.1	Clear; colorless
	MW-113	Low Flow	4/27/2017	9:10	21.7	0.2920	2.0	6.53	-49.6	Clear
			10/4/2017	11:40	21.1	0.2610	1.8	6.81	-167.4	Clear
	MW-125	Low Flow	4/26/2017	16:00	21.1	0.4130	1.3	7.09	65.3	Clear; colorless
			10/3/2017	16:45	25.4	0.4620	2.4	6.84	-146.2	Clear; colorless
	MW-126A	Low Flow	4/27/2017	9:20	19.4	0.3550	0.9	6.62	-181.3	Colorless and slightly cloudy to colorless and clear
			10/3/2017	16:25	20.2	0.2530	1.8	6.90	-132.3	Colorless and slightly cloudy to colorless and clear
	MW-126B	Low Flow	4/27/2017	10:00	18.9	0.4240	0.7	6.64	12.5	Clear; colorless
			10/3/2017	17:05	19.9	0.3650	1.3	6.76	-12.3	Clear; colorless
	MW-127	Low Flow	4/27/2017	10:50	20.6	0.2830	0.8	6.75	-276.1	Colorless and slightly cloudy to colorless and clear
			10/3/2017	17:45	20.1	0.2430	1.4	6.79	-198.8	Clear; colorless
	MW-128	Low Flow	4/26/2017	14:10	23.0	0.1990	1.6	6.90	-63.2	Colorless and slightly cloudy to clear
			10/3/2017	15:00	24.9	0.2000	1.6	6.67	-182.9	Clear; colorless
	MW-129	Low Flow	4/27/2017	11:40	22.5	0.2270	1.4	6.70	-206.5	Colorless and cloudy to colorless and clear
	MW-130	Low Flow	4/26/2017	10:50	21.6	0.3200	1.5	6.80	-241.0	Clear; colorless
			10/4/2017	12:45	22.8	0.3060	0.8	6.66	-78.9	Clear
	MW-131	Low Flow	4/27/2017	11:10	22.7	0.2008	0.6	6.78	-218.1	Slightly cloudy to clear
			10/4/2017	12:25	19.3	0.1853	1.3	6.63	-128.5	Colorless and cloudy to colorless and clear
	MW-134	Low Flow	4/26/2017	8:45	18.7	0.5047	0.9	6.61	106.1	Clear
			10/4/2017	11:10	19.2	0.5277	1.1	6.76	67.7	Clear
	MW-135	Bladder	4/26/2017	16:50	18.3	0.7337	3.4	6.69	157.9	Clear with tiny white particles
			10/3/2017	15:50	19.0	0.6639	2.5	6.68	124.6	Clear with tiny white particles
	RA-4196	Grab	4/26/2017	9:45	22.5	0.1968	1.7	7.18	51.8	Clear
			10/4/2017	11:45	23.8	0.2581	1.9	6.91	13.8	Clear
	RA-4798	Grab	4/26/2017	9:25	19.6	0.1150	1.5	7.31	79.5	Clear
			10/3/2017	17:00	19.1	0.1189	1.7	7.03	76.4	Clear
	RW-12R	Low Flow	4/27/2017	12:30	19.7	0.3861	0.2	9.01	-210.1	Clear; strong odor
	RW-18	Low Flow	4/25/2017	12:35	18.7	0.4400	2.0	7.08	95.2	Clear; colorless
	MW-23	Low Flow	4/26/2017	11:15	25.6	0.2870	1.2	7.59	-342.2	Clear; odor; brown tint
			10/4/2017	10:25	27.2	0.2760	1.0	7.18	-347.0	Clear; black tint; odor
	MW-29	Low Flow	4/26/2017	17:25	21.2	0.3400	0.7	7.62	-295.9	Clear; colorless
			10/3/2017	15:55	25.0	0.3520	0.6	7.07	-294.4	Clear
	MW-39	Low Flow	4/26/2017	19:20	21.8	0.4430	0.9	7.68	-345.6	Clear; colorless
			10/4/2017	8:55	21.7	0.3890	1.2	7.27	-328.1	Clear; black tint; odor

Table 2 - Well Purging and Water Quality Field Measurement Data

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HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well	Purge Method[1]	Date	Time	Temperature (°C)	Specific Conductivity (S/m)	DO (mg/L)	pH (std units)	ORP (mV)	Field Observations of Purge Water[2]
North Refinery	MW-40	Low Flow	4/27/2017	12:10	24.3	0.3220	0.9	6.91	-353.8	Slightly cloudy to clear; black tint; odor
	MW-41	Low Flow	4/26/2017	18:25	21.1	0.3330	0.8	7.47	-318.9	Clear; colorless
	MW-42	Low Flow	4/26/2017	16:25	20.6	0.3850	0.8	7.54	-293.5	Clear; colorless
	MW-43	Low Flow	4/28/2017	11:25	24.0	0.4620	1.0	7.41	-400.6	Clear with black particles
			10/4/2017	9:40	22.6	0.4530	1.1	7.18	-345.2	Clear with black particles
	MW-59	Low Flow	4/27/2017	9:25	24.5	0.3040	1.8	6.97	-252.4	Clear; colorless
	MW-60	Low Flow	4/27/2017	10:15	24.8	0.3510	1.4	6.99	-307.2	Clear; colorless
			10/3/2017	15:45	28.3	0.3950	2.1	6.69	-301.3	Clear; colorless
	MW-61	Low Flow	4/26/2017	9:35	22.9	0.2650	0.9	7.58	-354.4	Clear
			10/4/2017	9:25	24.3	0.2960	0.5	7.00	-363.9	Clear
	MW-62	Low Flow	4/26/2017	10:20	22.4	0.3590	0.9	7.35	-380.2	Clear; colorless
			10/4/2017	10:25	23.5	0.3630	0.8	6.78	-369.0	Clear; odor
	MW-67	Low Flow	4/26/2017	16:15	21.3	0.2560	1.4	6.89	-396.8	Clear with light yellow tint; odor
			10/3/2017	13:25	24.0	0.2430	1.5	6.95	-358.1	Clear; light yellow tint; odor; small black particles
	MW-90	Low Flow	4/25/2017	14:30	21.0	0.4960	1.0	6.93	-336.0	Clear; odor
			10/3/2017	12:20	22.8	0.3390	1.1	6.86	-354.0	Clear; colorless; odor
	MW-91	Low Flow	4/25/2017	13:50	23.0	0.2320	1.0	6.72	-408.0	Clear with black tint; odor
			10/3/2017	11:40	23.0	0.2460	1.5	6.37	-376.5	Clear with black tint; odor
	MW-93	Low Flow	4/26/2017	12:15	21.1	0.2920	0.7	7.22	-373.2	Clear; colorless
	MW-94	Low Flow	4/26/2017	14:20	21.2	0.3170	1.5	6.94	-442.0	Clear with yellow tint; odor
	MW-95	Low Flow	4/26/2017	17:10	22.6	0.2380	1.4	6.86	-369.0	Clear; odor
	MW-96	Low Flow	4/25/2017	15:10	22.2	0.2130	1.5	6.75	-386.0	Clear with white particles; odor
			10/4/2017	8:50	21.8	0.2110	1.9	6.71	-354.9	Clear; colorless; white particles; odor
	MW-98	Low Flow	4/25/2017	10:25	23.1	0.3140	1.1	7.47	-385.0	Clear; colorless
			10/3/2017	12:25	24.2	0.3200	0.7	6.90	-375.5	Clear; odor
	MW-137	Low Flow	4/25/2017	13:25	26.7	0.5270	1.7	7.03	-406.9	Clear; odor
			10/4/2017	11:55	26.3	0.4760	1.8	6.93	-373.5	Clear; odor
	MW-138	Low Flow	4/25/2017	12:25	30.9	0.3160	1.0	7.01	-361.1	Clear with black particles
			10/4/2017	11:10	29.2	0.2890	1.0	6.89	-364.2	Clear with black particles
	RW-1R	Low Flow	4/25/2017	13:05	22.2	0.3860	1.0	6.77	-346.1	Clear with black tint and black particles; odor
	RW-2R	Low Flow	4/26/2017	13:15	24.0	0.3570	0.8	7.17	-388.2	Clear with black particles; light sheen; odor
	RW-7R	Low Flow	4/26/2017	13:35	23.5	0.6840	1.0	6.77	-184.5	Clear with small black particles; odor
	RW-8R	Low Flow	4/26/2017	15:05	21.8	0.2220	1.0	6.69	-354.5	Slightly cloudy to clear; black particles; odor
	RW-9	Low Flow	4/27/2017	11:15	23.2	0.3870	1.4	6.91	-355.8	Clear with black tint; odor
	RW-10	Low Flow	4/27/2017	9:55	21.8	0.2530	0.2	8.16	-368.4	Clear; colorless
	RW-16	Low Flow	4/26/2017	15:25	20.8	0.4510	0.8	7.71	-226.7	Clear; colorless
	RW-17	Low Flow	4/26/2017	17:55	19.3	0.5050	1.2	6.81	-237.6	Clear

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Area	Well	Purge Method[1]	Date	Time	Temperature (°C)	Specific Conductivity (S/m)	DO (mg/L)	pH (std units)	ORP (mV)	Field Observations of Purge Water[2]
North Refinery	MW-117	Low Flow	4/26/2017	8:55	15.8	0.3740	0.8	6.80	80.0	Colorless; cloudy to slightly cloudy
			10/4/2017	8:35	17.0	0.3320	1.3	6.86	83.4	Clear; colorless
	MW-118	Low Flow	4/26/2017	9:40	15.5	0.4220	4.0	6.89	94.7	Colorless and cloudy to colorless and clear
			10/4/2017	9:20	17.8	0.3660	4.7	6.98	110.1	Clear; colorless
	MW-119	Low Flow	4/26/2017	10:25	16.1	0.3950	0.9	6.81	82.9	Colorless and slightly cloudy to clear
			10/4/2017	10:05	19.7	0.3620	1.8	6.76	100.5	Clear; colorless
North RO Reject Field	MW-18	Low Flow	4/27/2017	9:15	20.3	0.3010	2.4	6.92	41.6	Clear
	MW-45	Low Flow	4/25/2017	18:20	20.7	0.4780	1.2	7.67	-200.4	Clear with brown particles
			10/3/2017	16:45	23.4	0.4790	1.3	7.06	-219.6	Clear
	MW-53	Low Flow	4/25/2017	9:05	21.0	0.2690	1.6	6.87	79.6	Clear; colorless
	MW-54A	Low Flow	4/25/2017	11:15	23.2	0.2110	1.7	6.62	75.0	Clear; colorless
			10/3/2017	8:50	21.6	0.2180	1.4	6.51	76.3	Clear; colorless
NCL	MW-54B	Low Flow	4/25/2017	10:35	21.8	0.2040	1.2	6.76	74.1	Clear; colorless
	MW-55	Low Flow	4/27/2017	10:00	20.7	0.3380	1.6	6.70	-142.6	Clear; colorless
			10/4/2017	10:50	21.3	0.3750	1.8	7.11	-235.2	Clear; colorless
	MW-56	Low Flow	4/26/2017	14:25	21.8	0.4160	1.0	7.38	-290.9	Clear; colorless
	MW-108	Low Flow	4/26/2017	9:05	19.1	0.2470	1.6	6.86	-383.5	Clear with yellow tint; odor
			10/3/2017	14:30	23.5	0.2620	1.5	7.02	-362.1	Clear with yellow tint; odor
	NCL-31	Low Flow	4/26/2017	9:50	18.4	0.3050	1.2	7.01	-150.5	Clear with small white particles; slight odor
			10/3/2017	15:15	25.2	0.2850	0.9	7.31	-218.0	Clear; colorless with small white particles
	NCL-32	Low Flow	4/26/2017	10:35	19.2	0.2440	1.8	6.97	-26.5	Clear with small white particles
			10/3/2017	16:05	22.6	0.2520	0.8	7.08	-131.7	Clear; colorless with small white particles
	NCL-33	Low Flow	4/26/2017	12:10	20.8	0.3030	1.5	6.66	38.4	Clear; colorless
			10/4/2017	10:10	21.9	0.3070	1.7	7.04	-219.7	Clear; colorless
	NCL-34A	Low Flow	4/26/2017	12:50	21.3	0.2110	1.3	6.58	-378.3	Clear; odor
			10/4/2017	9:30	22.5	0.1923	1.6	6.66	-328.3	Clear; colorless; odor; sheen
	NCL-44	Low Flow	4/26/2017	11:25	19.6	0.2560	1.5	6.63	-256.2	Clear with light yellow tint; slight odor
			10/3/2017	16:55	22.9	0.2620	1.1	6.87	-237.6	Clear with light yellow tint
	NCL-49	Low Flow	4/25/2017	9:45	21.4	0.3030	1.3	6.93	76.5	Clear; colorless
			10/3/2017	9:35	21.5	0.3070	1.5	6.96	80.9	Clear; colorless
South Refinery	KWB-2R	Low Flow	4/25/2017	17:15	21.0	0.3220	1.6	6.85	-202.7	Clear; colorless; odor
			10/4/2017	11:10	20.8	0.3110	0.9	6.71	-347.2	Clear; odor
	KWB-5	Low Flow	4/26/2017	16:40	21.1	0.2940	2.3	6.61	-146.0	Clear; colorless
			10/4/2017	11:40	19.9	0.2500	2.0	6.67	-107.9	Clear; colorless
	KWB-6	Low Flow	4/26/2017	14:35	20.2	0.2400	0.9	6.81	-275.6	Dark tint; clear; odor
			10/4/2017	11:50	21.1	0.2440	0.7	6.53	-314.7	Clear with black tint; odor

Table 2 - Well Purging and Water Quality Field Measurement Data

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well	Purge Method[1]	Date	Time	Temperature (°C)	Specific Conductivity (S/m)	DO (mg/L)	pH (std units)	ORP (mV)	Field Observations of Purge Water[2]
South Refinery	MW-28	Low Flow	4/26/2017	12:10	23.4	0.3150	1.4	6.87	-334.1	Clear; colorless
			10/3/2017	14:20	27.3	0.3080	2.2	6.60	-318.9	Clear; colorless
	MW-48	Low Flow	4/26/2017	9:15	21.0	0.4300	1.4	6.78	-375.1	Clear; colorless; odor
			10/4/2017	12:25	24.3	0.3960	1.5	6.65	-413.8	Black tint; odor
	MW-50	Low Flow	4/25/2017	12:00	23.1	0.7040	1.0	6.89	87.4	Clear; colorless
			10/3/2017	10:25	22.4	0.7010	1.2	6.96	97.4	Clear; colorless
	MW-52	Low Flow	4/27/2017	8:55	21.2	0.5250	0.7	6.84	114.9	Clear
			10/4/2017	8:15	20.4	0.3300	0.9	6.94	47.3	Clear
	MW-64	Low Flow	4/25/2017	13:00	30.6	0.2540	1.4	7.24	-325.3	Clear; colorless
			10/3/2017	10:30	25.1	0.2550	1.1	6.89	-268.0	Clear; colorless
	MW-65	Low Flow	4/25/2017	13:50	27.3	0.2120	1.5	7.06	-227.7	Clear; colorless; odor
			10/3/2017	11:10	26.7	0.2170	1.0	6.64	-165.2	Clear; colorless; odor
	MW-66	Low Flow	4/26/2017	11:15	22.5	0.1504	2.1	7.25	-224.8	Clear; colorless
			10/3/2017	13:40	24.6	0.1724	1.7	6.75	-179.1	Clear; colorless
	MW-99	Low Flow	4/26/2017	10:20	22.6	0.2040	1.3	6.96	-317.3	Clear; colorless
			10/3/2017	13:00	25.2	0.2230	1.3	6.68	-295.7	Clear; colorless
	MW-101	Low Flow	4/27/2017	9:45	22.0	0.2110	1.2	6.60	-137.1	Clear; colorless
			10/3/2017	17:35	23.9	0.2070	0.9	6.78	-170.7	Clear
	MW-102	Low Flow	4/26/2017	9:25	22.7	0.2180	1.6	7.07	-320.6	Clear; colorless
			10/3/2017	12:00	25.2	0.2380	1.2	6.79	-292.6	Clear; colorless
	MW-103	Low Flow	4/25/2017	14:45	31.6	3.3300	1.9	7.39	-329.1	Clear; colorless
	MW-104	Low Flow	4/25/2017	15:35	24.5	0.1750	1.5	7.14	-329.2	Clear; colorless
			10/3/2017	9:30	23.9	0.1491	0.9	6.69	-278.5	Clear; colorless
	MW-105	Low Flow	4/26/2017	8:25	20.5	0.1358	1.0	7.89	-379.3	Clear with black tint; odor
			10/4/2017	8:25	23.8	0.1731	0.8	6.99	-358.1	Clear; odor
	MW-106	Low Flow	4/25/2017	9:25	23.7	0.3000	0.6	7.31	-374.2	Clear; colorless; odor
			10/4/2017	12:45	26.2	0.3510	0.8	6.72	-372.1	Clear; colorless; odor
	MW-107	Low Flow	4/26/2017	15:10	23.0	0.1957	1.6	7.11	-107.6	Clear; colorless
	MW-109	Low Flow	4/27/2017	9:40	22.8	0.3370	0.4	6.82	-369.2	Clear with black tint; odor
			10/4/2017	9:00	21.8	0.3510	0.5	6.53	-361.9	Clear with black tint; odor
	MW-110	Low Flow	4/27/2017	10:25	22.6	0.1827	0.5	7.05	-349.9	Clear; odor
			10/4/2017	9:45	21.4	0.2160	0.5	6.98	-266.3	Clear; odor
	RA-313	Grab	4/27/2017	9:30	20.7	0.1303	3.1	7.08	-68.4	Clear
	RW-4R	Low Flow	4/26/2017	13:10	24.3	0.2190	1.1	7.25	-318.8	Clear; colorless
	RW-15	Low Flow	4/26/2017	10:00	20.5	0.2720	2.7	6.77	-337.9	Clear

Table 2 - Well Purging and Water Quality Field Measurement Data

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well	Purge Method[1]	Date	Time	Temperature (°C)	Specific Conductivity (S/m)	DO (mg/L)	pH (std units)	ORP (mV)	Field Observations of Purge Water[2]
South RO Reject Field	MW-114	Low Flow	4/27/2017	11:30	19.7	0.3669	0.9	6.91	149.1	Clear
			10/4/2017	10:10	22.2	0.3967	1.2	6.77	47.2	Clear
	MW-115	Low Flow	4/27/2017	10:40	17.5	0.4217	1.1	6.80	92.3	Clear
			10/4/2017	9:15	18.1	0.5273	1.4	6.60	56.4	Clear
	MW-116	Low Flow	4/26/2017	16:55	15.8	0.3480	1.2	7.27	67.0	Clear; colorless
			10/3/2017	17:30	21.0	0.3710	1.5	6.94	21.4	Clear; colorless
TEL	MW-49	Low Flow	4/27/2017	10:30	23.3	0.3240	0.8	7.05	-332.1	Clear with black tint
			10/4/2017	11:25	25.0	0.3200	0.7	6.81	-356.6	Clear
	TEL-1	Low Flow	4/27/2017	8:55	22.2	0.3070	0.4	7.74	-297.9	Clear with black particles
			10/3/2017	11:25	21.8	0.3150	0.5	7.14	-319.2	Clear
	TEL-2	Low Flow	4/27/2017	10:45	23.9	0.3240	0.7	7.34	-359.1	Clear; colorless
			10/3/2017	10:35	22.0	0.3620	0.8	6.88	-312.7	Clear; odor
	TEL-3	Low Flow	4/27/2017	11:50	21.1	0.2310	0.5	6.72	-394.9	Clear; sheen; odor
	TEL-4	Low Flow	4/27/2017	10:55	20.7	0.5170	0.8	6.74	-383.7	Clear with black particles; sheen; odor
			10/3/2017	9:25	22.0	0.4600	0.6	6.42	-187.3	Clear; black tint; odor; sheen
TMD	MW-8	Low Flow	4/27/2017	11:50	21.4	0.4170	1.4	7.21	43.1	Clear
	MW-16	Low Flow	4/26/2017	14:00	17.6	0.7046	0.8	6.85	117.1	Clear
	MW-20	Low Flow	4/27/2017	10:20	22.0	0.5310	1.7	7.04	42.3	Clear
	MW-21	Low Flow	4/27/2017	11:05	21.2	0.5620	1.3	7.10	51.9	Clear
			10/4/2017	12:45	21.2	0.5230	1.4	7.11	-60.3	Clear
	MW-25	Low Flow	4/26/2017	15:10	19.7	1.4350	0.5	7.28	81.2	Clear
	MW-26	Low Flow	4/26/2017	12:55	17.5	0.9022	0.6	6.89	101.9	Clear
	MW-27	Low Flow	4/26/2017	15:55	20.9	0.2785	0.7	6.53	87.3	Clear
	MW-46R	Low Flow	4/27/2017	11:40	24.2	0.3820	2.3	7.02	40.8	Clear; colorless
			10/3/2017	18:10	24.9	0.4110	1.4	6.83	-82.7	Clear; colorless
TMD	MW-68	Low Flow	4/26/2017	11:55	19.7	0.3279	0.5	6.95	121.4	Clear
	MW-71	Low Flow	4/26/2017	11:05	17.7	0.6416	2.4	6.95	122.9	Clear
	MW-89	Low Flow	4/26/2017	14:55	17.9	0.4109	1.7	6.95	52.7	Clear
	NP-1	Low Flow	4/26/2017	18:20	18.2	0.4726	1.1	7.76	137.1	Clear
			10/4/2017	12:45	19.4	0.4896	1.3	6.90	52.7	Clear
	NP-6	Low Flow	4/26/2017	17:40	17.7	0.6222	0.9	6.56	89.1	Clear

Table 2 - Well Purging and Water Quality Field Measurement Data

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well	Purge Method[1]	Date	Time	Temperature (°C)	Specific Conductivity (S/m)	DO (mg/L)	pH (std units)	ORP (mV)	Field Observations of Purge Water[2]
Up-Gradient	UG-1	Low Flow	4/25/2017	11:20	25.9	0.2940	5.5	7.35	167.3	Clear; colorless
	UG-2	Low Flow	4/25/2017	12:10	25.7	0.2220	5.0	7.45	156.7	Clear; colorless
	UG-3R	Bladder	4/25/2017	9:40	23.2	0.2260	5.1	7.05	175.2	Clear; colorless
	UG-4	Low Flow	4/25/2017	10:25	24.1	0.3770	4.1	7.02	176.4	Clear; colorless

[1] **Purge Methods:**

Low Flow = peristaltic pump with dedicated tubing, purged until parameters stabilized

Bladder = bladder pump with dedicated tubing, purged until parameters stabilized

Grab = irrigation well sample collected from tap or valve

Definitions:

°C = Degrees Celsius

DO = Dissolved Oxygen

mg/L = milligrams per liter

mV = milliVolts

ORP = oxidation/reduction potential

S/m = Siemens per meter

std units = standard pH units

[2] **Potential Explanations of Water Quality Observations:**

"Odor" likely due to the presence of petroleum hydrocarbons

"Cloudy water" likely due to presence of suspended inorganic particles (silt, clay)

Dark, black, brown, yellow, gold and orange tints likely due to suspended clay/silt particles or microbial activity

"Particles" of varying color likely due to suspended clay/silt particles

"Orange algae" likely due to microbial activity

Table 3 - Groundwater Screening Levels and Selected Critical Groundwater Screening Levels

2017 Annual Groundwater Monitoring Report
HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Analyte	WQCC GW Human Health (20.6.2.3103.A)	WQCC GW Domestic (20.6.2.3103.B)	WQCC GW Irrigation (20.6.2.3103.C)	USEPA MCL	NMED Tap Water (Table A-1)	USEPA Tap Water	NMED TPH (Table 6-4)	CGWSL	CGWSL Source
TPH (mg/L)									
TPH - gasoline range organics									
TPH - diesel range organics							3.98E-02	3.98E-02	NMED TPH (2017)
TPH - diesel range organics (Evaporation Ponds)							4.73E-02	4.73E-02	NMED TPH (2017)
VOCs (mg/L)									
1,1,1-Trichloroethane	6.00E-02			2.00E-01				6.00E-02	WQCC GW Human Health (20.6.2.3103.A)
1,1,2,2-Tetrachloroethane	1.00E-02							1.00E-02	WQCC GW Human Health (20.6.2.3103.A)
1,1,2,2-Tetrachloroethene	2.00E-02							2.00E-02	WQCC GW Human Health (20.6.2.3103.A)
1,1,2-Trichloroethane	1.00E-02			5.00E-03				5.00E-03	USEPA MCL
1,1,2-Trichloroethene	1.00E-01							1.00E-01	WQCC GW Human Health (20.6.2.3103.A)
1,1-Dichloroethane	2.50E-02							2.50E-02	WQCC GW Human Health (20.6.2.3103.A)
1,1-Dichloroethene				7.00E-03				7.00E-03	USEPA MCL
1,2-Dibromo-3-chloropropane				2.00E-04				2.00E-04	USEPA MCL
1,2-Dibromoethane (ethylene dibromide)	1.00E-04			5.00E-05				5.00E-05	USEPA MCL
1,2-Dichloroethane	1.00E-02			5.00E-03				5.00E-03	USEPA MCL
1,2-Dichloropropane				5.00E-03				5.00E-03	USEPA MCL
1,2,4-Trimethylbenzene						1.50E-02		1.50E-02	USEPA Tap Water
1,3,5-Trimethylbenzene						1.20E-01		1.20E-01	USEPA Tap Water
2-Butanone (methyl ethyl ketone)					5.56E+00			5.56E+00	NMED Tap Water (Table A-1)
4-Methyl-2-Pentanone (methyl isobutyl ketone)					1.24E+00			1.24E+00	NMED Tap Water (Table A-1)
Acetone					1.41E+01			1.41E+01	NMED Tap Water (Table A-1)
Benzene	1.00E-02			5.00E-03				5.00E-03	USEPA MCL
Bromodichloromethane				8.00E-02				8.00E-02	USEPA MCL
Bromomethane					7.54E-03			7.54E-03	NMED Tap Water (Table A-1)
Carbon Disulfide					8.10E-01			8.10E-01	NMED Tap Water (Table A-1)
Carbon tetrachloride	1.00E-02			5.00E-03				5.00E-03	USEPA MCL
Chlorobenzene				1.00E-01				1.00E-01	USEPA MCL
Chloroethane (ethyl chloride)					2.09E+01			2.09E+01	NMED Tap Water (Table A-1)
Chloroform	1.00E-01			8.00E-02				8.00E-02	USEPA MCL
Chloromethane					2.03E-02			2.03E-02	NMED Tap Water (Table A-1)
cis-1,2-Dichloroethene				7.00E-02				7.00E-02	USEPA MCL
cis-1,3-Dichloropropene					4.71E-03			4.71E-03	NMED Tap Water (Table A-1)
Dibromochloromethane				8.00E-02				8.00E-02	USEPA MCL
Dichlorodifluoromethane					1.97E-01			1.97E-01	NMED Tap Water (Table A-1)
Ethylbenzene	7.50E-01			7.00E-01				7.00E-01	USEPA MCL
Isopropylbenzene (cumene)					4.47E-01			4.47E-01	NMED Tap Water (Table A-1)
m-Xylene					1.93E-01			1.93E-01	NMED Tap Water (Table A-1)
Methyl acetate					1.99E+01			1.99E+01	NMED Tap Water (Table A-1)
Methylene chloride (dichloromethane)	1.00E-01			5.00E-03				5.00E-03	USEPA MCL
Naphthalene	3.00E-02							3.00E-02	WQCC GW Human Health (20.6.2.3103.A)
Methyl tert-butyl ether					1.43E-01			1.43E-01	NMED Tap Water (Table A-1)
o-Xylene					1.93E-01			1.93E-01	NMED Tap Water (Table A-1)
Styrene				1.00E-01				1.00E-01	USEPA MCL
Tetrachloroethene				5.00E-03				5.00E-03	USEPA MCL
Toluene	7.50E-01			1.00E+00				7.50E-01	WQCC GW Human Health (20.6.2.3103.A)
trans-1,2-Dichloroethene				1.00E-01				1.00E-01	USEPA MCL
trans-1,3-Dichloropropene					4.71E-03			4.71E-03	NMED Tap Water (Table A-1)
Trichloroethene				5.00E-03				5.00E-03	USEPA MCL
Trichlorofluoromethane					1.14E+00			1.14E+00	NMED Tap Water (Table A-1)
Vinyl chloride	1.00E-03			2.00E-03				1.00E-03	WQCC GW Human Health (20.6.2.3103.A)
Xylenes	6.20E-01			1.00E+01				6.20E-01	WQCC GW Human Health (20.6.2.3103.A)
Metals (mg/L)									
Aluminum			5.00E+00					5.00E+00	WQCC GW Irrigation (20.6.2.3103.C)
Arsenic	1.00E-01			1.00E-02				1.00E-02	USEPA MCL
Barium	1.00E+00			2.00E+00				1.00E+00	WQCC GW Human Health (20.6.2.3103.A)
Beryllium				4.00E-03				4.00E-03	USEPA MCL
Boron			7.50E-01					7.50E-01	WQCC GW Irrigation (20.6.2.3103.C)
Cadmium	1.00E-02			5.00E-03				5.00E-03	USEPA MCL
Chromium	5.00E-02			1.00E-01				5.00E-02	WQCC GW Human Health (20.6.2.3103.A)
Cobalt			5.00E-02					5.00E-02	WQCC GW Irrigation (20.6.2.3103.C)
Copper		1.00E+00		1.30E+00				1.00E+00	WQCC GW Domestic (20.6.2.3103.B)
Iron		1.00E+00						1.00E+00	WQCC GW Domestic (20.6.2.3103.B)
Lead	5.00E-02			1.50E-02				1.50E-02	USEPA MCL
Manganese		2.00E-01						2.00E-01	WQCC GW Domestic (20.6.2.3103.B)
Mercury	2.00E-03			2.00E-03				2.00E-03	WQCC GW Human Health (20.6.2.3103.A)
Molybdenum			1.00E+00					1.00E+00	WQCC GW Irrigation (20.6.2.3103.C)
Nickel			2.00E-01					2.00E-01	WQCC GW Irrigation (20.6.2.3103.C)
Selenium	5.00E-02			5.00E-02				5.00E-02	WQCC GW Human Health (20.6.2.3103.A)
Silver	5.00E-02							5.00E-02	WQCC GW Human Health (20.6.2.3103.A)
Vanadium					6.31E-02			6.31E-02	NMED Tap Water (Table A-1)
Water Quality Parameters (mg/L, unless noted otherwise)									
Chloride		2.50E+02						2.50E+02	WQCC GW Domestic (20.6.2.3103.B)
Cyanide	2.00E-01			2.00E-01				2.00E-01	WQCC GW Human Health (20.6.2.3103.A)
Fluoride	1.60E+00							1.60E+00	WQCC GW Human Health (20.6.2.3103.A)
Nitrate (NO_3 as N)	1.00E+01			1.00E+01				1.00E+01	WQCC GW Human Health (20.6.2.3103.A)
pH (Std pH units)		6 to 9						6 to 9	WQCC GW Domestic (20.6.2.3103.B)
Sulfate		6.00E+02						6.00E+02	WQCC GW Domestic (20.6.2.3103.B)
Total Dissolved Solids		1.00E+03						1.00E+03	WQCC GW Domestic (20.6.2.3103.B)
Other Parameters (mg/L, unless noted otherwise)									
Uranium	3.00E-02			3.00E-02				3.00E-02	WQCC GW Human Health (20.6.2.3103.A)
Combined Radium 226 and 228 (pCi/L)	3.00E+01			5.00E+00				5.00E+00	USEPA MCL
Polychlorinated Biphenyls	1.00E-03			5.00E-04				5.00E-04	USEPA MCL

Definitions and Notes:

Blank cell indicates no standard is available

CGWSL = Critical Groundwater Screening Level

Heirarchy of selecting the CGWSL is as follows:

1. Lowest of either NM WQCC GW Standard (20.6.2.3103) or USEPA MCL.
2. If no NM WQCC GW Standard or USEPA MCL available, NMED Tap Water value.
3. If no NMED Tap Water value, USEPA Tap Water value, if available.
4. NMED TPH screening for "unknown oil" used for TPH-DRO.
5. NMED TPH screening value for "Diesel #2/New Crankase Oil" applied to TPH DRO samples collected from Evaporation Ponds.

NMAC = New Mexico Administrative Code

NMED = New Mexico Environment Department

NMED Tap Water = NMED Risk Assessment Guidance for Site Investigations and Remediation, March 2017, Table A-1, Tap Water Screening Level

NMED TPH = NMED Risk Assessment Guidance for Site Investigations and Remediation, March 2017, Table 6-4, TPH Groundwater Screening Levels

mg/L = Milligrams per Liter

pCi/L = PicoCuries per Liter

SVOC = Semivolatile Organic Compound

TPH = Total Petroleum Hydrocarbons

USEPA MCL = United States Environmental Protection Agency Maximum Contaminant Level from "Regional Screening Level (RSL) Summary Table", November 2017

USEPA Tap Water = United States Environmental Protection Agency Tap Water Screening Level from"Regional Screening Level (RSL) Summary Table", November 2017

VOC = Volatile Organic Compound

WQCC = New Mexico Water Quality Control Commission

WQCC GW Domestic = WQCC groundwater standard for domestic exposure, 20.6.2.3103.B NMAC

WQCC GW Human Health = WQCC groundwater standard for human health exposure, 20.6.2.3103.A NMAC

WQCC GW Irrigation = WQCC groundwater standard for irrigation exposure, 20.6.2.3103.C NMAC

Table 4A - Summary of Groundwater Analytical Data - Total Petroleum Hydrocarbons and Volatile Organic Compounds

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	TPH			Volatile Organic Compounds										
				Analyte:	GRO	DRO	DRO - EP	1,2,4-TMB	1,3,5-TMB	Benzene	cis-1,2-DCE	Ethyl-benzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes	Trichloro-ethene
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	0.0398	0.0473	0.015	0.12	0.005	0.07	0.7	0.143	0.03	0.193	0.75	0.62	0.005
				CGWSL Source:		NMED TPH	NMED TPH	USEPA TW	USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH	USEPA MCL
Area	**Well ID**	**Date**	**Dup**															
Cross-Gradient	KWB-13	Apr-14				<0.0200		<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	KWB-13	Apr-15				**0.0630** J		0.00302	0.000456 J	<0.000330	<0.000260	<0.000380	<0.000370	0.00317 J	<0.000340	<0.000780	0.00254 J	<0.000400
	KWB-13	Apr-16				**0.0505** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	KWB-13	Apr-17				0.0370 J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-17	Apr-14				0.0380 J												
	NP-5	Apr-13				**<0.0530**		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.0150	<0.00500
	NP-5	Apr-15				0.0387 J		0.000804 J	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	NP-5	Apr-17				<0.0247		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	RA-3156	Nov-13						<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.0150	<0.00500
	RA-3156	Apr-14						<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	RA-3156	Apr-16						<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	RA-3156	Apr-17						<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-136	Oct-15		<0.0314		**0.0721** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-136	Apr-16		<0.0314		**0.162**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-136	Oct-16		<0.0314		**0.118**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-136	Apr-17		<0.0314		**0.0731** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-136	Oct-17		<0.0314		**0.0937** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
Evaporation Ponds	MW-1R	Apr-14					<0.0200	<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-1R	Apr-15					**0.124**	<0.000373	<0.000387	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-1R	Apr-16					**0.163**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-1R	Apr-17					**0.0583** J	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	MW-2A	Apr-15		<0.0310			**0.295**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-2A	Oct-15		0.0363 J			**0.260**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-2A	Apr-16		<0.0314			**0.212**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-2A	Oct-16		0.0435 JB			**0.195**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-2A	Apr-17		<0.0314			**0.164**	<0.00373	<0.00387	<0.00331	<0.00260	<0.00384	<0.00367	<0.0100	<0.00341	<0.00412	<0.0106	<0.00398
	MW-2A	Oct-17		0.0354 J			**0.265**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-3	Apr-15		0.134			**8.50**	<0.000370	<0.000390	0.000609 J	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-3	Apr-15	FD	0.151 J			**8.60**	<0.000370	<0.000390	0.000638 J	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-3	Oct-15		3.59			**11.2**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-3	Oct-15	FD	0.839			**10.2**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-3	Apr-16		0.499			**10.2**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-3	Apr-16	FD	0.490			**9.97**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-3	Oct-16		0.611			**11.0**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-3	Oct-16	FD	0.571			**10.5**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-3	Apr-17		0.205			**8.09**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-3	Apr-17	FD	0.263			**7.74**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	MW-3	Oct-17		0.602			**13.1**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-3	Oct-17	FD	0.834			**4.17**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-4A	Apr-15		0.130			**5.60**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.000461 J	<0.00100	0.000658 J	<0.000780	0.00293 J	<0.000400
	MW-4A	Oct-15		3.44			**9.81**	0.000502 J	<0.000387	<0.000331	<0.000260	<0.000384	0.000641 J	<0.00100	<0.000341	<0.000780	0.00237 J	<0.000398
	MW-4A	Apr-16		0.402			**8.76**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000605 J	<0.00100	0.000352 J	<0.000780	0.00201 J	<0.000398
	MW-4A	Oct-16		0.396			**5.84**	0.000553 J	<0.000387	<0.000331	<0.000260	<0.000384	0.000516 J	<0.00100	0.000870 J	<0.000780	0.00365	<0.000398
	MW-4A	Apr-17		0.607			**8.15**	0.000390 J	<0.000387	<0.000331	<0.000260	<0.000384	0.000444 J	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	MW-4A	Oct-17		0.730			**7.49**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	0.000597 J	<0.000412	<0.00106	<0.000398
	MW-4B	Apr-13		0.102			**0.360**	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.0150	<0.00500
	MW-4B	Apr-15		0.119			**1.31**	<0.000370	<0.000390	0.00183	<0.000260	0.000462 J	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-4B	Apr-17		0.318			**1.21**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	MW-5A	Apr-15		1.19			**4.30**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.00138	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-5A	Oct-15		1.72			**2.31**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00174	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-5A	Apr-16		2.09			**8.92**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00212	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-5A	Oct-16		1.17			**3.08**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00130	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-5A	Apr-17		3.00			**7.60**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00160	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-5A	Oct-17		2.75			**7.16**	0.000456 J	<0.000387	<0.000331	<0.000260	<0.000384	0.00150	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-5B	Apr-13		1.78			**7.10**	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.0150	<0.00500
	MW-5B	Apr-15		1.14			**11.0**	0.000976 J	<0.000390	<0.000330	<0.000260	<0.000380	0.00148	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-5B	Apr-17		2.08			**11.2**	0.000499 J	<0.000387	<0.000331	<0.000260	<0.000384	0.00140	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-5C	Apr-13		0.0652			**0.220**	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.0150	<0.00500
	MW-5C	Apr-15		<0.0310			**0.580**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.000507 J	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-5C	Apr-17		<0.0314			**0.500**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000369 J	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-6A	Apr-14		0.238			**1.50**	<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	0.00160 J	<0.000500	0.00160 J	<0.000500
	MW-6A	Apr-15		<0.0310			**4.50**	<0.000370	<0.000390	0.000715 J	<0.000260	<0.000380	<0.000370	<0.00100	0.000920 J	<0.000780	<0.00110	<0.000400
	MW-6A	Apr-16		<0.0314			**4.81**	<0.000373	<0.000387	<0.000331	<0.000260	0.00116	<0.000367	<0.00100	0.00119	<0.000780	0.00119 J	<0.000398
	MW-6A	Apr-17		0.335			**14.2**	<0.00373	<0.00387	<0.00331	<0.00260	<0.00384	<0.00367	<0.0100	<0.00341	<0.00412	<0.0106	<0.00398
	MW-6B	Mar-13		<0.0500			**<0.0530**	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.0150	<0.00500
	MW-6B	Mar-13	FD	<0.0500			**<0.0540**	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.0150	<0.00500
	MW-6B	Apr-15		<0.0310			**0.386**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-6B	Apr-17		<0.0314			**0.276**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-7A	Apr-15		0.201			**1.20**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.00194	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-7A	Apr-15	FD	0.190 J			**1.20**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.00185	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-7A	Oct-15		0.347			**1.06**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00175	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-7A	Oct-15	FD	0.417			**1.13**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00174	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-7A	Apr-16		0.251			**1.22**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00168	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-7A	Apr-16	FD	0.269			**1.32**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00168	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-7A	Oct-16		0.235			**1.21**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00188	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-7A	Oct-16	FD	0.212			**1.25**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00166	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-7A	Apr-17		0.501			**1.12**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00150	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-7A	Apr-17	FD	0.402			**1.24**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00148	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-7A	Oct-17		0.473			**1.30**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00140	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-7A	Oct-17	FD	0.523			**1.39**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00178	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-7B	Apr-13		<0.0500			**<0.0530**	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.0150	<0.00500
	MW-7B	Apr-15		<0.0310			**0.120**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-7B	Apr-17		<0.0314			**0.0845** J	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-10	Apr-15		0.410 J			**2.60**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.00195	<0.00100	<0.000340	<0.000780 J	<0.00110	<0.000400
	MW-10	Oct-15		0.730			**1.79**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00201	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-10	Apr-16		1.06			**3.19**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00216	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-10	Oct-16		1.05			**2.65**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00190	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-10	Apr-17		0.877			**2.75**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00195	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-10	Oct-17		1.11			**2.51**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00141	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-11A	Apr-15		<0.0310			**0.0558** J	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-11A	Oct-15																
	MW-11A	Apr-16		<0.0314			<0.0247	<0.00100	<0.00100	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-11A	Oct-16																
	MW-11A	Apr-17		<0.0314			<0.0247	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	MW-11A	Oct-17																
	MW-11B	Mar-13		<0.0500			**<0.0520**	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.0150	<0.00500
	MW-11B	Apr-15		<0.0310			<0.0250	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-11B	Apr-17		<0.0314			<0.0247	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	MW-12	Apr-14					<0.0200											
	MW-13	Apr-14					<0.0200											
	MW-15	Apr-14		0.149			**0.570**	<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-15	Apr-15		<0.160			**1.01**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.000809 J	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-15	Apr-16		0.203			**0.549**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000602 J	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-15	Apr-17		0.0940 J			**0.251**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000373 J	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398

Table 4A - Summary of Groundwater Analytical Data - Total Petroleum Hydrocarbons and Volatile Organic Compounds

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	TPH			Volatile Organic Compounds										
				Analyte:	GRO	DRO	DRO - EP	1,2,4-TMB	1,3,5-TMB	Benzene	cis-1,2-DCE	Ethyl-benzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes	Trichloro-ethene
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	0.0398	0.0473	0.015	0.12	0.005	0.07	0.7	0.143	0.03	0.193	0.75	0.62	0.005
				CGWSL Source:		NMED TPH	NMED TPH	USEPA TW	USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH	USEPA MCL
Area	**Well ID**	**Date**	**Dup**															
Evaporation Ponds	MW-18A	Apr-15					**0.0770** J	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-18A	Oct-15					**0.215**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-18A	Apr-16					**0.460**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000490 J	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-18A	Oct-16					**0.424**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000586 J	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-18A	Apr-17					**0.516**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000650 J	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-18A	Oct-17					**0.520**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000529 J	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-18B	Apr-13		0.0995			**<0.0520**	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.0150	<0.00500
	MW-18B	Apr-15		<0.0310			**0.280**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-18B	Apr-17		0.0932 J			**0.287**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-22A	Apr-15		2.57			**5.80**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.00557	<0.00100	<0.000340	<0.000780 J	<0.00110	<0.000400
	MW-22A	Apr-15	FD	3.80			**6.39**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.00733	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-22A	Oct-15		3.63			**4.56**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00928	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-22A	Oct-15	FD	3.31			**4.46**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00967	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-22A	Apr-16		3.53			**7.43**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00907	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-22A	Apr-16	FD	4.02			**7.66**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00887	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-22A	Oct-16		3.48			**5.73**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00805	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-22A	Oct-16	FD	3.25			**6.18**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00620	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-22A	Apr-17		3.63			**6.65**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00774	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-22A	Apr-17	FD	4.22			**6.63**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00654	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	MW-22A	Oct-17		4.51			**6.03**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00552	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-22A	Oct-17	FD	4.42			**6.50**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00631	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-22B	Apr-13		1.99			**3.00**	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00650	<0.00500	<0.00500	<0.00500	<0.0150	<0.00500
	MW-22B	Apr-15		2.34			**5.60**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.00634	<0.00100	<0.000340	<0.000780 J	<0.00110	<0.000400
	MW-22B	Apr-17		1.76			**5.25**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00564	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-70	Apr-15		1.27 J			**0.790**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-70	Oct-15		1.37			**0.599**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-70	Apr-16		1.46			**0.896**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-70	Oct-16		1.32			**0.772**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-70	Apr-17		2.35			**0.899**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-70	Oct-17		1.78			**0.865**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-72	Apr-14		0.0920			**0.760**	<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-72	Apr-15		<0.0310			**1.30**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-72	Apr-16		<0.0314			**0.950**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-72	Apr-17		0.118			**1.03**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	MW-73	Apr-14		0.985			**4.80**	0.00210 J	<0.000600	<0.000600	<0.00060	<0.000500	0.00160 J	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-73	Apr-15		0.378			**4.00**	0.00171	<0.000390	<0.000330	<0.000260	<0.000380	0.00290	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-73	Apr-16		0.925			**5.17**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00270	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-73	Apr-17		0.367			**3.68**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00120	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	MW-74	Apr-15		0.0910 J			**38.0**	<0.000373	<0.000387	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-74	Oct-15		3.23			**18.9**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000826 J	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-74	Apr-16		1.20			**18.4**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000972 J	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-74	Oct-16		0.135			**64.3**	0.000718 J	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-74	Apr-17		1.01			**31.5**	0.000893 J	<0.000387	<0.000331	<0.000260	<0.000384	0.000473 J	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	MW-74	Oct-17		1.18			**36.5**	0.00124	<0.000387	<0.000331	<0.000260	<0.000384	0.000527 J	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-75	Apr-15		2.31			**22.0**	0.000710 J	<0.000390	<0.00330	<0.00260	<0.00380	0.00935 J	<0.0100	<0.00340	<0.00780	<0.0110	<0.00400
	MW-75	Oct-15		10.9			**19.6**	0.00252	<0.000387	<0.000331	<0.000260	<0.000384	0.00463	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-75	Apr-16		1.39			**18.2**	<0.000373	<0.000387	0.00134	<0.000260	<0.000384	0.00577	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-75	Oct-16		2.46			**16.6**	0.000631 J	0.00103	<0.000331	<0.000260	<0.000384	0.00407	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-75	Apr-17		1.46			**16.7**	<0.000373	<0.000387	0.00145	<0.000260	<0.000384	0.00645	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-75	Oct-17		2.52			**20.6**	0.000387 J	0.000912 J	<0.000331	<0.000260	<0.000384	0.00224	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-76	Apr-15		0.356 J			**21.0**	0.000699 J	0.000697 J	<0.000330	<0.000260	<0.000380	0.0122	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-76	Oct-15		0.773			**25.2**	0.000531 J	0.000499 J	<0.000331	<0.000260	<0.000384	0.00839	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-76	Apr-16		0.759			**24.1**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00756	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-76	Oct-16		2.19			**43.7**	0.00187	0.00166	0.00227	<0.000260	0.000437 J	0.0245	<0.00100	<0.000341	<0.000780	0.00214 J	<0.000398
	MW-76	Apr-17		1.02			**31.1**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.0130	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-76	Oct-17		1.92			**45.5**	0.000428 J	0.000827 J	<0.000331	<0.000260	<0.000384	0.0143	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-77	Apr-15		0.893			**140**	0.00333	0.00239	**0.00962**	<0.000260	0.00363	0.0131	<0.00100	0.00101	0.00216 J	0.00531	<0.000400
	MW-77	Oct-15		2.68			**173**	0.00348	0.00223	0.00156	<0.000260	0.00533	0.00722	<0.00100	0.00112	0.00386 J	0.00589	<0.000398
	MW-77	Apr-16		0.968			**101**	<0.000373	0.00161	0.00287	<0.000260	0.00300	0.00647	<0.00100	0.000583 J	0.00138 J	0.00390	<0.000398
	MW-77	Oct-16		1.53 J			**86.1**	0.00432 J	<0.00387	<0.00331	<0.00260	0.00766 J	0.00552 J	<0.0100	<0.00341	<0.00780	<0.0106	<0.00398
	MW-77	Apr-17		1.11			**57.5**	0.00384 J	<0.00387	<0.00331	<0.00260	<0.00384	0.00452 J	<0.0100	<0.00341	<0.00412	<0.0106	<0.00398
	MW-78	Apr-14		0.333 J			**29.0**	<0.00050	<0.000600	0.00310 J	<0.00060	0.00130 J	<0.000600	<0.000700	0.00210 J	0.00140 J	0.00210 J	<0.000500
	MW-78	Apr-15		0.279			**67.0**	0.00132	0.000829 J	**0.0114**	<0.000260	0.00262	0.000629 J	<0.00100	0.00356	0.00385 J	0.00502	<0.000400
	MW-78	Apr-16		0.269			**63.2**	<0.000373	<0.000387	0.00275	<0.000260	0.000942 J	<0.000367	<0.00100	0.00135	0.00125 J	0.00135 J	<0.000398
	MW-78	Apr-17		<0.314			**59.1**	<0.00373	<0.00387	<0.00331	<0.00260	<0.00384	<0.00367	<0.0100	<0.00341	<0.00412	<0.0106	<0.00398
	MW-79	Apr-15		<0.0310			**0.560**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-79	Oct-15		0.0383 J			**0.575**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-79	Apr-16		<0.0314			**0.516**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-79	Oct-16		0.0513 J			**0.413**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-79	Apr-17		<0.0314			**0.498**	<0.00373	<0.00387	<0.00331	<0.00260	<0.00384	<0.00367	<0.0100	<0.00341	<0.00412	<0.0106	<0.00398
	MW-79	Oct-17		0.0568 J			**0.454**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-80	Apr-14		0.0489 J			**0.200**	<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-80	Apr-15		<0.0310			**0.750**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-80	Apr-16		<0.0314			**0.317**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-80	Apr-17		<0.0314			**0.680**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-81	Apr-14		0.0318 J			**3.60**	<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-81	Apr-15		<0.0310			**8.00**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-81	Apr-16		0.0339 J			**8.64**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-81	Apr-17		<0.0314			**4.84**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-82	Apr-14		0.611			**4.20**	<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-82	Apr-14	FD	0.649			**4.20**	<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-82	Apr-15		0.361			**14.0**	<0.000370	<0.000390	0.000339 J	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-82	Apr-16		0.334			**8.41**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-82	Apr-17		0.660			**6.40**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	MW-83	Apr-15		0.278			**31.0**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	0.000607 J	<0.000780	<0.00110	<0.000400
	MW-83	Oct-15		6.26			**40.3**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-83	Apr-16		0.310			**26.0**	<0.000373	<0.000387	0.00114	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-83	Oct-16		0.234			**28.9**	<0.000373	<0.000387	0.000449 J	<0.000260	<0.000384	<0.000367	<0.00100	0.000569 J	<0.000780	<0.00106	<0.000398
	MW-83	Apr-17		0.305			**29.8**	<0.00373	<0.00387	<0.00331	<0.00260	<0.00384	<0.00367	<0.0100	<0.00341	<0.00412	<0.0106	<0.00398
	MW-83	Oct-17		0.805			**36.2**	0.000411 J	<0.000387	<0.000331	<0.000260	0.000439 J	<0.000367	<0.00100	0.00120	<0.000412	0.00240 J	<0.000398
	MW-84	Apr-15		0.613			**62.0**	<0.000370	<0.000390	0.000664 J	<0.000260	0.000574 J	0.00279	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-84	Oct-15		1.96			**82.1**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00125	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-84	Apr-16		0.519			**83.8**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00129	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-84	Oct-16		1.58 J			**95.3**	<0.00373	<0.00387	<0.00331	<0.00260	<0.00384	<0.00367	<0.0100	<0.00341	<0.00780	<0.0106	<0.00398
	MW-84	Apr-17		<0.314			**4.92**	<0.00373	<0.00387	<0.00331	<0.00260	<0.00384	<0.00367	<0.0100	<0.00341	<0.00412	<0.0106	<0.00398
	MW-84	Oct-17		1.16			**67.0**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00174	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-87	Apr-15		<0.0310			**0.390**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.000569 J	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-87	Oct-15		0.0451 J			**0.251**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000696 J	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-87	Apr-16		0.0421 J			**0.449**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000646 J	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-87	Oct-16		<0.0314			**0.405**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00107	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-87	Apr-17		<0.0314			**0.356**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000665 J	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-87	Oct-17		0.0463 J			**0.399**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000728 J	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398

Table 4A - Summary of Groundwater Analytical Data - Total Petroleum Hydrocarbons and Volatile Organic Compounds

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	TPH			Volatile Organic Compounds										
				Analyte:	GRO	DRO	DRO - EP	1,2,4-TMB	1,3,5-TMB	Benzene	cis-1,2-DCE	Ethyl-benzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes	Trichloro-ethene
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	0.0398	0.0473	0.015	0.12	0.005	0.07	0.7	0.143	0.03	0.193	0.75	0.62	0.005
				CGWSL Source:		NMED TPH	NMED TPH	USEPA TW	USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH	USEPA MCL
Area	**Well ID**	**Date**	**Dup**															
Evaporation Ponds	MW-88	Apr-15		<0.0310		**0.610**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-88	Oct-15		<0.0314		**0.455**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-88	Apr-16		<0.0314		**0.636**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-88	Oct-16		0.0848 J		**0.635**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-88	Apr-17		<0.0314		**0.516**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-88	Oct-17		0.0514 J		**0.627**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-120	Apr-15		<0.0310		**3.09**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-120	Oct-15		0.181		**1.30**	<0.000370	<0.000390	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-120	Apr-16		0.0845 J		**1.82**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-120	Oct-16		<0.0314		**0.920**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-120	Apr-17		0.0584 J		**0.813**	<0.00373	<0.00387	<0.00331	<0.00260	<0.00384	<0.00367	<0.0100	<0.00341	<0.00412	<0.0106	<0.00398
	MW-120	Oct-17		0.150		**0.737**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-121	Apr-15		<0.0310		**0.565**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-121	Oct-15		<0.0314		**0.460**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-121	Apr-16		<0.0314		**0.456**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-121	Oct-16		0.0514 JB		**0.593**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-121	Apr-17		<0.0314		**0.428**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-121	Oct-17		<0.0314		**0.567**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-122	Apr-15		<0.0310		**4.79**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-122	Oct-15		0.0340 J		**6.06**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-122	Apr-16		<0.0314		**0.824**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-122	Oct-16		0.0443 JB		**0.412**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-122	Apr-17		<0.0314		**0.850**	<0.00373	<0.00387	<0.00331	<0.00260	<0.00384	<0.00367	<0.0100	<0.00341	<0.00412	<0.0106	<0.00398
	MW-122	Oct-17		0.0385 J		**0.429**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-123	Apr-15		1.90		**3.60**	<0.000400	<0.000310	<0.000330	<0.000260	<0.000380	0.00124	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-123	Oct-15		1.24		**2.13**	<0.000398	<0.000306	<0.000331	<0.000260	<0.000384	0.00126	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-123	Apr-16		1.83		**3.82**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00143	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-123	Oct-16		1.50		**3.53**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00163	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-123	Apr-17		1.96		**3.36**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00114	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	MW-123	Oct-17		1.96		**3.08**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00139	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-124	Apr-15		<0.0310 J		**0.0550 J**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-124	Oct-15		<0.0314		0.0298 J	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-124	Apr-16		<0.0314		<0.0247	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-124	Oct-16		<0.0314		<0.0247	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-124	Apr-17		<0.0314		0.0365 J	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-124	Oct-17		<0.0314		**0.0643 J**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	OCD-1R	Apr-15		<0.0310		**0.242**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	OCD-1R	Oct-15		<0.0314		**0.266**	<0.000370	<0.000390	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-1R	Apr-16		<0.0314		**0.241**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-1R	Oct-16		0.0450 J		**0.267**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-1R	Apr-17		<0.0314		**0.255**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	OCD-1R	Oct-17		0.0377 J		**0.268**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	OCD-2A	Apr-15		<0.0310		**0.104**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780 J	<0.00110	<0.000400
	OCD-2A	Oct-15		<0.0314		0.0455 J	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-2A	Apr-16		<0.0314		**0.0682 J**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-2A	Oct-16		0.0333 J		**0.0722 J**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-2A	Apr-17		<0.0314		**0.0497 J**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	OCD-2A	Oct-17		<0.0314		**0.123**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	OCD-3	Apr-15		<0.0310		**0.0484 J**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	OCD-3	Oct-15		<0.0314		0.0251 J	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-3	Apr-16		<0.0314		<0.0247	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-3	Oct-16		<0.0314		<0.0247	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-3	Apr-17		<0.0314		<0.0247	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	OCD-3	Oct-17		<0.0314		**0.173**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	OCD-4	Apr-15		<0.0310		0.0464 J	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	OCD-4	Oct-15		<0.0314		<0.0247	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-4	Apr-16		<0.0314		<0.0247	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-4	Oct-16		<0.0314		<0.0247	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-4	Apr-17		<0.0314		<0.0247	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	OCD-4	Oct-17		<0.0314		**0.0981 J**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	OCD-5	Apr-15		<0.0310		**0.218**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	OCD-5	Oct-15		0.0402 J		**0.0951 J**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-5	Apr-16		<0.0314		**0.0576 J**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-5	Oct-16		0.0391 J		0.0423 J	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-5	Apr-17		0.0353 J		**0.102**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	OCD-5	Oct-17		0.255		**0.331**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	OCD-6	Apr-15		0.0819 J		**1.00**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	OCD-6	Oct-15		1.88		**1.09**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-6	Apr-16		0.0939		**1.11**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-6	Oct-16		0.242		**1.11**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-6	Apr-17		0.199		**0.858**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	OCD-6	Oct-17		0.294		**1.04**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	OCD-7AR	Apr-15		0.715		**4.29**	0.000760 J	<0.000390	<0.000330	<0.000260	<0.000380	0.00196	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	OCD-7AR	Oct-15		1.20		**4.12**	0.00129	<0.000387	<0.000331	<0.000260	<0.000384	0.00202	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-7AR	Apr-16		0.443		**5.24**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00141	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-7AR	Oct-16		1.08		**5.28**	0.00172	<0.000387	<0.000331	<0.000260	<0.000384	0.00179	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-7AR	Apr-17		0.710		**4.43**	0.000840 J	<0.000387	<0.000331	<0.000260	<0.000384	0.00110	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	OCD-7AR	Oct-17		1.29		**4.52**	0.00109	<0.000387	<0.000331	<0.000260	<0.000384	0.00107	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	OCD-7B	Mar-13		<0.0500		**<0.0520**	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.0150	<0.00500
	OCD-7B	Apr-15		<0.0310		**0.120**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	OCD-7B	Apr-17		<0.0314		**0.0746 J**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	OCD-8A	Apr-15		0.491		**2.60**	0.000370 J	<0.000390	<0.000330	<0.000260	<0.000380	0.00498	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	OCD-8A	Oct-15		0.648		**2.74**	0.000454 J	<0.000387	<0.000331	<0.000260	<0.000384	0.00510	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-8A	Apr-16		0.726		**3.26**	0.000482 J	<0.000387	<0.000331	<0.000260	<0.000384	0.00475	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-8A	Oct-16		0.714		**3.23**	0.00108	<0.000387	<0.000331	<0.000260	<0.000384	0.00507	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	OCD-8A	Apr-17		1.23		**3.46**	0.000518 J	<0.000387	<0.000331	<0.000260	<0.000384	0.00420	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	OCD-8A	Oct-17		1.34		**3.49**	0.000832 J	<0.000387	<0.000331	<0.000260	<0.000384	0.00392	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	OCD-8B	Apr-13		0.298		**0.890**	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.0150	<0.00500
	OCD-8B	Apr-15		<0.0310		**0.840**	<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.00155	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	OCD-8B	Apr-17		<0.0314		**0.585**	<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000919 J	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
Field East of Refinery	KWB-1A	Apr-15			**0.0932 J**		<0.00050	<0.000600	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	KWB-1A	Oct-15			**0.114**		<0.000370	<0.000390	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	KWB-1A	Apr-16			**0.127**		<0.000370	<0.000390	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	KWB-1A	Oct-16			**0.166**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	KWB-1A	Apr-17			**0.102**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	KWB-1A	Oct-17			**0.158**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	KWB-1C	Apr-13			**<0.0440**		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.0150	<0.00500
	KWB-1C	Apr-15			**0.113**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	KWB-1C	Apr-17			**0.140**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	KWB-7	Apr-15			**1.43**		**0.0766**	0.000982 J	**0.9290**	<0.000260	0.0285	0.0225	0.0120	0.00377	0.00213 J	0.00718	<0.000400
	KWB-7	Oct-15			**0.721**		0.00557	<0.000387	**0.0164**	<0.000260	0.0240	0.00677	0.00225 J	0.000608 J	<0.000780	0.00145 J	<0.000398
	KWB-7	Apr-16			**1.22**		**0.0482**	0.00903	**0.0365**	<0.000260	0.0248	0.0104	0.0141	0.00167	<0.000780	0.0235	<0.000398
	KWB-7	Oct-16			**1.06**		0.00700	0.000877 J	**0.0364**	<0.000260	0.0167	0.00582	0.00120 JJ4	<0.000341	0.00155 J	0.0196	<0.000398
	KWB-7	Apr-17			**1.40**		0.0115	<0.000387	**0.0135**	<0.000260	0.00858	0.00678	0.00409 J	0.000576 J	<0.000412	0.00757	<0.000398
	KWB-7	Oct-17			**1.69**		**0.0258**	<0.000387	**0.0363**	<0.000260	0.0156	0.00510	0.00350 J	0.00112	<0.000412	0.0143	<0.000398

Table 4A - Summary of Groundwater Analytical Data - Total Petroleum Hydrocarbons and Volatile Organic Compounds

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	TPH			Volatile Organic Compounds										
				Analyte:	GRO	DRO	DRO - EP	1,2,4-TMB	1,3,5-TMB	Benzene	cis-1,2-DCE	Ethyl-benzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes	Trichloro-ethene
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	0.0398	0.0473	0.015	0.12	0.005	0.07	0.7	0.143	0.03	0.193	0.75	0.62	0.005
				CGWSL Source:		NMED TPH	NMED TPH	USEPA TW	USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH	USEPA MCL
Area	Well ID	Date	Dup															
Field East of Refinery	KWB-8	Oct-16			**3.02**		**0.170** J	<0.0774	**11.5**	<0.0520	**0.828**	<0.0734	**<0.200** J4	0.150 J	**1.48**	**1.16**	**<0.0796**	
	KWB-8	Apr-17			**3.41**		**0.380**	0.0863 J	**5.62**	<0.0260	**1.24**	0.129	**0.141** J	0.145	0.747	**2.07**	**<0.0398**	
	KWB-8	Oct-17			**3.30**		**0.114**	0.0225	**12.5**	<0.000260	0.617	0.134	**0.0519**	0.0133	0.336	**0.795**	<0.000398	
	KWB-10R	Apr-15			**9.16**		**0.457**	**0.136**	**5.65**	<0.00260	0.528	**3.87**	**0.138**	**0.343**	0.141	**1.38**	<0.00400	
	KWB-10R	Oct-15			**4.65**		**0.358**	0.100	**6.77**	<0.000260	0.523	**4.66**	**0.186**	**0.254**	0.124	**1.08**	<0.000398	
	KWB-10R	Apr-16			**5.24**		**0.323**	0.0886	**5.26**	<0.0130	0.437	**3.71**	**0.150** J	0.184	0.0937 J	**0.829**	**<0.0199**	
	KWB-10R	Oct-16			**7.50**		**0.307**	0.0765	**0.565**	<0.00520	0.513	**3.62**	**0.133**	**0.196**	0.110	**0.860**	**<0.00796**	
	KWB-10R	Apr-17			**4.01**		**0.360**	0.0907	**4.95**	<0.0130	0.505	**3.65**	**0.156** J	**0.198**	0.0605	**0.914**	**<0.0199**	
	KWB-10R	Oct-17			**5.18**		**0.302**	0.0759	**7.06**	<0.000260	0.530	**5.41**	**0.152**	0.112 J	0.0588	**0.767**	<0.000398	
	KWB-11A	Apr-15		0.339	**1.87**		**0.0658**	0.00168	**0.0248**	<0.000260	<0.000380	0.00648	0.0233	0.000869 J	<0.000780	0.00275 J	<0.000400	
	KWB-11A	Oct-15		0.217	**0.646**		**0.0528**	0.00117	**0.00571**	<0.000260	<0.000384	0.00434	0.0165	0.000511 J	<0.000780	0.00181 J	<0.000398	
	KWB-11A	Apr-16		0.267	**3.74**		**0.0256**	0.00122	**0.00541**	<0.000260	<0.000384	0.00477	0.0134	0.000423 J	<0.000780	<0.00106	<0.000398	
	KWB-11A	Oct-16		0.223 B	**1.36**		**0.0341**	0.000945 J	**0.00725**	<0.000260	<0.000384	0.00416	0.00936 J4	0.000483 J	<0.000780	0.00158 J	<0.000398	
	KWB-11A	Apr-17		0.155	**0.511**		0.0142	<0.000387	0.00359	<0.000260	<0.000384	<0.000367	0.00841	<0.000341	<0.000412	<0.00106	<0.000398	
	KWB-11A	Oct-17		0.371	**12.2**		**0.0230**	0.00129	**0.0116**	<0.000260	<0.000384	0.00273	0.00563	<0.000341	<0.000412	<0.00106	<0.000398	
	KWB-11B	Apr-15		<0.0310	0.0365 J		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.00121	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400	
	KWB-11B	Oct-15		<0.0314	<0.0247		0.000489 J	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	KWB-11B	Apr-16		<0.0314	<0.0247		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	KWB-11B	Oct-16		0.0565 JB	0.0388 J		0.000394 J	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	0.00153 JJ4	<0.000341	<0.000780	<0.00106	<0.000398	
	KWB-11B	Apr-17		<0.0314	0.0339 J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	KWB-11B	Oct-17		<0.0314	**0.203**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000565 J	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	KWB-12A	Apr-15		<0.0310	0.0310 J		0.000452 J	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400	
	KWB-12A	Apr-15	FD	<0.0310	**0.305**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400	
	KWB-12A	Oct-15		<0.0314	<0.0247		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	KWB-12A	Apr-16		<0.0314	0.0377 J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	KWB-12A	Oct-16		0.0348 JB	0.0329 J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	KWB-12A	Apr-17		<0.0314	0.0359 J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	KWB-12A	Oct-17		0.0318 J	**0.0474** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	KWB-12B	Apr-15		<0.0310	**0.0740** J		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400	
	KWB-12B	Oct-15		<0.0314	<0.0247		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	KWB-12B	Oct-15	FD	<0.0314	0.0372 J		0.000895 J	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	0.000692 J	<0.000780	0.00226 J	<0.000398	
	KWB-12B	Apr-16		<0.0314	<0.0247		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	KWB-12B	Apr-16	FD	<0.0314	<0.0247		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	KWB-12B	Oct-16		0.0581 JB	0.0351 J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	KWB-12B	Oct-16	FD	0.0416 JB	**0.0806** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	0.0139	<0.000341	<0.000780	<0.00106	<0.000398	
	KWB-12B	Apr-17		<0.0314	<0.0247		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	KWB-12B	Apr-17	FD	<0.0314	<0.0247		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	KWB-12B	Oct-17		<0.0314	**0.0424** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	KWB-12B	Oct-17	FD	<0.0314	**0.0765** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	KWB-P4	Apr-13			**<0.0520**		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.0150	<0.00500	
	KWB-P4	Apr-15			**0.0820** J		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400	
	KWB-P4	Apr-17			**0.0526** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	MW-57	Apr-15		<0.0310	**0.200**		0.00163	0.000463 J	<0.000330	<0.000260	0.000667 J	<0.000370	0.00156 J	0.000561 J	<0.000780	0.00197 J	<0.000400	
	MW-57	Oct-15		<0.0314	**0.242**		<0.000373	<0.000387	0.00123 J	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-57	Apr-16		<0.0314	**0.198**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-57	Oct-16		0.0467 JB	**0.103**		<0.000373	<0.000387	0.000681 J	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-57	Apr-17		<0.0314	**0.195**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	MW-57	Oct-17		<0.0314	**0.0940** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	0.00273 J	<0.000341	<0.000412	<0.00106	<0.000398	
	MW-58	Apr-15			**9.00**		**1.04**	**0.195**	**6.03**	<0.00260	**1.98**	0.0187	**0.318**	0.0830	0.0174 J	**2.16**	<0.00400	
	MW-58	Oct-15			**5.11**		**0.893**	0.0651 J	**6.89**	<0.0260	**2.00**	<0.0367	**0.354** J	0.0603 J	<0.0780	**2.18**	**<0.0398**	
	MW-58	Apr-16			**6.27**		**0.753**	0.0179	**4.12**	<0.00260	**1.11**	**0.200**	**0.257**	0.0183	0.00806 J	**0.848**	<0.00398	
	MW-58	Oct-16			**7.78**		**0.387**	0.00321	**5.92**	<0.000260	**1.10**	0.0468	**0.0867**	0.0201	0.0159	**0.893**	<0.000398	
	MW-58	Apr-17			**7.23**		**0.517**	<0.0387	**3.00**	<0.0260	**0.720**	<0.0367	**0.191** J	<0.0341	<0.0412	0.533	**<0.0398**	
	MW-58	Oct-17			**9.77**		**0.166**	0.00130	**4.08**	<0.000260	0.0965	0.0987	**0.0469**	0.00179	0.0101	0.222	<0.000398	
	MW-111	Apr-15		1.37	**1.90**		0.00256	0.000567 J	**0.0755**	<0.000260	0.00824	<0.000370	0.00294 J	0.00158	<0.000780	0.00881	<0.000400	
	MW-111	Oct-15		0.674	**2.10**		0.00122	<0.000387	**0.0243**	<0.000260	0.00615	**1.32**	0.00645	<0.000341	<0.000780	0.00113 J	<0.000398	
	MW-111	Apr-16		1.31	**2.04**		<0.000373	<0.000387	**0.0299**	<0.000260	0.00122	**1.54**	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-111	Oct-16		1.13	**2.04**		0.00215	<0.000387	**0.0432**	<0.000260	0.00226	**1.29**	0.00103 J	<0.000341	<0.000780	0.00177 J	<0.000398	
	MW-111	Apr-17		1.27	**2.08**		0.00219	<0.000387	**0.0205**	<0.000260	0.000432 J	**0.955**	0.00310 J	<0.000341	<0.000412	0.00237 J	<0.000398	
	MW-111	Oct-17		1.28	**2.39**		0.00188	<0.000387	**<0.0331**	<0.000260	<0.0384	**1.40**	0.00175 J	<0.0341	<0.000412	<0.106	<0.000398	
	MW-113	Apr-15		<0.0310	**0.330**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.0178	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400	
	MW-113	Apr-15	FD	<0.0310	**0.241**		0.000538 J	<0.000390	0.000402 J	<0.000260	<0.000380	0.0158	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400	
	MW-113	Oct-15		<0.0314	**0.115**		<0.000373	<0.000387	0.000477 J	<0.000260	<0.000384	0.0158	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-113	Oct-15	FD	<0.0314	**0.0917** J		<0.000373	<0.000387	0.000533 J	<0.000260	<0.000384	0.0176	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-113	Apr-16		0.581	**0.156**		0.000753 J	<0.000387	**0.0136**	<0.000260	0.00354	0.0143	<0.00100	<0.000341	<0.000780	0.00518	<0.000398	
	MW-113	Apr-16	FD	0.627	**0.180**		0.000813 J	<0.000387	**0.0148**	<0.000260	0.00364	0.0143	<0.00100	<0.000341	<0.000780	0.00531	<0.000398	
	MW-113	Oct-16		0.215 B	**0.236**		0.00977	<0.000387	**0.00660**	<0.000260	0.0199	0.0137	0.00208 JJ4	<0.000341	<0.000780	0.0143	<0.000398	
	MW-113	Oct-16	FD	0.218 B	**0.188**		0.00933	<0.000387	**0.00588**	<0.000260	0.0175	0.0143	0.00200 JJ4	<0.000341	<0.000780	0.0127	<0.000398	
	MW-113	Apr-17		0.984	**0.169**		0.00389	<0.000387	**0.0136**	<0.000260	0.00840	0.0147	0.00157 J	<0.000341	<0.000412	0.0133	<0.000398	
	MW-113	Apr-17	FD	1.03	**0.214**		0.00448	<0.000387	**0.0145**	<0.000260	0.00937	0.0140	0.00176 J	<0.000341	<0.000412	0.0148	<0.000398	
	MW-113	Oct-17		0.444	**0.335**		**0.0229**	0.000442 J	**0.0132**	<0.000260	0.0269	0.0123	0.00420 J	<0.000341	0.000501 J	0.0279	<0.000398	
	MW-113	Oct-17	FD	0.368	**0.355**		**0.0212**	<0.000387	**0.0138**	<0.000260	0.0215	0.0117	0.00399 J	<0.000341	0.000660 J	0.0234	<0.000398	
	MW-125	Apr-15		<0.0310 J	<0.0250 B		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400	
	MW-125	Oct-15		<0.0314	**0.0523** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-125	Apr-16		<0.0314	**0.0578** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-125	Oct-16		<0.0314	**0.0756** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-125	Apr-17		<0.0314	**0.0964** J		<0.000373	<0.000387	0.000603 J	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	MW-125	Oct-17		<0.0314	**0.0631** J		<0.000373	<0.000387	0.000404 J	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	MW-126A	Apr-15		<0.0310	**0.757**		0.000397 J	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400	
	MW-126A	Oct-15		0.640	**0.569**		0.00251	<0.000387	**0.0447**	<0.000260	0.00475	<0.000367	<0.00100	<0.000341	0.000858 J	0.0103	<0.000398	
	MW-126A	Apr-16		0.202	**0.751**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-126A	Oct-16		0.702	**0.924**		<0.000373	<0.000387	**0.0503**	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-126A	Apr-17		0.209	**0.665**		<0.000373	<0.000387	0.000354 J	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	0.00141 J	<0.000398	
	MW-126A	Oct-17		0.223	**0.793**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	MW-126B	Apr-15		<0.0310	**0.392**		0.000409 J	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400	
	MW-126B	Oct-15		<0.0314	**0.140**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-126B	Apr-16		<0.0314	**0.361**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-126B	Oct-16		0.0546 JB	**0.346**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-126B	Apr-17		<0.0314	**0.245**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	MW-126B	Oct-17		<0.0314	**0.329**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	MW-127	Apr-15		9.73	**1.68**		**0.126**	0.00854	**4.41**	<0.000260	0.424	**0.868**	**0.0658**	0.142	0.183	0.296	<0.000400	
	MW-127	Oct-15		6.54	**0.585**		**0.0980**	<0.00774	**1.51**	<0.00520	0.299	**0.730**	**0.0415** J	0.0552	0.216	0.141	**<0.00796**	
	MW-127	Apr-16		6.40	**1.43**		**0.0941**	0.00632	**2.01**	<0.000260	0.348	**0.629**	**0.0425**	0.0375	0.287	0.149	<0.000398	
	MW-127	Oct-16		3.81 B	**1.22**		**0.0332**	<0.00387	**0.644**	<0.00260	0.120	**0.575**	<0.0100 J4	0.0127	0.0877	0.0514	<0.00398	
	MW-127	Apr-17		4.45	**1.38**		**0.0562**	0.00490	**1.04**	<0.000260	0.186	**0.525**	0.0175	0.00990	0.0958	0.0810	<0.000398	
	MW-127	Oct-17		1.68	**1.41**		**0.0327**	0.00452	**0.462**	<0.000260	0.0937	**0.885**	0.00901	0.00373	0.0396	0.0482	<0.000398	
	MW-128	Apr-15		1.23 J	**3.00**		0.00374	0.000551 J	**0.297**	<0.000260	0.0114	**1.60**	0.00346 J	<0.000340	0.000928 J	0.00326	<0.000400	
	MW-128	Oct-15		0.644	**1.78**		<0.00746	<0.00774	**0.0297**	<0.00520	<0.00768	**0.860**	<0.0200	<0.00682	<0.0156	<0.0212	<0.000400	
	MW-128	Apr-16		0.620	**2.45**		0.00209	<0.000387	**0.0231**	<0.000260	0.00494	**0.846**	0.00104 J	<0.000341	<0.000780	0.00153 J	<0.000398	
	MW-128	Oct-16		0.907	**2.75**		0.00197	<0.000387	**0.109**	<0.000260	0.00408	**0.832**	0.00225 J	<0.000341	<0.000780	0.00370	<0.000398	
	MW-128	Apr-17		1.09	**2.42**		0.00276	<0.000387	**0.0563**	<0.000260	0.00166	**0.821**	0.00140 J	<0.000341	<0.000412	0.00159 J	<0.000398	
	MW-128	Oct-17		1.14	**2.37**		0.00233	<0.000387	**0.0701**	<0.000260	0.00128	**0.785**	0.00142 J	<0.000341	0.000781 J	0.00336	<0.000398	

Table 4A - Summary of Groundwater Analytical Data - Total Petroleum Hydrocarbons and Volatile Organic Compounds

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	TPH			Volatile Organic Compounds										
				Analyte:	GRO	DRO	DRO - EP	1,2,4-TMB	1,3,5-TMB	Benzene	cis-1,2-DCE	Ethyl-benzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes	Trichloro-ethene
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	0.0398	0.0473	0.015	0.12	0.005	0.07	0.7	0.143	0.03	0.193	0.75	0.62	0.005
				CGWSL Source:		NMED TPH	NMED TPH	USEPA TW	USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH	USEPA MCL
Area	Well ID	Date	Dup															
Field East of Refinery	MW-129	Apr-15		3.29	**2.45**		0.00286	0.000679 J	**0.0372**	<0.000260	0.00131	**7.04**	0.00407 J	0.00112	<0.000780	0.00357	<0.000400
	MW-129	Oct-15		4.11 J	**1.31**		**<0.0373**	<0.0387	**<0.0331**	<0.0260	<0.0384	**5.79**	**<0.100**	<0.0341	<0.0780	<0.106	**<0.0398**
	MW-129	Apr-16		2.70	**1.68**		0.00382	0.000880 J	**<0.0166**	<0.000260	<0.0192	**4.59**	0.00534	0.000796 J	<0.0390	0.00278 J	<0.000398
	MW-129	Oct-16		2.17	**1.68**		0.00143	0.000479 J	**0.00791**	<0.000260	0.000985 J	**4.73**	0.00186 JJ4	<0.000341	0.000920 J	0.00124 J	<0.000398
	MW-129	Apr-17		1.79	**2.13**		0.00101	<0.000387	0.00299	<0.000260	<0.000384	**4.34**	0.00247 J	<0.000341	0.000543 J	<0.00106	<0.000398
	MW-130	Apr-15		<0.0310 J	**0.960**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.000510 J	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-130	Oct-15		<0.0314	**0.508**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000449 J	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-130	Apr-16		<0.0314	**1.08**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000538 J	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-130	Oct-16		0.200	**1.09**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00130	0.00112 J	<0.000341	<0.000780	<0.00106	<0.000398
	MW-130	Apr-17		<0.0314	**1.08**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00130	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-130	Oct-17		<0.0314	**1.22**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00136	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-131	Apr-15		7.68	**2.80**		**0.0486**	0.0119	**1.91**	<0.000260	0.0692	**5.23**	**0.0468**	0.0606	0.215	0.145	<0.000400
	MW-131	Oct-15		6.76	**4.00**		**0.0231**	0.00694	**2.19**	<0.000260	0.0480	**4.54**	**0.0589**	0.0243	0.0522	0.0859	<0.000398
	MW-131	Apr-16		9.16	**2.12**		**0.0212**	0.00562	**2.42**	<0.000260	0.0535	**3.69**	**0.0353**	0.0370	0.142	0.0883	<0.000398
	MW-131	Oct-16		6.31	**1.86**		0.0133	0.00398 J	**1.58**	<0.00130	0.0324	**4.09**	0.0135 JJ4	0.0182	0.0299	0.0613	<0.00199
	MW-131	Apr-17		6.81	**1.77**		0.0137	0.00348	**3.09**	<0.000260	0.0532	**3.99**	0.0295	0.0406	0.153	0.114	<0.000398
	MW-131	Oct-17		4.95	**1.58**		**<0.0932**	0.00174	**1.39**	<0.000260	<0.0960	**5.25**	**0.0303**	<0.0852	0.0627	<0.265	<0.000398
	MW-133	Nov-14		9.40	**2.80**		**0.280**	0.0530 J	**0.620**	<0.0260	0.300	**5.60**	**<0.100**	0.0380 J	0.100 J	0.220 J	**<0.0400**
	MW-133	Apr-15		11.3	**3.10**		**0.138**	<0.0390	**0.788**	<0.0260	0.199	**6.67**	**<0.100**	<0.0340	<0.0780	<0.110	**<0.0400**
	MW-134	Apr-15		<0.0310	**0.100**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-134	Apr-15	FD	<0.0310	**0.0886** J		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-134	Oct-15		<0.0314	**0.0503** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-134	Oct-15	FD	<0.0314	**0.0457** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-134	Apr-16		0.0420 J	**0.0971** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.00100	<0.000780	<0.00106	<0.000398
	MW-134	Apr-16	FD	<0.0314	**0.0774** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-134	Oct-16		<0.0314	**0.184**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-134	Oct-16	FD	<0.0314	**0.135**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-134	Apr-17		<0.0314	**0.0894** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-134	Apr-17	FD	<0.0314	**0.0738** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-134	Oct-17		<0.0314	**0.109**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-134	Oct-17	FD	<0.0314	**0.250**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-135	Apr-15		<0.0310	**0.0823** J		0.000793 J	<0.000390	<0.000330	<0.000260	<0.000380	0.000829 J	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-135	Oct-15		<0.0314	**0.0571** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000608 J	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-135	Apr-16		<0.0314	**0.162**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00197	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-135	Oct-16		0.0638 JB	**0.147**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000685 J	<0.00100 J4	<0.000341	<0.000780	<0.00106	<0.000398
	MW-135	Apr-17		<0.0314	**0.0767** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-135	Oct-17		<0.0314	**0.102**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	RA-4196	Apr-15					<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.00173	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	RA-4196	Oct-15					<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00394	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	RA-4196	Apr-16					<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00507	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	RA-4196	Oct-16					<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00657	<0.00100 J4	<0.000341	<0.000780	<0.00106	<0.000398
	RA-4196	Apr-17					<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00618	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	RA-4196	Oct-17					<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00763	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	RA-4798	Apr-15					<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.0163	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	RA-4798	Oct-15					<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00858	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	RA-4798	Apr-16					<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.0121	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	RA-4798	Oct-16					<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.0124	<0.00100 J4	<0.000341	<0.000780	<0.00106	<0.000398
	RA-4798	Apr-17					<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00360	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	RA-4798	Oct-17					<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00889	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	RW-12R	Apr-16			**1.38**		0.0145	<0.00194	**0.424**	<0.00130	0.00606	0.00568	<0.00500	<0.00170	<0.00390	0.0140 J	<0.00199
	RW-12R	Apr-17			**1.61**		**0.0338**	<0.00194	**0.335**	<0.00130	0.00823	0.00210 J	0.00877 J	0.00177 J	0.00354 J	0.0257	<0.00199
	RW-13R	Apr-16			**0.808**		**0.0443**	0.00539	**0.878**	<0.000260	0.0691	0.0779	0.0148	0.0139	0.0175	0.108	<0.000398
	RW-18	Apr-14					<0.000373	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	RW-18	Apr-15					<0.000373	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	RW-18	Apr-16					<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	RW-18	Apr-17					<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	RW-20	Apr-15			**2.10**		**0.539**	0.113	**1.87**	<0.00260	**0.973**	**0.209**	**0.183**	0.0590	0.211	**1.35**	<0.00400
	RW-22	Apr-15			**5.40**		**0.575**	0.0853	**4.07**	<0.00260	**1.09**	**0.178**	**0.164**	0.0952	0.216	**0.945**	<0.00400
North Refinery	MW-23	Apr-15		31.1	**6.79**		**0.473**	0.0997	**11.6**	<0.00650	0.146	0.0253	**0.150** J	0.181	0.431	**1.37**	**<0.0100**
	MW-23	Oct-15		34.0	**41.8**		0.000677 J	<0.000387	**20.3**	<0.000260	0.519	0.0200	**0.213** J	0.00237	0.00501	0.00805	<0.000398
	MW-23	Apr-16		34.7	**28.7**		<0.00186	<0.00194	**15.5**	<0.00130	0.179	0.0297	**0.193**	0.00284 J	0.00412 J	0.0176	<0.00199
	MW-23	Oct-16		37.1	**21.2**		<0.00932	<0.00968	**12.2**	<0.00650	0.168	0.0433	**0.220**	<0.00852	<0.0195	<0.0265	**<0.00995**
	MW-23	Apr-17		29.1	**2.78**		<0.000373	<0.000387	**8.49**	<0.000260	0.0958	0.0270	**0.190**	0.00188	0.00243	0.00549	<0.000398
	MW-23	Oct-17		17.6	**32.0**		0.000578 J	<0.000387	**8.11**	<0.000260	0.0421	0.0203	**0.137**	0.00198	0.00561	0.00525	<0.000398
	MW-29	Apr-15		<0.0310	**1.20**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-29	Oct-15		0.0738 J	**0.658**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-29	Apr-16		<0.0314	**1.27**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-29	Oct-16		<0.0314	**1.04**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000424 J	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-29	Apr-17		<0.0314	**0.857**		<0.000373	<0.000387	0.000616 J	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-29	Oct-17		<0.0314	**4.44**		<0.000373	<0.000387	0.000442 J	<0.000260	<0.000384	0.000990 J	<0.00100	<0.000341	0.000676 J	<0.00106	<0.000398
	MW-39	Apr-15		0.147	**5.20**		<0.000370	<0.000390	<0.000330	<0.000260	0.000713 J	<0.000370	<0.00100	0.00632	0.00137 J	0.00753	<0.000400
	MW-39	Oct-15		0.0759 J	**3.83**		0.000527 J	<0.000387	<0.000331	<0.000260	0.000727 J	<0.000367	0.00583	0.00530	0.00108 J	0.00645	<0.000398
	MW-39	Apr-16		5.16	**12.5**		**0.0526**	<0.00968	**2.14**	<0.00650	0.0211 J	<0.00918	<0.0250	0.0365	0.0293 J	0.181	**<0.00995**
	MW-39	Oct-16		7.24	**9.26**		**0.0673** J	<0.0387	**3.62**	<0.0260	<0.0384	<0.0367	**<0.100**	0.0428 J	<0.0780	0.204 J	**<0.0398**
	MW-39	Apr-17		5.20	**9.81**		**0.0710**	0.00534 J	**1.33**	<0.00260	0.0284	0.00429 J	0.0158 J	0.0454	0.0251	0.186	<0.00398
	MW-39	Oct-17		2.66	**9.16**		**0.0599**	0.00604	**0.476**	<0.000260	0.0206	0.00243	0.00239 J	0.0368	0.00816	0.150	<0.000398
	MW-40	Apr-14		1.01	**0.880**		<0.000373	<0.000387	**0.0110**	<0.00060	<0.000500	<0.000600	0.00280 J	<0.000500	<0.000500	0.00560 J	<0.000500
	MW-40	Apr-15		0.735	**4.50**		<0.000373	<0.000387	**0.0198**	<0.000260	0.000399 J	<0.000370	<0.00100	<0.000340	<0.000780	0.00606	<0.000400
	MW-40	Apr-16		1.03	**4.92**		0.000760 J	<0.000387	**0.0112**	<0.000260	0.000609 J	<0.000367	<0.00100	<0.000341	<0.000780	0.0144	<0.000398
	MW-40	Apr-17		1.29	**4.15**		0.000538 J	<0.000387	**0.00857**	<0.000260	0.000721 J	<0.000367	<0.00100	<0.000341	0.000732 J	0.0117	<0.000398
	MW-41	Apr-14		0.233	**0.300**		<0.00050	<0.000600	**0.0180**	<0.00060	<0.000500	0.00360 J	0.00260 J	<0.000500	<0.000500	<0.00150	<0.000500
	MW-41	Apr-15		0.103	**1.60**		<0.000370	<0.000390	0.00190	<0.000260	<0.000380	0.00440	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-41	Apr-16		0.171	**2.26**		<0.000373	<0.000387	0.00360	<0.000260	<0.000384	0.00384	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-41	Apr-17		0.249	**1.58**		<0.000373	<0.000387	0.00339	<0.000260	<0.000384	0.00380	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-42	Apr-14		2.90	**1.40**		**0.0630**	<0.000600	**0.540**	<0.00060	0.00300 J	0.0220	0.00430 J	0.00110 J	0.00230 J	0.110	<0.000500
	MW-42	Apr-15		1.37	**7.00**		**0.0247**	<0.00390	**0.216**	<0.00260	<0.00380	0.0145	<0.0100	<0.00340	<0.00780	0.0484	<0.00400
	MW-42	Apr-16		0.737	**5.88**		**0.0169**	<0.00194	**0.103**	<0.00130	<0.00192	0.0114	<0.00500	<0.00170	<0.00390	0.0380	<0.00199
	MW-42	Apr-17		0.262	**3.41**		0.00352	<0.000387	**0.0240**	<0.000260	<0.000384	0.0104	<0.00100	<0.000341	0.000845 J	0.00365	<0.000398
	MW-43	Apr-15		2.65	**8.04**		**0.0576**	0.00448 J	**0.992**	<0.00260	0.0483	0.0162	<0.0100 J	0.0227	0.0538	0.300	<0.00400
	MW-43	Oct-15		30.5	**9.95**		**0.477**	0.101	**13.0**	<0.00260	0.179	0.0274	**0.212**	**0.333**	**0.808**	**1.48**	<0.00398
	MW-43	Apr-16		31.6	**6.24**		**0.502**	0.112 J	**12.4**	<0.0650	**0.968**	<0.0918	**<0.250**	**0.626**	**1.66**	**1.86**	**<0.0995**
	MW-43	Oct-16		38.0	**6.51**		**0.433**	<0.0968	**12.4**	<0.0650	**0.810**	<0.0918	**<0.250**	**0.555**	0.618 J	**1.81**	**<0.0995**
	MW-43	Apr-17		29.6	**6.53**		**0.497**	0.108	**9.62**	<0.0130	0.445	0.0484 J	**0.163** J	**0.539**	0.519	**1.80**	**<0.0199**
	MW-43	Oct-17		28.0	**6.03**		**0.839**	**0.182**	**10.7**	<0.0130	0.197	0.0578	**0.305**	**0.421**	0.285	**1.76**	**<0.0199**
	MW-59	Apr-14		0.247	**0.0680**		<0.00050	<0.000600	**0.0130**	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-59	Apr-15		<0.0310	**0.860**		<0.000370	<0.000390	**0.0119**	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-59	Apr-16		<0.0314	**0.919**		<0.000373	<0.000387	0.00329	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-59	Apr-17		0.163	**0.835**		<0.000373	<0.000387	0.00218	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-60	Apr-15		0.238	**1.10**		0.000879 J	<0.000390	**0.0127** J	<0.000260	0.000627 J	<0.000370	<0.00100	<0.000340	<0.000780	0.00280 J	<0.000400
	MW-60	Apr-15	FD	0.228	**1.00**		0.000430 J	<0.000390	**0.00829** J	<0.000260	0.000450 J	<0.000370	<0.00100	<0.000340	<0.000780	0.00163 J	<0.000400
	MW-60	Oct-15		0.241	**0.803**		<0.000373	<0.000387	0.00326	<0.000260	0.000394 J	<0.000367	<0.00100	<0.000341	<0.000780	0.00176 J	<0.000398
	MW-60	Oct-15	FD	0.249	**0.627**		<0.000373	<0.000387	0.00307	<0.000260	0.000395 J	<0.000367	<0.00100	<0.000341	<0.000780	0.00181 J	<0.000398
	MW-60	Apr-16		0.575	**1.21**		<0.000373	<0.000387	0.00473	<0.000260	0.000604 J	<0.000367	<0.00100	<0.000341	<0.000780	0.00283 J	<0.000398
	MW-60	Apr-16	FD	0.396	**1.19**		0.000402 J	<0.000387	**0.00565**	<0.000260	0.000533 J	<0.000367	<0.00100	<0.000341	<0.000780	0.00272 J	<0.000398

Table 4A - Summary of Groundwater Analytical Data - Total Petroleum Hydrocarbons and Volatile Organic Compounds

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	TPH			Volatile Organic Compounds										
				Analyte:	GRO	DRO	DRO - EP	1,2,4-TMB	1,3,5-TMB	Benzene	cis-1,2-DCE	Ethyl-benzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes	Trichloro-ethene
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	0.0398	0.0473	0.015	0.12	0.005	0.07	0.7	0.143	0.03	0.193	0.75	0.62	0.005
				CGWSL Source:		NMED TPH	NMED TPH	USEPA TW	USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH	USEPA MCL
Area	Well ID	Date	Dup															
North Refinery	MW-60	Oct-16		0.331	**0.628**		0.000948 J	<0.000387	**0.00898**	<0.000260	0.000935 J	<0.000367	<0.00100	<0.000341	<0.000780	0.00736	<0.000398	
	MW-60	Oct-16	FD	0.251	**0.573**		0.000618 J	<0.000387	**0.00574**	<0.000260	0.000825 J	<0.000367	<0.00100	<0.000341	<0.000780	0.00552	<0.000398	
	MW-60	Apr-17		0.309	**0.923**		<0.000373	<0.000387	0.00262	<0.000260	0.000481 J	<0.000367	<0.00100	<0.000341	<0.000412	0.00195 J	<0.000398	
	MW-60	Apr-17	FD	0.343	**0.947**		<0.000373	<0.000387	**0.00526**	<0.000260	0.000556 J	<0.000367	<0.00100	<0.000341	<0.000412	0.00240 J	<0.000398	
	MW-60	Oct-17		0.479	**1.07**		0.000685 J	<0.000387	**0.0110**	<0.000260	0.00137	<0.000367	<0.00100	<0.000341	0.000476 J	0.00622	<0.000398	
	MW-60	Oct-17	FD	0.469	**1.54**		0.000753 J	<0.000387	**0.0122**	<0.000260	0.00121	<0.000367	<0.00100	<0.000341	<0.000412	0.00514	<0.000398	
	MW-61	Apr-15		6.77	**9.40**		**0.531**	**0.130**	**1.74** J	<0.00260	0.209	<0.00370	**0.176** J	0.00784 J	0.0130 J	**1.69**	<0.00400	
	MW-61	Oct-15		5.13	**3.32**		**0.233**	<0.00387	**0.681**	<0.00260	0.0659	<0.00367	**0.0668**	0.00496 J	0.0379 J	0.374	<0.00398 J	
	MW-61	Apr-16		2.60	**3.59**		**0.139**	<0.00194	**0.493**	<0.00130	0.0292	<0.00184	**0.0340**	0.00263 J	0.0185 J	0.226	<0.00199	
	MW-61	Oct-16		4.21	**3.55**		**0.119**	<0.00968	**0.501**	<0.00650	0.0353	<0.00918	**0.0335** J	<0.00852	0.0260 J	0.225	**<0.00995**	
	MW-61	Apr-17		6.48	**2.70**		**0.118**	<0.00968	**0.769**	<0.00650	0.0225 J	<0.00918	**0.0307** J	<0.00852	0.0312	0.228	**<0.00995**	
	MW-61	Oct-17		7.01	**4.21**		**0.141**	0.00349	**0.976**	<0.000260	0.0420	<0.000367	**0.0522**	0.00327	0.0612	0.378	<0.000398	
	MW-62	Apr-15		21.1	**36.9**		<0.00370	<0.00390	**12.8**	<0.00260	0.457	0.0151	**0.158** J	<0.00340	<0.00780	0.0405	<0.00400	
	MW-62	Oct-15		18.5	**7.62**		**0.662**	**0.158**	**1.50**	<0.00520	0.163	<0.00734	**0.186**	0.00886 J	<0.0156	**1.73**	**<0.00796** J	
	MW-62	Apr-16		7.81	**7.54**		**0.502**	0.114	**1.12**	<0.00650	0.356	<0.00918	**0.236**	<0.00852	<0.0195	**1.80**	**<0.00995**	
	MW-62	Oct-16		11.3	**4.72**		**0.620** J6	**0.149** J6	**3.28** J6	<0.0260 J6	0.0535 JJ6	<0.0367 J6	**0.189** JJ6	<0.0341 J6	<0.0780 J6	**1.14** J6	**<0.0398** J6	
	MW-62	Apr-17		8.61	**5.93**		**0.646**	**0.149**	**1.59**	<0.0130	0.248	<0.0184	**0.204** J	<0.0170	<0.0206	**1.13**	**<0.0199**	
	MW-62	Oct-17		9.55	**8.69**		**0.759**	**0.173**	**0.984**	<0.0260	0.268	<0.0367	**0.206** J	<0.0341	<0.0412	**1.35**	**<0.0398**	
	MW-67	Apr-15		0.784	**8.40**		0.00500 J	<0.00190	**0.143**	0.00198	0.00447	**0.869**	<0.00100	<0.000340	0.00260 J	0.00291 J	<0.000400	
	MW-67	Oct-15		2.16	**5.18**		0.00108	<0.000390	**0.172**	<0.00520	<0.00768	**0.924**	<0.0200	<0.00682	<0.0156	<0.0212	**<0.00796**	
	MW-67	Apr-16		1.29	**11.1**		<0.00746	<0.00774	**0.223**	0.00527 J	0.00869 J	**0.359**	<0.0100	<0.00341	<0.00780	<0.0106	<0.00398	
	MW-67	Oct-16		1.03	**9.36**		0.0108	<0.00387	**0.214**	0.00322 J	0.0124	**0.253**	0.0298 J	0.00407 J	<0.00780	0.0120 J	<0.00398	
	MW-67	Apr-17		1.77	**9.40**		0.00498 J	<0.00194	**0.191**	0.00265	0.0128	**0.195**	0.00571 J	<0.00170	0.00361 J	0.0121 J	<0.00199	
	MW-67	Oct-17		0.649	**8.48**		0.00119	<0.000387	**0.130**	0.00275	0.00330	**0.201**	<0.00100	<0.000341	0.00140	0.00245 J	0.000515 J	
	MW-90	Apr-15		0.242	**7.68**		<0.000370	<0.000390	**0.0125**	<0.000260	0.000433 J	0.00575	0.00178 J	<0.000340	0.00194 J	<0.00110	<0.000400	
	MW-90	Oct-15		0.166	**0.992**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-90	Apr-16		0.119	**4.03**		<0.000373	<0.000387	**0.00662**	0.000294 J	<0.000384	<0.000367	0.00105 J	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-90	Oct-16		<0.0314	**1.11**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-90	Apr-17		0.217	**4.20**		<0.000373	<0.000387	0.00225	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	MW-90	Oct-17		0.160	**4.63**		<0.000373	<0.000387	0.00311	<0.000260	<0.000384	<0.000367	<0.00100	0.000368 J	0.000744 J	<0.00106	<0.000398	
	MW-91	Apr-15		14.7	**15.9**		**0.184**	0.0476	**2.91**	<0.00260	0.491	<0.00370	**0.0490** J	0.150	**1.91**	**0.852**	<0.00400	
	MW-91	Oct-15		12.2	**20.3**		**0.226**	0.0626	**3.47**	<0.00650	0.449	<0.00918	**0.0884** J	0.180	0.652	**0.933**	**<0.00995**	
	MW-91	Apr-16		22.1	**22.2**		**0.266**	0.0719	**3.85**	<0.0130	**0.899**	<0.0184	**0.124** J	**0.365**	**4.01**	**1.69**	**<0.0199**	
	MW-91	Oct-16		20.6	**16.3**		**0.218** J	<0.0968	**3.15**	<0.0650	**0.816**	<0.0918	**<0.250**	**0.310**	**3.33**	**1.58**	**<0.0995**	
	MW-91	Apr-17		17.0	**19.8**		**0.235**	0.0634 J	**2.67**	<0.0260	0.473	<0.0367	**<0.100**	**0.216**	**1.61**	**1.05**	**<0.0398**	
	MW-91	Oct-17		13.6	**17.9**		**0.221**	0.0693 J	**3.36**	<0.0260	0.384	<0.0367	**<0.100**	**0.219**	**1.12**	**0.975**	**<0.0398**	
	MW-92	Apr-16		5.50	**20.4**		**0.0588**	0.0174	**2.87**	0.0640	0.462	0.113	**0.224** J	0.0268	0.0173	0.188	<0.000398	
	MW-92	Oct-16		6.05	**22.8**		**0.0308**	0.00835 J	**2.05**	**0.0968**	0.400	0.134	**0.174**	0.0151 J	<0.0156	0.110	**<0.00796**	
	MW-93	Apr-15		3.67	**15.3**		**0.206**	0.0368	**0.734** J	<0.00260	0.0675	<0.00370	**0.0554** J	0.00938 J	0.00961 J	0.319	<0.00400	
	MW-93	Oct-15		5.14	**16.5**		**0.241**	0.0414	**1.21**	<0.00260	0.0717	<0.00367	**0.100**	0.0110	0.0170 J	0.494	<0.00398	
	MW-93	Apr-16		1.06	**7.83**		**0.0331**	0.00543	**0.258**	<0.00130	0.0106	<0.00184	0.0113 J	<0.00170	<0.00390	0.0567	<0.00199	
	MW-93	Oct-16		2.57	**8.66**		**0.103**	0.0146	**0.567**	<0.00260	0.0114	<0.00367	**0.0326** J	<0.00341	<0.00780	0.250	<0.00398	
	MW-93	Apr-17		3.73	**7.89**		**0.148**	0.0236 J	**0.633**	<0.00650	<0.00960	<0.00918	**0.0422** J	<0.00852	<0.0103	0.326	**<0.00995**	
	MW-94	Oct-15		6.12	**25.6**		**0.432**	0.0857	**0.339**	<0.00260	0.509	**0.798**	**0.202**	**0.360**	0.553	0.574	<0.00398	
	MW-94	Apr-16		7.91	**8.69**		**0.489**	0.100	**0.417**	0.0149 J	0.553	**0.621**	**0.228** J	**0.387**	0.687	0.615	**<0.0199**	
	MW-94	Oct-16		6.83	**9.76**		**0.458**	0.0917	**0.297**	<0.00130	0.564	**2.01**	**0.128**	**0.390**	0.468	0.592	<0.00199	
	MW-94	Apr-17		10.2	**9.96**		**0.398**	0.0785	**0.284**	<0.00650	0.432	**0.958**	**0.174**	**0.292**	0.435	0.460	**<0.00995**	
	MW-95	Apr-14		0.0926	**1.10**		<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500	
	MW-95	Apr-15		<0.0310	**7.58**		<0.000370	<0.000390	0.00148	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400	
	MW-95	Apr-16		0.129	**8.06**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000379 J	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-95	Apr-17		0.0826 J	**6.96**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	MW-96	Apr-15		45.1	**12.0**		0.000553 J	<0.000390	0.00288	<0.000260	0.00172	**35.0**	0.00126 J	0.00110	0.00156 J	0.00547	<0.000400	
	MW-96	Oct-15		24.3	**9.23**		**<0.186**	**<0.194**	**<0.166**	**<0.130**	<0.192	**39.2**	**<0.500**	<0.170	<0.390	<0.530	**<0.199**	
	MW-96	Apr-16		25.3	**10.8**		<0.00746	<0.00774	<0.000331	<0.00520	<0.00768	**32.9**	<0.0200	<0.00682	<0.0156	<0.0212	**<0.00796**	
	MW-96	Oct-16		20.0	**7.74**		**<0.0186**	<0.0194	**<0.0166**	<0.0130	<0.0192	**39.6**	**<0.0500**	<0.0170	<0.0390	<0.0530	**<0.0199**	
	MW-96	Apr-17		25.1	**9.02**		**<0.0186**	<0.0194	**<0.0166**	<0.0130	<0.0192	**30.6**	**<0.0500**	<0.0170	<0.0206	<0.0530	**<0.0199**	
	MW-96	Oct-17		13.9	**7.85**		**<0.0186**	<0.0194	**<0.0166**	<0.0130	<0.0192	**40.0**	**<0.0500**	<0.0170	<0.0206	<0.0530	**<0.0199**	
	MW-98	Apr-15		19.3	**7.06**		**0.360**	0.0870	**4.17**	<0.00650	**0.927**	<0.00920	**0.174** J	0.0358	0.283	**1.74**	**<0.0100**	
	MW-98	Oct-15		18.6	**6.38**		**0.380**	0.0836	**4.79**	<0.00650	0.659	<0.00918	**0.237**	0.0316	0.268	**1.71**	**<0.00995**	
	MW-98	Apr-16		14.7	**6.88**		**0.177**	0.0462 J	**4.07**	<0.0260	0.430	<0.0367	**0.139** J	<0.0341	0.220 J	**0.865**	**<0.0398**	
	MW-98	Oct-16		20.0	**4.97**		**0.299**	0.0823 J	**3.59**	<0.0260	0.698	<0.0367	**<0.100**	<0.0341	0.245 J	**1.37**	**<0.0398**	
	MW-98	Apr-17		15.9	**5.94**		**0.382**	0.0852 J	**4.39**	<0.0260	**1.05**	<0.0367	**0.239** J	0.0443 J	0.356	**1.88**	**<0.0398**	
	MW-98	Oct-17		20.1	**5.92**		**0.488**	0.118	**4.09**	<0.0130	**1.26**	<0.0184	**0.245** J	0.0525	0.421	**2.21**	**<0.0199**	
	MW-137	Oct-15		30.0	**20.1**		**0.437**	0.102	**9.44**	<0.0260	**1.59**	0.0606 J	**0.215** J	**0.480**	**2.16**	**1.16**	**<0.0398**	
	MW-137	Apr-16		33.8	**11.8**		**0.460**	0.102 J	**9.65**	<0.0650	**1.65**	<0.0918	**0.262** J	**0.539**	**2.53**	**1.23**	**<0.0995**	
	MW-137	Oct-16		30.9	**9.65**		**0.421**	<0.0968	**10.5**	<0.0650	**1.54**	<0.0918	**<0.250**	**0.343**	**1.51**	**1.10**	**<0.0995**	
	MW-137	Apr-17		14.1 J	**12.6**		**0.414**	0.0969 J	**9.69**	<0.0520	**1.58**	<0.0734	**0.272** J	**0.427**	**2.08**	**1.15**	**<0.0796**	
	MW-137	Oct-17		33.1	**11.3**		**0.559**	**0.137** J	**12.5**	<0.0520	**1.53**	0.0754 J	**0.317** J	**0.265**	**1.54**	**1.16**	**<0.0796**	
	MW-138	Oct-15		5.08	**6.73**		**0.0792**	0.0189 J	**1.54**	<0.00520	0.569	0.0926	**0.0894** J	<0.00682	<0.0156	0.0339 J	**<0.00796**	
	MW-138	Apr-16		4.86	**15.5**		<0.00373	<0.00387	**1.46**	<0.00260	0.309	0.0955	**0.0959**	<0.00341	0.0158 J	<0.0106	<0.00398	
	MW-138	Oct-16		2.28	**10.3**		<0.00373	<0.00387	**0.494**	<0.00260	0.0149	0.0935	**0.0364** J	<0.00341	<0.00780	<0.0106	<0.00398	
	MW-138	Apr-17		1.00	**14.6**		<0.00373	<0.00387	**0.484**	<0.00260	0.0167	0.125	**0.0639**	<0.00341	<0.00412	<0.0106	<0.00398	
	MW-138	Oct-17		2.20	**15.0**		0.00547	<0.00194	**0.701**	<0.00130	0.0244	**0.163**	**0.0635**	<0.00170	0.00577	0.00565 J	<0.00199	
	RW-1	Apr-15		2.95 J	**12.0**		**<0.0190**	<0.0190	**0.962**	**1.02**	0.0470 J	<0.0180	**<0.0500**	<0.0170	<0.0390	<0.0530	**<0.0200**	
	RW-1R	Apr-16		2.13	**8.54**		0.00369	0.000516 J	**0.426**	**2.14**	0.0214	0.0133	0.00762	0.00110	0.00542	0.0122	**0.00959**	
	RW-1R	Apr-17		2.20	**21.5**		<0.00373	<0.00387	**0.696**	**0.624**	0.0169	0.0441	<0.0100	<0.00341	0.0102	<0.0106	**0.00896** J	
	RW-2	Apr-15		18.3	**19.7**		**0.330**	0.0772	**5.34**	**0.619**	**1.02**	<0.00370	**0.157** J	0.0853	0.115	0.530	**0.0326**	
	RW-2R	Apr-16		20.8	**17.3**		**0.188**	0.0419 J	**5.86**	**0.555**	0.591	0.0226 J	**0.145** J	0.0461 J	0.0569 J	0.299	**0.0285** J	
	RW-2R	Apr-17		17.2	**11.6**		**0.271**	0.0664	**7.78**	**0.828**	**0.837**	<0.0184	**0.145** J	0.0183 J	0.0430 J	0.431	**0.0249** J	
	RW-7	Apr-15		1.05	**9.70**		**0.0818**	0.000663 J	**0.0535**	<0.000260	0.0185	0.0122	0.0112	0.00176	0.00396 J	0.0367	<0.000400	
	RW-7R	Apr-16		0.0588 J	**1.97**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.0687	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	RW-7R	Apr-17		<0.0314	**1.15**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.0325	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	RW-8	Apr-15			**7.30**		0.00710 J	<0.00390	**0.0412**	<0.00260	0.00801 J	**2.41**	<0.0100	<0.00340	<0.00780	<0.0110	<0.00400	
	RW-8	Apr-17			**11.6**		**0.0928**	0.0249	**0.0718**	0.000478 J	0.0198	**1.94**	**0.0320**	0.0112	0.00213	0.0498	0.00110	
	RW-9	Apr-14		3.26	**0.480**		0.00650	<0.000600	**0.680**	<0.00060	0.00150 J	0.00340 J	0.00750	<0.000500	0.00190 J	0.0240	<0.000500	
	RW-9	Apr-15		2.55	**3.20**		**<0.0190**	<0.0190	**0.790**	<0.0130	<0.0190	<0.0180	**<0.0500**	<0.0170	<0.0390	<0.0530	**<0.0200**	
	RW-9	Apr-16		0.492 J	**3.44**		**0.0283**	<0.00194	**0.466**	<0.00130	0.00775	0.00656	0.00554 J	<0.00170	<0.00390	0.0708	<0.00199	
	RW-9	Apr-17		2.36	**3.21**		0.000991 J	<0.000387	**0.290**	<0.000260	0.00105	0.00435	<0.00100	<0.000341	0.00184	0.0193	<0.000398	
	RW-10	Apr-14		<0.0100	**0.150**		<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500	
	RW-10	Apr-15		<0.0310	**4.80**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400	
	RW-10	Apr-16		<0.157	**3.66**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	RW-10	Apr-17		0.207	**2.90**		<0.000373	<0.000387	<0.000331	<0.000260	0.000403 J	<0.000367	<0.00100	0.00299	0.00119	0.00378	<0.000398	
	RW-16	Apr-14			**0.110**		<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	0.0130	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500	
	RW-16	Apr-14	FD		**0.230**		<0.000370	<0.000390	<0.000600	<0.00060	<0.000500	0.0120	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500	
	RW-16	Apr-15			**1.90**		<0.000373	<0.000387	<0.000330	<0.000260	<0.000380	0.0190	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400	
	RW-16	Apr-16			**2.29**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.0186	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	RW-16	Apr-17			**1.08**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.0152	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	RW-17	Apr-14		<0.0100	**0.110**		<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	0.00310 J	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500	
	RW-17	Apr-15		<0.0310	**1.20**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.00772	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400	
	RW-17	Apr-16		<0.0314	**1.75**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	**0.195**	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	RW-17	Apr-17		0.0622 J	**2.57**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	**0.189**	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	

Table 4A - Summary of Groundwater Analytical Data - Total Petroleum Hydrocarbons and Volatile Organic Compounds

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	TPH			Volatile Organic Compounds										
				Analyte:	GRO	DRO	DRO - EP	1,2,4-TMB	1,3,5-TMB	Benzene	cis-1,2-DCE	Ethyl-benzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes	Trichloro-ethene
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	0.0398	0.0473	0.015	0.12	0.005	0.07	0.7	0.143	0.03	0.193	0.75	0.62	0.005
				CGWSL Source:		NMED TPH	NMED TPH	USEPA TW	USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH	USEPA MCL
Area	**Well ID**	**Date**	**Dup**															
North RO Reject Field	MW-117	Apr-15		<0.0310	0.0323 J		0.00285	0.000897 J	<0.000330	<0.000260	<0.000380	<0.000370	0.00150 J	0.000942 J	<0.000780	0.00229 J	<0.000400
	MW-117	Oct-15		<0.0314	<0.0247		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-117	Apr-16		<0.0314	<0.0247		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-117	Oct-16		<0.0314	0.0265 J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000780	<0.00106	<0.000398
	MW-117	Apr-17		<0.0314	<0.0247		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-117	Oct-17		<0.0314	**0.385**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-118	Apr-15		<0.0310	0.0307 J		0.000863 J	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-118	Oct-15		<0.0314	<0.0247		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-118	Apr-16		<0.0314	0.0248 J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-118	Oct-16		<0.0314	<0.0247		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000780	<0.00106	<0.000398
	MW-118	Apr-17		<0.0314	<0.0247		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-118	Oct-17		<0.0314	**0.0524** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-119	Apr-15		<0.0310	0.0353 J		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-119	Oct-15		<0.0314	<0.0247		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-119	Apr-16		<0.0314	<0.0247		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-119	Oct-16		0.0557 JB	**0.0570** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000780	<0.00106	<0.000398
	MW-119	Apr-17		<0.0314	**0.0622** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-119	Oct-17		<0.0314	**0.0805** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
NCL	MW-18	Apr-14			**0.280**		<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-18	Apr-15			**2.41**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-18	Apr-16			**2.02**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-18	Apr-17			**0.960**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-45	Apr-15			**1.10**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.00356	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-45	Oct-15			**0.874**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00268	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-45	Apr-16			**1.11**		<0.000373	<0.000387	<0.000331	<0.000418	<0.000384	0.00152	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-45	Oct-16			**1.15**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00206	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-45	Apr-17			**0.857**		<0.000373	<0.000387	<0.000331	0.00152	<0.000384	0.00316	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-45	Oct-17			**0.864**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00305	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-53	Apr-14			<0.0210		<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-53	Apr-15			**0.296**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-53	Apr-16			**0.316**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-53	Apr-17			**0.258**		<0.000373	<0.000387	<0.000331	0.000391 J	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-54A	Apr-15			**2.93**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-54A	Oct-15			**3.29**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-54A	Apr-16			**3.34**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-54A	Oct-16			**3.24**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-54A	Apr-17			**2.55**		<0.000373	<0.000387	<0.000331	0.000888 J	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-54A	Oct-17			**2.38**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-54B	Apr-13		<0.0500	**0.630**		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.0150	<0.00500
	MW-54B	Apr-15		<0.0310	**2.47**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-54B	Apr-17		<0.0314	**0.881**		<0.000373	<0.000387	<0.000331	0.000616 J	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-55	Apr-15		<0.0310	**0.227**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-55	Oct-15		<0.0314	**0.300**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00433	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-55	Apr-16		<0.0314	**0.691**		**0.0599**	<0.000387	<0.000331	<0.000260	<0.000384	0.0163	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-55	Oct-16		<0.0314	**0.354**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00521	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-55	Apr-17		<0.0314	**1.08**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.0535	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-55	Oct-17		0.0634 J	**0.697**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.0390	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-56	Apr-15			**1.62**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.0129	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-56	Oct-15			**0.680**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00975	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-56	Apr-16			**1.07**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.0160	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-56	Oct-16			**1.18**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00819	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-56	Apr-17			**1.15**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.0222	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-108	Apr-15			**9.03**		**0.0465**	0.00603 J	**0.423**	<0.00260	0.0101	<0.00370	0.0113 J	0.00412 J	0.00956 J	0.0706	<0.00400
	MW-108	Oct-15			**7.89**		**0.0616**	0.00805 J	**0.394**	<0.00260	0.00812 J	<0.00367	0.0166 J	0.00444 J	0.00978 J	0.0855	<0.00398
	MW-108	Apr-16			**9.20**		**0.0599**	<0.0194	**0.504**	<0.0130	<0.0192	<0.0184	**<0.0500**	<0.0170	<0.0390	0.0795 J	**<0.0199**
	MW-108	Oct-16			**15.2**		**0.0561**	<0.00968	**0.362**	<0.00650	<0.00960	<0.00918	<0.0250	<0.00852	<0.0195	0.0721 J	**<0.00995**
	MW-108	Apr-17			**6.80**		**0.0605**	<0.00968	**0.382**	<0.00650	<0.00960	<0.00918	<0.0250	<0.00852	<0.0103	0.0815	**<0.00995**
	MW-108	Oct-17			**7.93**		**0.0451**	0.00330 J	**0.282**	<0.00130	0.00404 J	<0.00184	0.00744 J	0.00238 J	0.00383 J	0.0626	<0.00199
	NCL-31	Apr-15			**2.38**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.000497 J	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	NCL-31	Oct-15			**2.10**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NCL-31	Apr-16			**1.87**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NCL-31	Oct-16			**24.2**		0.000554 J	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NCL-31	Apr-17			**1.37**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	NCL-31	Oct-17			**1.16**		0.000489 J	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	NCL-32	Apr-15			**2.80**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	NCL-32	Oct-15			**7.50**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000476 J	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NCL-32	Apr-16			**4.05**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000751 J	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NCL-32	Oct-16			**2.70**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.000385 J	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NCL-32	Apr-17			**1.88**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	NCL-32	Oct-17			**1.27**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	NCL-33	Apr-15			**4.60**		<0.000370	<0.000390	0.00105	<0.000260	<0.000380	0.000806 J	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	NCL-33	Oct-15			**5.30**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780 J	<0.00106	<0.000398
	NCL-33	Apr-16			**4.53**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NCL-33	Oct-16			**6.55**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NCL-33	Apr-17			**4.80**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	NCL-33	Oct-17			**4.78**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	NCL-34A	Apr-15			**10.0**		**0.0979**	0.00122	**1.21**	<0.000260	0.00565	<0.00730	0.00636	0.00121	<0.000780	0.0952	<0.000400
	NCL-34A	Oct-15			**5.11**		**0.0589**	0.000423 J	**0.695** J	<0.000260	0.00215	0.00168	<0.00100	0.000477 J	<0.000780	0.0658	<0.000398
	NCL-34A	Apr-16			**19.2**		**0.102**	<0.0194	**3.25**	<0.0130	0.0758	<0.0184	**<0.0500**	<0.0170	<0.0390	0.188	**<0.0199**
	NCL-34A	Oct-16			**10.8**		**0.0754** J	<0.0387	**1.13**	<0.0260	<0.0384	<0.0367	**<0.100**	<0.0341	<0.0780	0.111 J	**<0.0398**
	NCL-34A	Apr-17			**11.4**		**0.0560**	<0.0194	**1.78**	<0.0130	<0.0192	<0.0184	**<0.0500**	<0.0170	<0.0206	0.100 J	**<0.0199**
	NCL-34A	Oct-17			**6.04**		**0.0290**	0.00141	**0.805**	<0.000260	0.00230	0.000379 J	0.00132 J	0.000631 J	<0.000412	0.0768	<0.000398
	NCL-44	Apr-15			**5.50**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.000410 J	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	NCL-44	Oct-15			**6.17**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NCL-44	Apr-16			**7.59**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NCL-44	Oct-16			**8.88**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NCL-44	Apr-17			**7.97**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	NCL-44	Oct-17			**6.69**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	NCL-49	Apr-15			**0.0967** J		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	NCL-49	Apr-15	FD		**0.0832** J		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	NCL-49	Oct-15			**0.0770** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NCL-49	Oct-15	FD		**0.0960** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NCL-49	Apr-16			**0.0890** J		<0.000373	<0.00774	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NCL-49	Apr-16	FD		**0.0664** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NCL-49	Oct-16			**0.0712** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NCL-49	Oct-16	FD		**0.0626** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NCL-49	Apr-17			**0.0515** J		<0.000373	<0.000387	<0.000331	0.000449 J	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	NCL-49	Apr-17	FD		**0.0582** J		<0.000373	<0.000387	<0.000331	0.000303 J	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	NCL-49	Oct-17			0.0373 J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	NCL-49	Oct-17	FD		0.0355 J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398

Table 4A - Summary of Groundwater Analytical Data - Total Petroleum Hydrocarbons and Volatile Organic Compounds

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	TPH			Volatile Organic Compounds										
				Analyte:	GRO	DRO	DRO - EP	1,2,4-TMB	1,3,5-TMB	Benzene	cis-1,2-DCE	Ethyl-benzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes	Trichloro-ethene
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	0.0398	0.0473	0.015	0.12	0.005	0.07	0.7	0.143	0.03	0.193	0.75	0.62	0.005
				CGWSL Source:		NMED TPH	NMED TPH	USEPA TW	USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH	USEPA MCL
Area	**Well ID**	**Date**	**Dup**															
South Refinery	KWB-2R	Apr-15			**5.20**		**0.307**	<0.00390	**1.98**	<0.00260	**0.992**	0.0186	0.0260 J	0.0115	0.0140 J	0.236	<0.00400	
	KWB-2R	Oct-15			**3.95**		**0.317**	<0.0387	**4.00**	<0.0260	**1.72**	<0.0367	**<0.100**	<0.0341	<0.0780	0.448	**<0.0398**	
	KWB-2R	Apr-16			**1.49**		**0.0497**	0.000489 J	**0.0558**	<0.000260	0.0483	0.0231	0.00806	0.00189	0.00152 J	0.0515	<0.000398	
	KWB-2R	Oct-16			**1.84**		**0.0347**	0.000427 J	**0.398**	<0.000260	0.0130	0.0184	0.00440 J	0.00185	0.00290 J	0.0289	<0.000398	
	KWB-2R	Apr-17			**1.35**		**0.0341**	<0.000387	**0.0260**	<0.000260	0.00543	0.0192	0.00609	0.000772 J	<0.000412	0.0281	<0.000398	
	KWB-2R	Oct-17			**4.84**		**0.150**	<0.000387	**1.12**	<0.000260	0.325	0.0202	**0.0675**	0.00977	0.0161	0.193	<0.000398	
	KWB-5	Apr-15			**2.30**		**0.0158**	0.00419	<0.000330	<0.000260	0.0395	<0.000370	**0.0392**	0.00713	0.0130	0.0394	<0.000400	
	KWB-5	Oct-15			**1.39**		0.00334	0.00179	**1.20** J	<0.000260	0.0151	**10.7**	0.0156	0.00312	0.00578	0.0166	<0.000398	
	KWB-5	Apr-16			**2.36**		0.00535	0.000901 J	**0.688**	<0.000260	0.00678	**12.6**	0.0114	0.00349	0.00412 J	0.0158	<0.000398	
	KWB-5	Oct-16			**1.89**		<0.00186	<0.00194	**0.367**	<0.00130	<0.00192	**9.88**	0.00511 JJ4	<0.00170	<0.00390	<0.00530	<0.00199	
	KWB-5	Apr-17			**1.98**		**0.0172**	0.00179	**0.525**	<0.000260	0.0103	**8.84**	**0.0302**	0.00472	0.00470	0.0434	<0.000398	
	KWB-5	Oct-17			**1.55**		**<0.0932**	<0.000387	**0.336**	<0.000260	<0.0960	**12.4**	0.0131	<0.0852	0.00156	<0.265	<0.000398	
	KWB-6	Apr-15			**4.50**		**0.680**	**0.124**	**15.9**	<0.00650	**2.04**	0.119	**0.239**	**0.760**	**1.70**	**3.47**	**<0.0100**	
	KWB-6	Oct-15			**1.41**		**0.325** J	**<0.194**	**8.61**	**<0.130**	**0.831**	**9.07**	**<0.500**	**0.297** J	<0.390	**1.33** J	**<0.199**	
	KWB-6	Apr-16			**3.75**		**0.876**	**0.134**	**12.4**	<0.00130	**0.799**	0.138	**0.137**	**0.243**	0.120	**1.88**	<0.00199	
	KWB-6	Oct-16			**1.78**		**0.292**	0.0449	**3.41**	<0.00520	0.241	0.135	**0.0549** J	0.0232	0.0167 J	0.417	**<0.00796**	
	KWB-6	Apr-17			**2.04**		**0.399**	0.0517	**4.67**	<0.00130	0.346	**0.154**	**0.0563**	0.0179	0.0205	0.391	<0.00199	
	KWB-6	Oct-17			**2.16**		**0.206**	0.0302	**3.22**	<0.000260	0.183	0.102	**0.0436**	0.00804	0.0122	0.283	<0.000398	
	MW-28	Apr-15		7.85 J	**13.0**		**0.0950** J	<0.0390	**3.02**	<0.0260	0.0625 J	**1.33**	**<0.100**	<0.0340	<0.0780	0.194 J	**<0.0400**	
	MW-28	Oct-15		9.88	**16.2**		**0.151**	<0.0387	**3.05**	<0.0260	0.0441 J	**1.11**	**<0.100**	<0.0341	<0.0780	0.243 J	**<0.0398**	
	MW-28	Apr-16		4.83	**17.0**		**0.113**	0.00861 J	**1.37**	<0.00260	0.0276	**0.261**	0.0247 J	0.00496 J	0.0350 J	0.161	<0.00398	
	MW-28	Oct-16		6.13	**22.2**		**0.253**	0.0202 J	**2.55**	<0.0130	0.0796	**0.630**	**0.0504** J	<0.0170	0.0683 J	0.338	**<0.0199**	
	MW-28	Apr-17		9.38	**14.4**		**0.168**	<0.0194	**2.58**	<0.0130	0.0489 J	**0.423**	**0.0668** J	<0.0170	0.0587	0.238	**<0.0199**	
	MW-28	Oct-17		7.24	**7.51**		**0.142**	<0.0194	**1.58**	<0.0130	0.0578	**0.158**	**<0.0500**	<0.0170	0.0474 J	0.216	**<0.0199**	
	MW-48	Apr-15		3.65 J	**3.90**		**0.140**	0.00962 J	**0.890**	<0.00260	0.158	**0.223**	0.0245 J	0.00973 J	0.0146 J	0.153	<0.00400	
	MW-48	Oct-15		2.99	**2.97**		**0.211**	0.00235 J	**0.204** J	<0.00130	0.0655	**0.832**	0.0128 J	0.00658	0.0120 J	0.125	<0.00199	
	MW-48	Apr-16		23.3	**15.3**		**0.310**	0.0223	**7.17**	<0.00520	**0.790**	**0.326**	**0.101**	0.0788	0.214	**0.750**	**<0.00796**	
	MW-48	Oct-16		15.8	**7.81**		**0.323**	0.0284	**5.12**	<0.00130	0.448	**0.851**	**0.0832**	0.0356	0.214	0.538	<0.00199	
	MW-48	Apr-17		31.5	**10.6**		**0.482**	0.0577	**11.7**	<0.0130	**1.27**	**0.214**	**0.224** J	0.115	0.667	**1.16**	**<0.0199**	
	MW-48	Oct-17		28.7	**18.5**		**0.368**	0.0465	**11.0**	<0.000260	**0.917**	**0.263**	**0.138**	0.0924	0.722	**0.797**	<0.000398	
	MW-50	Apr-15			**0.902**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.00219	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400	
	MW-50	Oct-15			**0.642**		<0.000373 J	<0.000387 J	<0.000331 J	<0.000260 J	<0.000384 J	<0.000367	<0.00100 J	<0.000341	<0.000780 J	<0.00106 J	<0.000398 J	
	MW-50	Apr-16			**1.10**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-50	Oct-16			**1.02**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-50	Apr-17			**0.835**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	MW-50	Oct-17			**1.12**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	MW-52	Apr-15		<0.0310 J	**0.370**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400	
	MW-52	Oct-15		<0.0314	**0.158**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780 J	<0.00106	<0.000398	
	MW-52	Apr-16		<0.0314	**0.324**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-52	Oct-16		0.0386 J	**0.367**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-52	Apr-17		<0.0314	**0.271**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	MW-52	Oct-17		<0.0314	**0.380**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	MW-64	Apr-16		136	**12.3**		**0.666**	**0.140**	**25.3**	<0.0130	**3.11**	**0.666**	**0.195** J	**2.44**	**18.8**	**7.70**	**<0.0199**	
	MW-64	Oct-16		90.7	**12.0**		**0.435**	0.0904 J	**30.9**	<0.0260	**2.61**	**0.531**	**0.140** J	**1.51**	**11.6**	**5.30**	**<0.0398**	
	MW-64	Apr-17		109	**9.88**		**0.793**	**0.163** J	**3.22**	<0.0650	**3.35**	**0.408**	**<0.250**	**2.09**	**13.2**	**7.58**	**<0.0995**	
	MW-64	Oct-17		88.3	**12.6**		**0.643**	**0.130** J	**30.7**	<0.0650	**3.20**	**0.484**	**<0.250**	**1.44**	**9.81**	**6.01**	**<0.0995**	
	MW-65	Apr-15		33.1	**12.4**		**0.0514**	0.0228	**9.99**	<0.00260	**1.03**	**3.22**	**0.239**	0.0228	0.0294 J	0.158	<0.00400	
	MW-65	Apr-16		19.6	**10.6**		**0.0309**	0.0165	**9.73**	<0.00260	0.288	**3.71**	**0.155**	0.0149	0.0211 J	0.0971	<0.00398	
	MW-65	Oct-16		19.2	**7.99**		<0.00746	<0.00774	**8.04**	<0.00520	0.0574	**2.70**	**0.194**	0.00937 J	0.0271 J	0.0298 J	**<0.00796**	
	MW-65	Apr-17		18.5	**8.30**		**<0.0373**	<0.0387	**6.70**	<0.0260	0.0768 J	**2.27**	**0.205** J	<0.0341	<0.0412	<0.106	**<0.0398**	
	MW-65	Oct-17		17.1	**7.44**		**<0.0373**	<0.0387	**6.25**	<0.0260	0.0507 J	**2.13**	**0.223** J	<0.0341	<0.0412	<0.106	**<0.0398**	
	MW-66	Apr-15		8.18	**4.51**		**<0.0190**	<0.0190	**3.16**	<0.0130	0.0615	**1.66**	**0.0617** J	<0.0170	<0.0390 J	0.0668 J	**<0.0200**	
	MW-66	Oct-15		8.74	**1.40**		0.00409	0.000859 J	**4.10** J	<0.000260	0.0234	**2.42**	**0.133**	0.00390	0.00722	0.0320	<0.000398	
	MW-66	Apr-16		6.09	**4.19**		0.00940 J	<0.00387	**3.09**	<0.00260	0.0181	**1.48**	**0.0638**	<0.00341	<0.00780	0.0285 J	<0.00398	
	MW-66	Oct-16		7.32	**4.24**		0.00241	0.000547 J	**3.80**	<0.000260	0.0214	**1.48**	**0.0979**	0.00365	0.0109	0.0265	<0.000398	
	MW-66	Apr-17		6.04	**4.18**		**<0.0186**	<0.0194	**1.89**	<0.0130	<0.0192	**1.21**	**0.104** J	<0.0170	<0.0206	<0.0530	**<0.0199**	
	MW-66	Oct-17		9.46	**3.58**		<0.00373	<0.00387	**0.276**	<0.00260	<0.00384	0.134	0.0147 J	<0.00341	<0.00412	<0.0106	<0.00398	
	MW-99	Apr-15		6.76	**1.94**		**0.337**	0.0706	**0.973**	<0.00650	0.252	0.0799	**0.0376** J	**0.315**	0.149 J	**0.937**	**<0.0100**	
	MW-99	Oct-15		19.4	**1.87**		**0.400**	0.0169 J	**7.28**	<0.00650	0.551	**3.96**	**0.0453** J	0.0953	0.221	0.604	**<0.00995**	
	MW-99	Apr-16		18.1	**4.29**		**0.498**	0.0129	**5.59**	<0.00260	0.629	**1.99**	**0.0656**	0.0843	0.0427 J	0.615	<0.00398	
	MW-99	Oct-16		17.8 B	**2.26**		**0.343**	<0.00774	**5.08**	<0.00520	0.635	**2.45**	**0.0343** J	0.108	0.190	**0.699**	**<0.00796**	
	MW-99	Apr-17		14.4	**2.06**		**0.252**	0.0196 J	**2.79**	<0.0130	0.402	**4.65**	**<0.0500**	0.106	0.0860	0.522	**<0.0199**	
	MW-99	Oct-17		10.4	**2.23**		**0.152**	<0.0387	**2.58**	<0.0260	0.146	**2.71**	**<0.100**	<0.0341	<0.0412	0.228 J	**<0.0398**	
	MW-101	Apr-15		0.180	**6.00**		<0.00190	<0.00190	**0.0187**	<0.00130	0.00202 J	0.113	<0.00500 J	<0.00170	<0.00390	<0.00530	<0.00200	
	MW-101	Oct-15		0.0803 J	**5.08**		<0.00186	<0.00194	<0.00166	<0.00130	<0.00192	0.0981	<0.00500	<0.00170	<0.00390	<0.00530	<0.00199	
	MW-101	Apr-16		0.614	**5.84**		<0.000373	<0.000387	**0.0664** J6	<0.000260	0.00176	0.119	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-101	Oct-16		0.208	**2.95**		<0.000373	<0.000387	0.000845 J	<0.000260	<0.000384	0.104	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-101	Apr-17		0.311	**3.72**		<0.000373	<0.000387	**0.00650**	<0.000260	0.000830 J	0.107	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398	
	MW-101	Oct-17		0.377	**5.50**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.132	<0.00100	<0.000341	0.000439 J	<0.00106	<0.000398	
	MW-102	Apr-15		24.5	**9.96**		**0.136**	0.0278	**9.83**	<0.00260	0.602	**1.88**	**0.129**	**0.247**	**1.45**	**0.846**	<0.00400	
	MW-102	Oct-15		31.4	**11.4**		**0.465**	0.115	**12.3**	<0.0260	**1.04**	**2.12**	**0.256** J	**0.361**	**1.20**	**1.43**	**<0.0398**	
	MW-102	Apr-16		26.2	**9.69**		**0.402**	0.110	**10.8**	<0.0260	**0.858**	**2.07**	**0.278** J	0.0881 J	0.541	**0.632**	**<0.0398**	
	MW-102	Oct-16		31.5	**14.8**		**0.337**	0.0773 J	**13.2**	<0.0260	**1.03**	**1.61**	**0.278** J	0.0952 J	0.626	**0.719**	**<0.0398**	
	MW-102	Apr-17		26.4	**11.9**		**0.291**	0.0282	**8.38**	<0.00520	**0.726**	**1.87**	**0.200**	0.0189 J	0.243	0.391	**<0.00796**	
	MW-102	Oct-17		335	**18.1**		**0.278**	0.0413 J	**9.24**	<0.0130	**0.897**	**1.89**	**0.483**	0.0353 J	0.275	0.501	**<0.0199**	
	MW-103	Apr-14		1.43 J	**5.9**		0.0150	<0.000600	**0.760**	<0.00060	0.150	<0.000600	**0.0510**	0.00450 J	0.00940	0.0170	<0.000500	
	MW-103	Apr-15		4.15	**8.66**		0.0102	<0.000390	<0.000330	<0.000260	0.0879	0.000441 J	0.0220	0.00549	0.0154	0.0137	<0.000400	
	MW-103	Apr-16		3.55	**7.35**		<0.00186	<0.00194	**1.35**	<0.00130	0.0508	<0.00184	0.0108 J	0.00422 J	0.0153 J	<0.00530	<0.00199	
	MW-103	Apr-17		3.46	**6.94**		**<0.0186**	<0.0194	**1.30**	<0.0130	<0.0192	<0.0184	**<0.0500**	<0.0170	<0.0206	<0.0530	**<0.0199**	
	MW-104	Apr-15		0.783	**0.813**		<0.000370	<0.000390	**0.0243**	<0.000260	<0.000380	0.00138	<0.00100	<0.000340	<0.000780 J	<0.00110	<0.000400	
	MW-104	Apr-15	FD	0.878	**0.790**		<0.000370	<0.000390	**0.0242**	<0.000260	0.000481 J	0.00135	<0.00100	<0.000340	<0.000780 J	<0.00110	<0.000400	
	MW-104	Oct-15		1.05	**1.06**		<0.00186	<0.00194	**0.257**	<0.00130	0.0126	0.00189 J	<0.00500	<0.00170	<0.00390	<0.00530	<0.00199	
	MW-104	Oct-15	FD	1.18	**3.00**		0.000420 J	<0.000387	**0.309**	<0.000260	0.0117	0.00199	0.00132 J	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-104	Apr-16		0.797	**2.23**		<0.000373	<0.000387	**0.0707**	<0.000260	0.00108	0.00130	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-104	Apr-16	FD	0.775	**2.19**		<0.000373	<0.000387	**0.0685**	<0.000260	0.00107	0.00120	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398	
	MW-104	Oct-16		1.35	**2.55**		<0.00186	<0.00194	**0.341**	<0.00130	0.00837	<0.00184	<0.00500	<0.00170	<0.00390	<0.00530	<0.00199	
	MW-104	Oct-16	FD	1.26	**2.68**		<0.00186	<0.00194	**0.284**	<0.00130	0.00721	0.00509	<0.00500	<0.00170	<0.00390	<0.00530	<0.00199	
	MW-104	Apr-17		1.66	**5.36**		<0.00373	<0.00387	**0.741**	<0.00260	0.0244	<0.00367	<0.0100	<0.00341	<0.00412	<0.0106	<0.00398	
	MW-104	Apr-17	FD	2.41	**4.91**		0.00209 J	<0.00194	**0.529**	<0.00130	0.0168	0.0132	<0.00500	<0.00170	<0.00206	<0.00530	<0.00199	
	MW-104	Oct-17		1.52	**5.42**		0.000544 J	<0.000387	**0.144**	<0.000260	0.00651	0.00837	0.00196 J	<0.000341	<0.000412	<0.00106	<0.000398	
	MW-104	Oct-17	FD	1.36	**4.95**		<0.00186	<0.00194	**0.150**	<0.00130	0.00774	0.00820	<0.00500	<0.00170	<0.00206	<0.00530	<0.00199	
	MW-105	Apr-15		6.50	**3.74**		**0.0678**	0.0325	**1.71**	<0.00130	0.545	<0.00180	**0.0623** J	0.00965	0.0314	0.214	<0.00200	
	MW-105	Oct-15		4.37	**2.31**		**0.0487**	0.0291	**0.580**	<0.00260	0.188	<0.00367	0.0299 J	<0.00341	<0.00780	0.109	<0.00398	
	MW-105	Apr-16		33.6	**21.2**		**0.103** J	<0.0968	**13.5**	<0.0650	**2.02**	<0.0918	**<0.250**	<0.0852	<0.195	0.379 J	**<0.0995**	
	MW-105	Oct-16		43.7	**8.66**		**0.141**	<0.0387	**18.2**	<0.0260	**2.77**	<0.0367	**0.129** J	<0.0341	<0.0780	**0.683**	**<0.0398**	
	MW-105	Apr-17		33.9	**13.8**		**0.104**	<0.0387	**13.3**	<0.0260	**1.71**	<0.0367	**0.104** J	<0.0341	<0.0412	0.446	**<0.0398**	
	MW-105	Oct-17		24.0	**19.0**		**0.0964**	0.0250	**9.19**	<0.000260	**0.927**	0.0209	**0.0737**	<0.0341	0.0192	0.390	<0.000398	
	MW-106	Apr-15		1.52	**3.40**		**0.0173**	0.00273	**0.395**	<0.000260	0.0206	<0.000370	0.0126	0.00393	0.0420	0.0514	<0.000400	
	MW-106	Oct-15		23.8	**19.6**		**0.0921** J	<0.0387	**10.4**	<0.0260	0.0823 J	0.0397 J	**0.113** J	<0.0341	0.216 J	0.217 J	**<0.0398**	
	MW-106	Apr-16		23.9	**19.5**		**0.0824**	0.0114 J	**12.7**	<0.00650	0.0446	0.0580	**0.0442** J	<0.00852	0.124 J	0.203	**<0.00995**	
	MW-106	Oct-16		27.1	**21.8**		**0.126**	0.0219 J	**11.3**	<0.0130	0.0440 J	0.109	**0.0690** J	<0.0170	0.146 J	0.297	**<0.0199**	
	MW-106	Apr-17		21.4	**17.9**		**0.0853**	<0.0194	**9.71**	<0.0130	0.0301 J	0.0832	**<0.0500**	<0.0170	0.116	0.236	**<0.0199**	
	MW-106	Oct-17		21.9	**22.2**		**0.0731**	<0.0194	**10.6**	<0.0130	0.0438 J	0.0949	**<0.0500**	<0.0170	0.272	0.195	**<0.0199**	

Table 4A - Summary of Groundwater Analytical Data - Total Petroleum Hydrocarbons and Volatile Organic Compounds

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	TPH			Volatile Organic Compounds										
				Analyte:	GRO	DRO	DRO - EP	1,2,4-TMB	1,3,5-TMB	Benzene	cis-1,2-DCE	Ethyl-benzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes	Trichloro-ethene
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	0.0398	0.0473	0.015	0.12	0.005	0.07	0.7	0.143	0.03	0.193	0.75	0.62	0.005
				CGWSL Source:		NMED TPH	NMED TPH	USEPA TW	USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH	USEPA MCL
Area	**Well ID**	**Date**	**Dup**															
South Refinery	MW-107	Apr-15		9.85	**7.20**		0.0133	<0.00390	**5.32**	<0.00260	0.00658 J	**1.77**	0.0157 J	<0.00340	0.0106 J	0.0146 J	<0.00400
	MW-107	Oct-15		14.9 J	**4.72**		**0.100**	<0.0387	**6.29**	<0.0260	0.0403 J	**2.77**	**<0.100**	0.0431 J	<0.0780	0.130 J	**<0.0398**
	MW-107	Apr-16		4.89	**6.80**		0.00111	0.000591 J	**1.28**	<0.000260	0.00466	**2.44**	0.00773	0.00145	0.00399 J	0.00572	<0.000398
	MW-107	Oct-16		17.7	**7.24**		0.00205 J	<0.00194	**6.35**	<0.00130	0.0192	**3.05**	**0.0614**	0.00265 J	0.00800 J	0.0112 J	<0.00199
	MW-107	Apr-17		6.67	**7.91**		**<0.0186**	<0.0194	**3.37**	<0.0130	<0.0192	**2.78**	**0.0788** J	<0.0170	<0.0206	<0.0530	**<0.0199**
	MW-109	Apr-15		2.36	**8.10**		<0.00370	<0.00390	**0.621**	<0.00260	0.0190	<0.00370	<0.0100	<0.00340	0.0117 J	0.0176 J	<0.00400
	MW-109	Oct-15		1.46	**0.842**		0.00487 J	<0.00387	**0.845** J	<0.00260	0.0126	<0.00367	<0.0100	<0.00341	0.0141 J	0.0176 J	<0.00398
	MW-109	Apr-16		1.93	**5.92**		0.00418 J	<0.00194	**0.532**	<0.00130	0.00864	<0.00184	<0.00500	<0.00170	0.00837 J	0.0142 J	<0.00199
	MW-109	Oct-16		2.12	**3.19**		<0.00746	<0.00774	**0.995**	<0.00520	0.0115 J	<0.00734	<0.0200	<0.00682	<0.0156	<0.0212	**<0.00796**
	MW-109	Apr-17		5.26	**5.78**		0.00751	<0.00387	**1.25**	<0.00260	0.00980 J	<0.00367	<0.0100	<0.00341	0.0172	0.0272 J	<0.00398
	MW-109	Oct-17		4.62	**6.74**		0.00547	0.00167	**1.30**	<0.000260	0.0124	<0.000367	0.00191 J	<0.000341	0.0182	0.0230	<0.000398
	MW-110	Apr-15		1.12	**2.20**		0.00548	0.00166	**0.132**	<0.000260	0.00609	<0.000370	0.00482 J	<0.000340	0.00352 J	0.00624	<0.000400
	MW-110	Oct-15		1.48	<0.0247		**0.0350**	0.00228 J	**0.348** J	<0.00130	0.182	<0.00184	0.00731 J	<0.00170	0.00464 J	0.0298	<0.00199
	MW-110	Apr-16		0.735	**1.55**		0.000871 J	0.000525 J	**0.0132**	<0.000260	0.000927 J	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-110	Oct-16		0.503	**1.00**		<0.000373	<0.000387	0.000511 J	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-110	Apr-17		2.69	**2.53**		**0.0193**	<0.00194	**0.299**	<0.00130	0.0262	<0.00184	<0.00500	<0.00170	0.00378 J	0.0161	<0.00199
	MW-110	Oct-17		0.379	**1.01**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	RA-313	Apr-14					<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	RA-313	Apr-15					<0.000370	<0.000390	0.000366 J	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	RA-313	Apr-16					<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	RA-313	Apr-17					<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	RW-4	Apr-15			**3.72**		<0.000370	<0.000390	**0.0167**	<0.000260	0.00245	0.0902	<0.00100	<0.000340	<0.000780 J	<0.00110	<0.000400
	RW-4R	Apr-16			**5.03**		<0.000373	<0.000387	**0.0140**	<0.000260	<0.000384	**0.191**	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	RW-4R	Apr-17			**2.35**		<0.00186	<0.00194	**0.0294**	<0.00130	<0.00192	0.132	<0.00500	<0.00170	<0.00206	<0.00530	<0.00199
	RW-5R	Apr-15			**6.42**		**0.298**	0.0558	**2.92**	<0.00260	**1.03**	**2.15**	**0.174**	**0.522**	**2.26**	**1.91**	<0.00400
	RW-5R	Apr-16			**7.39**		**0.437**	0.100	**3.48**	<0.00520	**1.20**	**1.64**	**0.205**	**0.570**	**2.51**	**2.25**	**<0.00796**
	RW-6	Apr-15			**11.4**		**0.134**	0.0280	**0.636**	<0.00260	0.0476	**2.27**	**0.0602**	0.0558	0.0126 J	0.158	<0.00400
	RW-6R	Apr-16			**4.20**		0.00555	0.00111	**0.218**	<0.000260	0.00474	**2.68**	0.00574	0.00275	0.00683	0.00747	<0.000398
	RW-15C	Apr-17			**9.74**		**1.46**	**0.231**	**19.1**	<0.00650	**4.19**	**4.25**	**0.383**	**0.472**	0.172	**5.39**	**<0.00995**
South RO Reject Field	MW-114	Apr-15		<0.0310 J	<0.0250 B		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-114	Oct-15		<0.0314	<0.0247		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-114	Apr-16		<0.0314	0.0317 J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-114	Oct-16		<0.0314	**0.0410** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-114	Apr-17		<0.0314	<0.0247		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-114	Oct-17		<0.0314	**0.0650** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-115	Apr-15		<0.0310 J	<0.0250 B		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-115	Oct-15		0.0324 J	**0.103**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-115	Apr-16		<0.0314	**0.0616** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-115	Oct-16		<0.0314	**0.0582** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-115	Apr-17		<0.0314	**0.0657** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-115	Oct-17		<0.0314	**0.109**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-116	Apr-15		<0.0310 J	<0.0250 B		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-116	Oct-15		<0.0314	**0.0607** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-116	Apr-16		<0.0314	**0.112**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-116	Oct-16		<0.0314	**0.0868** J		0.000389 J	<0.000387	0.000536 J	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-116	Apr-17		<0.0314	**0.0549** J		<0.000373	<0.000387	0.000430 J	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-116	Oct-17		<0.0314	<0.0247		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
TEL	MW-49	Apr-15		0.654	**8.60**		0.00954	<0.000390	**0.0770**	<0.000260	0.00274	0.0553 J	0.00117 J	<0.000340	<0.000780	0.0175	<0.000400
	MW-49	Oct-15		1.58	**7.66**		0.0150	0.000858 J	**0.179**	<0.000260	0.00457	0.0447	0.00255 J	<0.000341	0.00201 J	0.0380	<0.000398
	MW-49	Apr-16		1.75	**8.63**		**0.0305**	<0.000387	**0.196**	<0.00520	<0.00768	0.0535	<0.0200	<0.00682	<0.0156	0.0540 J	**<0.00796**
	MW-49	Oct-16		2.82	**9.26**		**0.0457** J	<0.0387	**0.241**	<0.0260	<0.0384	0.0628 J	**<0.100**	<0.0341	<0.0780	<0.106	**<0.0398**
	MW-49	Apr-17		2.65	**7.62**		**0.0409**	0.00628 J	**0.227**	<0.00260	0.00427 J	0.0811	<0.0100	<0.00341	<0.00412	0.0564	<0.00398
	MW-49	Oct-17		3.45	**8.36**		**0.118**	0.0225	**0.573**	<0.00520	0.0184 J	0.0712	<0.0200	<0.00682	0.0109 J	0.195	**<0.00796**
	TEL-1	Apr-15		0.181	**9.80**		0.00103	<0.000390	<0.000330	<0.000260	<0.000380	0.00478	<0.00100	0.00214	<0.000780	0.00214 J	<0.000400
	TEL-1	Oct-15		0.148	**7.46**		0.000971 J	<0.000387	0.000378 J	<0.000260	<0.000384	0.00245	0.00102 J	0.00197	0.00108 J	0.00197 J	<0.000398
	TEL-1	Apr-16		0.153	**8.51**		0.000807 J	<0.000387	<0.000331	<0.000260	0.000718 J	0.00229	<0.00100	0.00160	0.000793 J	0.00160 J	<0.000398
	TEL-1	Oct-16		0.193	**3.58**		0.000939 J	<0.000387	<0.000331	<0.000260	0.000666 J	0.000724 J	<0.00100	0.00183	<0.000780	0.00183 J	<0.000398
	TEL-1	Apr-17		0.285	**9.45**		0.000500 J	<0.000387	0.000647 J	<0.000260	0.000506 J	0.00231	<0.00100	0.000572 J	0.000539 J	<0.00106	<0.000398
	TEL-1	Oct-17		0.467	**12.7**		0.00219	0.000626 J	<0.000331	<0.000260	0.00119	0.00285	<0.00100	0.00319	0.00203	0.00488	<0.000398
	TEL-2	Apr-15		5.12	**20.0**		**0.138**	0.0198 J	**0.905**	<0.00520	0.0119 J	0.0113 JJ3	<0.0200	0.0182 J	0.0372 J	0.189	**<0.00800**
	TEL-2	Oct-15		2.86	**18.7** J		**0.138**	0.0109	**0.535**	<0.00130	0.00577	0.0110	0.00630 J	0.00970	0.0186 J	0.155	<0.00199
	TEL-2	Apr-16		3.12	**18.1**		**0.125**	0.0143	**0.709**	<0.000260	0.00692	0.0156	0.00966	0.0102	0.0243	0.146	<0.000398
	TEL-2	Oct-16		3.08	**17.0**		**0.0976**	0.00929 J	**0.962**	<0.00260	0.00418 J	0.0110	<0.0100	0.00660 J	0.0218 J	0.123	<0.00398
	TEL-2	Apr-17		3.02	**14.8**		**0.0706**	0.00599 J	**0.556**	<0.00260	<0.00384	0.0104	<0.0100	0.00370 J	0.00914 J	0.0874	<0.00398
	TEL-2	Oct-17		2.51	**22.8**		**0.108**	<0.00387	**0.590**	<0.00260	<0.00384	0.00964 J	<0.0100	<0.00341	0.0143	0.101	<0.00398
	TEL-3	Apr-15		0.666	**9.40**		0.0104	<0.00390	**0.0206**	<0.00260	<0.00380	0.00560 J	<0.0100	<0.00340	<0.00780	<0.0110	<0.00400
	TEL-3	Oct-15		0.633	**5.86**		**0.0213**	0.00128	**0.0385**	<0.000260	0.000880 J	0.000964 J	0.00123 J	0.00316	0.00154 J	0.0202	<0.000398
	TEL-3	Apr-16		1.05	**14.1**		0.0128 J	<0.00968	**0.317**	<0.00650	<0.00960	0.0445	<0.0250	<0.00852	<0.0195	<0.0265	**<0.00995**
	TEL-3	Oct-16		0.589	**4.22**		**0.0157**	0.00115	**0.0123**	<0.000260	0.000539 J	0.00109	0.00107 J	0.00232	0.00119 J	0.0105	<0.000398
	TEL-3	Apr-17		0.716	**5.32**		**0.0163**	0.000748 J	**0.0799**	<0.000260	0.000764 J	0.00327	<0.00100	0.00192	0.00219	0.0102	<0.000398
	TEL-4	Apr-15		2.09	**8.40**		**0.0742**	<0.00390	**0.171**	<0.00260	<0.00380	0.140	<0.0100	<0.00340	<0.00780	0.0394	<0.00400
	TEL-4	Apr-15	FD	2.26	**8.50**		**0.0758**	<0.00390	**0.155**	<0.00260	<0.00380	0.142	<0.0100	<0.00340	<0.00780	0.0407	<0.00400
	TEL-4	Oct-15		2.77	**4.98**		**0.0740**	0.000524 J	**0.637**	<0.000260	0.00655	0.00902	0.00422 J	0.00162	0.00623	0.0719	<0.000398
	TEL-4	Oct-15	FD	2.70	**5.73**		**0.0861**	<0.00387	**0.657**	<0.00260	0.00756 J	0.0127	<0.0100	<0.00341	0.00878 J	0.0837	<0.000398
	TEL-4	Apr-16		2.36	**9.13**		**0.142**	<0.00387	**0.530**	<0.00260	0.0160	0.105	<0.0100	<0.00341	0.0132 J	0.142	<0.00398
	TEL-4	Apr-16	FD	2.65	**8.65**		**0.147**	<0.00387	**0.557**	<0.00260	0.0161	0.0945	<0.0100	<0.00341	0.0128 J	0.147	<0.00398
	TEL-4	Oct-16		2.52	**6.36**		**0.0775**	<0.00387	**0.514**	<0.00260	<0.00384	0.0415	<0.0100	<0.00341	<0.00780	0.0668	<0.00398
	TEL-4	Oct-16	FD	2.72	**6.66**		**0.105**	<0.00387	**0.479**	<0.00260	<0.00384	0.0476	<0.0100	<0.00341	<0.00780	0.0863	<0.00398
	TEL-4	Apr-17		1.25	**8.44**		**0.0287**	<0.00387	**0.0595**	<0.00260	<0.00384	0.0522	<0.0100	<0.00341	<0.00412	0.0243 J	<0.00398
	TEL-4	Apr-17	FD	1.29	**8.00**		**0.0352**	<0.000387	**0.0583**	<0.000260	0.000616 J	0.0492	<0.00100	0.000606 J	0.00218	0.0287	<0.000398
	TEL-4	Oct-17		1.53	**10.0**		**0.0387**	<0.000387	**0.0161**	<0.000260	0.000587 J	0.0975	<0.00100	0.000782 J	0.00131	0.0269	<0.000398
	TEL-4	Oct-17	FD	1.77	**9.67**		**0.0343**	<0.000387	**0.0149**	<0.000260	0.000497 J	0.0874	<0.00100	0.000684 J	0.00118	0.0242	<0.000398
TMD	MW-8	Apr-14		<0.0100	<0.0210		<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	0.00140 J	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-8	Apr-15		<0.0310	**0.380**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-8	Apr-16		<0.0314	**0.230**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-8	Apr-17		0.585	**0.238**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.00228	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	MW-16	Apr-14			**0.0580**		<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-16	Apr-15			**0.340**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100 J	<0.000340	<0.000780	<0.00110	<0.000400
	MW-16	Apr-17			**0.275**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-20	Apr-14			<0.0200		<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-20	Apr-14	FD		<0.0200		<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-20	Apr-15			**0.150**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-20	Apr-16			**0.149**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-20	Apr-17			**0.280**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398
	MW-21	Apr-15		<0.0310	**0.180**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.00729	<0.00100 J	<0.000340	<0.000780	<0.00110	<0.000400
	MW-21	Oct-15		<0.0314	**0.194**		<0.000373	<0.000387	0.000613 J	<0.000260	<0.000384	0.00636	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-21	Apr-16		<0.0314	**0.190**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.0101	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-21	Oct-16		<0.0314	**0.132**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.0112	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-21	Apr-17		0.0721 J	**0.169**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.0149	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-21	Oct-17		0.0416 J	**0.106**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.0180	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-25	Apr-14			<0.0200		<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-25	Apr-15			**0.690**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100 J	<0.000340	<0.000780	<0.00110	<0.000400
	MW-25	Apr-16			**0.348**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-25	Apr-17			**0.107**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100 J4	<0.000341	<0.000412	<0.00106	<0.000398

Table 4A - Summary of Groundwater Analytical Data - Total Petroleum Hydrocarbons and Volatile Organic Compounds

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	TPH		Volatile Organic Compounds										
				Analyte:	GRO	DRO	DRO - EP	1,2,4-TMB	1,3,5-TMB	Benzene	cis-1,2-DCE	Ethyl-benzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes	Trichloro-ethene
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	0.0398	0.0473	0.015	0.12	0.005	0.07	0.7	0.143	0.03	0.193	0.75	0.62	0.005
				CGWSL Source:		NMED TPH	NMED TPH	USEPA TW	USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH	USEPA MCL
Area	**Well ID**	**Date**	**Dup**															
TMD	MW-26	Apr-14				<0.0200		<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-26	Apr-15				**0.0530** J		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-26	Apr-16				**0.103**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-26	Apr-17				**0.0773** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-27	Apr-14				<0.0210		<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-27	Apr-15				**0.110**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-27	Apr-16				**0.134**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-27	Apr-17				**0.0992** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-46R	Nov-14				**0.0420** J		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-46R	Apr-15				**0.0540** J		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-46R	Apr-16				**0.0622** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-46R	Oct-16				**0.0459** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-46R	Apr-17				**0.0889** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-46R	Oct-17				0.0327 J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-68	Apr-14				<0.0200		<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-68	Apr-15				**0.130**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-68	Apr-16				**0.162**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-68	Apr-17				**0.138**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-71	Apr-14				<0.0210		<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-71	Apr-15				**0.0930** J		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	MW-71	Apr-16				0.0252 J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-71	Apr-17				**0.0947** J		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	MW-89	Apr-14				**0.210**		<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	MW-89	Apr-15				**2.40**		<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100 J	0.000538 J	<0.000780	<0.00110	<0.000400
	MW-89	Apr-16				**3.38**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	MW-89	Apr-17				**2.15**		<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	NP-1	Apr-15						<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	**0.204**	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	NP-1	Oct-15						<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	**0.291**	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NP-1	Apr-16						<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	**0.213**	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NP-1	Oct-16						<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	**0.283**	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	NP-1	Apr-17						<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	**0.391**	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	NP-1	Oct-17						<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	**0.407**	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	NP-2	Apr-13		<0.0500	**<0.0520**			<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.0150	<0.00500
	NP-6	Apr-13						<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.0150	<0.00500
	NP-6	Apr-15						<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	0.00878	<0.00100 J	<0.000340	<0.000780	<0.00110	<0.000400
	NP-6	Apr-17						<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	0.0353	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
Up-Gradient	UG-1	Apr-14		<0.0100	<0.0210			<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	UG-1	Apr-15		<0.0310	<0.0250 B			<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	UG-1	Apr-16		<0.0314	0.0302 J			<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	UG-1	Apr-17		<0.0314	**0.0484** J			<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	UG-2	Apr-14		<0.0100	<0.0200			<0.00500	<0.00500	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	UG-2	Apr-15		<0.0310	<0.0250 B			<0.00050	<0.000600	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	UG-2	Apr-16		<0.0314	**0.0692** J			<0.000370	<0.000390	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	UG-2	Apr-17		<0.0314	**0.0818** J			<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	UG-3R	Apr-14		<0.0100	<0.0200			<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	UG-3R	Apr-14	FD	<0.0100	<0.0200			<0.00050	<0.000600	<0.000600	<0.00060	<0.000500	<0.000600	<0.000700	<0.000500	<0.000500	<0.00150	<0.000500
	UG-3R	Apr-15		<0.0310	<0.0250 B			<0.000370	<0.000390	<0.000330	<0.000260	<0.000380	<0.000370	<0.00100	<0.000340	<0.000780	<0.00110	<0.000400
	UG-3R	Apr-16		<0.0314	<0.0247			<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	UG-3R	Apr-17		<0.0314	**0.0517** J			<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398
	UG-4	Apr-16		<0.0314	0.0349 J			<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000780	<0.00106	<0.000398
	UG-4	Apr-17		<0.0314	**0.0463** J			<0.000373	<0.000387	<0.000331	<0.000260	<0.000384	<0.000367	<0.00100	<0.000341	<0.000412	<0.00106	<0.000398

Definitions

X	Reported concentration, X, exceeds the CGWSL.
X	Analyte detected above the detection limit at a concentration equal to X.
<x	Analyte not detected at detection limit equal to x.
<x	Analyte not detected at detection limit equal to x, but x exceeds the CGWSL.
	Blank cell indicates a sample was collected from the well during the indicated sampling event, but the analyte was not analyzed.
---	No applicable CGWSL.

Abbreviations

1,2,4-TMB	1,2,4-Trimethylbenzene
1,3,5-TMB	1,3,5-Trimethylbenzene
CGWSL	Critical Groundwater Screening Level (see Table 3)
CGWSL Source	Source for CGWSL value (see Table 3)
cis-1,2-DCE	cis-1,2-Dichloroethene
DRO	Diesel Range Organics
DRO-EP	Diesel Range Organics data from wells located in the Evaporation Ponds area
Dup	Duplicate sample
FD	Field duplicate sample
GRO	Gasoline Range Organics
mg/L	Milligrams per Liter
MTBE	Methyl Tert-Butyl Ether
NMED TPH	NMED Risk Assessment Guidance for Site Investigations and Remediation, March 2017, Table 6-4 TPH Groundwater Screening Levels
NMED TW	NMED Risk Assessment Guidance for Site Investigations and Remediation, March 2017, Table A-1, Tap Water Screening Level
TPH	Total Petroleum Hydrocarbons
USEPA TW	United States Environmental Protection Agency Tap Water Screening Level, "Regional Screening Levels (RSL) Summary Table", November 2017
USEPA MCL	United States Environmental Protection Agency Maximum Contaminant Level, "Regional Screening Levels (RSL) Summary Table", November 2017
WQCC HH	NMED Groundwater standard for human health exposure, 20.6.2.3103.A NMAC

Lab Footnote

B	Analyte was also detected in the associated method blank.
J	Indicates an estimated value.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Table 4B - Summary of Groundwater Analytical Data - Total Metals

2017 Annual Groundwater Monitoring Report
HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	Total Metals													
				Analyte:	Arsenic	Barium	Boron	Cadmium	Cobalt	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Uranium	Vanadium
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	0.010	1.00	0.75	0.005	0.050	0.050	1.00	0.015	0.200	0.002	0.200	0.050	0.030	0.0631
				CGWSL Source:	USEPA MCL	WQCC HH	WQCC Irr	USEPA MCL	WQCC Irr	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	WQCC HH	NMED TW
Area	Well ID	Date	Dup															
Cross-Gradient	KWB-13	Apr-14		0.00259 J	0.0145				0.00121 J	<0.00500	<0.000700	<0.00250	<0.000040	<0.00100	0.0126		0.0172
	KWB-13	Apr-15		**0.0118**	0.122				0.0182	**12.3**	**0.0190**	**0.399**	<0.000049	0.0144	0.0110		0.0426
	KWB-13	Apr-16		0.00484 J	0.0459	0.384	<0.00500	0.00161 J	0.00621 J	**4.00**	0.00403 J	0.0747	<0.000049	<0.00175	0.0188	0.0261 J	0.0304
	KWB-13	Apr-17		0.00286	0.0229	0.294	<0.000160	0.000487 J	0.00148 J	**1.02**	0.00107 J	0.0234	<0.000049	0.00119 J	0.0130	0.0227	0.0213
	MW-17	Apr-14		<0.00200	0.0152				<0.00200	<0.100	0.00724 J	<0.00500			0.0104		
	NP-5	Apr-13		<0.0100	<0.0100				<0.0100	<0.400	<0.0100	<0.0100			0.0135		
	NP-5	Apr-15		0.00288	0.0159				0.00109 J	0.437	0.000415 J	0.00318 J			0.0125		
	NP-5	Apr-17		0.00305	0.00938				<0.000540	0.0632 J	<0.000240	0.000586 J			0.0124		
	RA-3156	Nov-13															
	RA-3156	Apr-14												<0.00500			
	RA-3156	Apr-16															
	RA-3156	Apr-17															
	MW-136	Oct-15		0.00381	0.103				0.00365	**1.18**	0.00218	**0.204**	<0.000049	0.00425	0.00463		0.0212
	MW-136	Apr-16		0.00280 J	0.0270	0.695	<0.00500	0.00132 J	<0.00270	0.599	<0.00120	0.0591	<0.000049	<0.00350	0.0112	**0.0702**	0.0197 J
	MW-136	Oct-16		0.00284	0.0134	0.512	<0.000160	0.000279 J	0.00118 JB	0.0892 JB	0.000940 JB	0.0112 B	<0.000049	0.00184 JB	0.00562	**0.0720**	0.0176
	MW-136	Apr-17		0.00237	0.0117	0.588	<0.000160	<0.000260	<0.000540	0.0262 J	<0.000240	0.00602	<0.000049	0.00102 J	0.00563	**0.0664**	0.0171
	MW-136	Oct-17		0.00239	0.0144	0.724	<0.000160	0.000362 J	0.000794 J	0.193	0.000313 J	0.0209	<0.000049	0.00157 J	0.00608	**0.0729**	0.0181
Evaporation Ponds	MW-1R	Apr-14		0.00335 J	0.0214				<0.00200	**2.39**	<0.00140	**1.38**			<0.00200		
	MW-1R	Apr-15		0.00366 J	0.0240 J				<0.00270	**3.49**	<0.00120	**2.14** J			<0.00190		
	MW-1R	Apr-16		0.00917 J	0.0301				0.0188	**9.67**	<0.00120	**2.94**			<0.00190		
	MW-1R	Apr-17		0.00221	0.0258				<0.000540	**4.50**	<0.000240	**2.38**			<0.000380		
	MW-2A	Apr-15		**0.0155** J	0.0255 J				<0.00540	0.571 J	<0.00240	**1.98**			<0.00380		
	MW-2A	Oct-15		0.00962	0.0241				<0.00108	0.588	<0.000480	**2.88**			0.00153 J		
	MW-2A	Apr-16		**0.0154**	0.0228 J				<0.00270	**3.37**	<0.00120	**2.50**			0.00432 J		
	MW-2A	Oct-16		0.00798	0.0208				0.00105 J	0.146	<0.000240	**1.43**			0.000560 J		
	MW-2A	Apr-17		0.00923	0.0188				0.000757 J	**3.02**	<0.000240	**1.43**			0.00105 J		
	MW-2A	Oct-17		0.00731	0.0164				<0.000540	0.578	<0.000240	**0.788**			0.00128 J		
	MW-3	Apr-15		**0.0288**	0.0186 J				<0.00270	<0.0750	<0.00120	**1.55**			**0.108**		
	MW-3	Apr-15	FD	**0.0346**	0.0215				0.00198 J	0.0806 J	0.000346 J	**1.85**			**0.112**		
	MW-3	Oct-15		**0.0248**	0.0157				<0.000540	0.366	0.000298 J	**1.29**			0.00892		
	MW-3	Oct-15	FD	**0.0281**	0.0158				0.00107 J	0.559	0.000371 J	**1.33**			0.00804		
	MW-3	Apr-16		**0.0388**	0.0175 J				<0.00270	0.677	<0.00120	**2.61**			0.00580 J		
	MW-3	Apr-16	FD	**0.0348**	0.0168 J				<0.00270	0.612	<0.00120	**2.62**			0.00575 J		
	MW-3	Oct-16		**0.0550**	0.0152				0.000868 J	**1.82**	0.000241 JB	**1.60**			0.00258		
	MW-3	Oct-16	FD	**0.0553**	0.0152				0.000869 J	**1.75**	0.000692 JB	**1.60**			0.00263		
	MW-3	Apr-17		**0.0213**	0.0140				<0.000540	0.532	0.000306 J	**0.945**			0.00303		
	MW-3	Apr-17	FD	**0.0228**	0.0148				0.000571 J	0.718	0.000272 J	**1.10**			0.00386		
	MW-3	Oct-17		**0.0520**	0.0153				0.000568 J	**2.00**	0.000425 J	**1.15**			0.00335		
	MW-3	Oct-17	FD	**0.0519**	0.0148				0.00107 J	**1.99**	0.000243 J	**1.20**			0.00399		
	MW-4A	Apr-15		**0.108** J	0.0139 J				0.00570 J	**3.15**	<0.00120	**2.96**			<0.00190		
	MW-4A	Oct-15		**0.112**	0.0140				0.00126 J	**2.09**	<0.000240	**1.75**			0.000588 J		
	MW-4A	Apr-16		**0.188**	0.0125 J				<0.00270	**3.21**	<0.00120	**2.39**			<0.00190		
	MW-4A	Oct-16		**0.172**	0.0121				0.000815 J	**1.08**	0.000566 JB	**1.69**			0.000608 J		
	MW-4A	Apr-17		**0.172**	0.0123				<0.000540	**2.34**	0.000274 J	**1.91**			0.000665 J		
	MW-4A	Oct-17		**0.100**	0.0143				<0.000540	**2.22**	<0.000240	**1.95**			0.000494 J		
	MW-4B	Apr-13		**0.0371**	<0.0250				<0.0250	<1.00	**<0.0250**	**1.30**			<0.0250		
	MW-4B	Apr-15		**0.101**	0.0349				<0.00110	**3.60**	0.00189 J	**8.68**			<0.000760		
	MW-4B	Apr-17		**0.0371**	0.0182				<0.000540	**3.42**	<0.000240	**7.35**			<0.000380		
	MW-5A	Apr-15		**0.0938**	0.0128 J				<0.00540	**5.62**	<0.00240	**1.84**			<0.00380		
	MW-5A	Oct-15		**0.0705**	0.0143				0.000685 J	**5.34**	<0.000240	**1.82**			0.000954 J		
	MW-5A	Apr-16		**0.213**	0.0149 J				<0.00270	**8.10**	<0.00120	**1.34**			<0.00190		
	MW-5A	Oct-16		**0.0638**	0.0117				<0.000540	**4.19**	0.000445 JB	**1.73**			0.000606 J		
	MW-5A	Apr-17		**0.149**	0.0135				<0.000540	**6.69**	<0.000240	**1.15**			0.000824 J		
	MW-5A	Oct-17		**0.216**	0.0153				<0.000540	**8.41**	<0.000240	**0.811**			0.00119 J		
	MW-5B	Apr-13		**0.122**	<0.0250				<0.0250	<1.00	**<0.0250**	**2.44**			<0.0250		
	MW-5B	Apr-15		**0.201**	0.0112 J				0.00277 J	**6.11**	<0.00120	**3.87**			0.00197 J		
	MW-5B	Apr-17		**0.154**	0.0115				<0.000540	**4.61**	<0.000240	**3.32**			0.00139 J		
	MW-5C	Apr-13		**0.0139**	0.0166				<0.0100	**1.04**	<0.0100	**0.943**			<0.0100		
	MW-5C	Apr-15		**0.0145**	0.0200 J				<0.00270	**1.15**	<0.00120	**0.975**			<0.00190		
	MW-5C	Apr-17		**0.0113**	0.0237				<0.000540	**1.09**	0.000287 J	**0.918**			<0.000380		
	MW-6A	Apr-14		**0.0113**	0.0287				0.00234 J	<0.100	<0.00140	**1.37**			0.0192		
	MW-6A	Apr-15		**0.0129**	0.0308				<0.00270	0.155 J	<0.00120	**1.40**			0.0308		
	MW-6A	Apr-16		0.00953 J	0.0158 J				<0.00270	0.0787 J	<0.00120	**0.505**			<0.00190		
	MW-6A	Apr-17		**0.0105**	0.0135				<0.000540	0.193	0.000366 J	**0.385**			0.000910 J		
	MW-6B	Mar-13		**0.0493**	0.0139				<0.00500	**1.54**	<0.00500	**2.39**			<0.00500		
	MW-6B	Mar-13	FD	**0.0537**	0.0163				<0.00500	**1.69**	<0.00500	**2.43**			<0.00500		
	MW-6B	Apr-15		**0.0333**	0.0164				<0.00110	**1.37**	<0.000480	**3.45**			<0.000760		
	MW-6B	Apr-17		**0.0115**	0.0134				<0.000540	0.149	<0.000240	**0.889**			<0.000380		
	MW-7A	Apr-15		**0.0190**	0.0149				0.000895 J	0.984	<0.000240	**1.11**			0.000620 J		
	MW-7A	Apr-15	FD	**0.0194**	0.0156				0.00131 J	0.996	0.000288 J	**1.06**			0.000570 J		
	MW-7A	Oct-15		**0.0255**	0.0155				0.00116 J	**2.86**	0.000494 J	**0.632**			0.000638 J		
	MW-7A	Oct-15	FD	**0.0253**	0.0159				0.00114 J	**2.86**	0.000524 J	**0.629**			0.000647 J		
	MW-7A	Apr-16		**0.0382**	0.0170 J				0.00370 J	**6.35**	<0.00120	**0.682**			<0.00190		
	MW-7A	Apr-16	FD	**0.0305**	0.0158 J				<0.00270	**4.43**	<0.00120	**0.588**			<0.00190		
	MW-7A	Oct-16		**0.0181**	0.0173				0.00184 J	**1.66**	0.000527 JB	**0.563**			0.000402 J		
	MW-7A	Oct-16	FD	**0.0186**	0.0159				0.00184 J	**1.66**	0.000618 JB	**0.563**			0.000507 J		
	MW-7A	Apr-17		**0.0182**	0.0148				0.000819 J	**3.20**	<0.000240	**0.530**			0.000425 J		
	MW-7A	Apr-17	FD	**0.0195**	0.0154				0.000720 J	**3.07**	<0.000240	**0.521** V			<0.000380		
	MW-7A	Oct-17		**0.0278**	0.0211				0.00136 J	**4.76**	0.000335 J	**0.509**			<0.000380		
	MW-7A	Oct-17	FD	**0.0286**	0.0168				0.00128 J	**4.82**	<0.000240	**0.522**			<0.000380		
	MW-7B	Apr-13		**<0.0250**	<0.0250				<0.0250	<1.00	**<0.0250**	**0.397**			<0.0250		
	MW-7B	Apr-15		0.00588	0.0111				0.000702 J	0.188	<0.000240	**0.580**			<0.000380		
	MW-7B	Apr-17		0.00397	0.0111				<0.000540	0.146	<0.000240	**0.472**			<0.000380		
	MW-10	Apr-15		**0.0200**	0.0128 J				<0.00270	<0.0750	<0.00120	**2.43**			<0.00190		
	MW-10	Oct-15		**0.0173**	0.0124				<0.000540	0.0570 J	<0.000240	**2.55**			<0.000380		
	MW-10	Apr-16		**0.0196**	0.0123 J				<0.00270	<0.0750	<0.00120	**2.83**			<0.00190		
	MW-10	Oct-16		**0.0191**	0.0184				<0.000540	0.589	0.000399 JB	**2.21**			<0.000380		
	MW-10	Apr-17		**0.0156**	0.0118				<0.000540	0.0992 J	0.000290 J	**2.24**			0.000483 J		
	MW-10	Oct-17		**0.0156**	0.0110				<0.000540	0.147	<0.000240	**2.74**			<0.000380		
	MW-11A	Apr-15		<0.00500	0.0410 J				<0.0100	<0.300	<0.00480	**0.912**			<0.00760		
	MW-11A	Oct-15															
	MW-11A	Apr-16		<0.00125	0.0301				0.00353 J	0.416 J	<0.00120	**0.876** V			<0.00190		
	MW-11A	Oct-16															
	MW-11A	Apr-17		0.00056 J	0.0306				0.00121 J	0.804	<0.000240	**0.758**			<0.000380		
	MW-11A	Oct-17															
	MW-11B	Mar-13		**<0.0250**	<0.0250				<0.0250	**3.25**	**<0.0250**	**0.316**			<0.0250		
	MW-11B	Apr-15		0.00453 J	0.0189 J				<0.00540	**4.38**	<0.00240	**0.427**			<0.00380		
	MW-11B	Apr-17		0.00420	0.0189				<0.000540	**4.59**	<0.000240	**0.374**			<0.000380		
	MW-12	Apr-14		<0.00500	0.0194				<0.00500	0.441 J	<0.00140	0.200			0.0172 J		
	MW-13	Apr-14		0.00205 J	0.0310				<0.00200	<0.100	<0.00140	0.192			<0.00200		
	MW-15	Apr-14		**0.0605**	0.0217				0.00381 J	<0.100	<0.00140	**0.363**			0.00535 J		
	MW-15	Apr-15		**0.0279**	0.0236 J				<0.00270	<0.0750	<0.00120	**0.861**			0.0195		
	MW-15	Apr-16		**0.0216**	0.0203 J				<0.00270	<0.0750	<0.00120	**0.887**			0.00201 J		
	MW-15	Apr-17		**0.0130**	0.0180				<0.000540	0.0239 B	<0.000240	0.173			0.000518 J		

Table 4B - Summary of Groundwater Analytical Data - Total Metals

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	Total Metals													
				Analyte:	Arsenic	Barium	Boron	Cadmium	Cobalt	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Uranium	Vanadium
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	0.010	1.00	0.75	0.005	0.050	0.050	1.00	0.015	0.200	0.002	0.200	0.050	0.030	0.0631
				CGWSL Source:	USEPA MCL	WQCC HH	WQCC Irr	USEPA MCL	WQCC Irr	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	WQCC HH	NMED TW
Area	Well ID	Date	Dup															
Evaporation Ponds	MW-18A	Apr-15			0.00410	0.0129				0.000794 J	0.379	<0.00480	0.0221	<0.000049	0.00225	**0.0503**		0.00652
	MW-18A	Oct-15			0.00485	0.0173				0.00184 J	0.572	0.000262 J	**0.363**	<0.000049	0.00330	0.00108 J		0.00360 J
	MW-18A	Apr-16			0.00644 J	0.0155 J	**3.14**	<0.00500	<0.00130	<0.00270	0.358 J	<0.00120	**0.366**	<0.000049	0.0121 J	<0.00190	**0.0417** J	0.00258 J
	MW-18A	Oct-16			0.00411	0.0166	**2.73**	<0.000160	<0.000260	<0.000540	0.722	<0.000240	**0.576**	<0.000049	0.00618	0.000448 J	**0.0375**	0.00128 J
	MW-18A	Apr-17			0.00466	0.0152	**2.04**	<0.000160	<0.000260	<0.000540	0.637	<0.000240	**0.723**	<0.000049	0.00762	0.000491 J	**0.0305**	0.000435 J
	MW-18A	Oct-17			0.00600 J	0.0173 J	**2.53**	<0.000800	0.00282 J	<0.000540	**1.47**	<0.00120	**2.05**	<0.000049	0.00793 J	<0.00190	**0.0302** J	<0.000900
	MW-18B	Apr-13			<0.0100	0.0126				<0.0100	<0.400	<0.0100	**0.572**			<0.0100		
	MW-18B	Apr-15			**0.0120**	0.0125				0.000942 J	0.139	0.000814 J	**0.789**			<0.000380		
	MW-18B	Apr-17			0.00883	0.0137				<0.000540	0.0793 J	0.00104 J	**0.803**			<0.000380		
	MW-22A	Apr-15			**0.0545**	0.0179 J				<0.00270	**2.34**	<0.00120	**5.18**			<0.00190		
	MW-22A	Apr-15	FD		**0.0362**	0.0147 J				<0.00270	**2.89**	<0.00120	**4.36**			<0.00190		
	MW-22A	Oct-15			**0.0482**	0.0166				<0.000540	**4.62**	<0.000240	**5.86**			0.000966 J		
	MW-22A	Oct-15	FD		**0.0479**	0.0165				<0.000540	**4.54**	<0.000240	**5.81**			0.000979 J		
	MW-22A	Apr-16			**0.0449**	0.0174 J				<0.00270	**4.42**	<0.00120	**6.06**			<0.00190		
	MW-22A	Apr-16	FD		**0.0455**	0.0167				<0.00270	**4.46**	<0.00120	**6.20**			<0.00190		
	MW-22A	Oct-16			**0.0452**	0.0179				0.000678 J	**5.41**	<0.000240	**7.28**			0.000938 J		
	MW-22A	Oct-16	FD		**0.0447**	0.0183				0.000633 J	**5.26**	<0.000240	**7.15**			0.000874 J		
	MW-22A	Apr-17			**0.0411**	0.0161				<0.000540	**6.07**	0.000354 J	**5.82**			0.000886 J		
	MW-22A	Apr-17	FD		**0.0412**	0.0155				0.000813 J	**6.33**	<0.000240	**6.41**			0.000774 J		
	MW-22A	Oct-17			**0.0427**	0.0167				0.0233	**4.91**	0.000434 J	**6.34**			0.000800 J		
	MW-22A	Oct-17	FD		**0.0432**	0.0158				0.000695 J	**4.94**	<0.000240	**6.52**			0.000858 J		
	MW-22B	Apr-13			**0.0343**	<0.0250				<0.0250	**1.78**	**<0.0250**	**3.37**			<0.0250		
	MW-22B	Apr-15			**0.0389**	0.0160 J				<0.00270	**2.32**	0.00134 J	**4.32**			<0.00190		
	MW-22B	Apr-17			**0.0255**	0.0116				<0.000540	**1.03**	0.000313 J	**3.35**			0.000603 J		
	MW-70	Apr-15			**0.0252**	0.0151				0.000653 J	**3.29**	<0.000240	**0.222**			<0.000380		
	MW-70	Oct-15			**0.0163**	0.0166				<0.000540	**2.99**	<0.000240	**0.227**			<0.000380		
	MW-70	Apr-16			**0.0238**	0.0147 J				<0.00270	**6.19**	<0.00120	**0.543**			<0.00190		
	MW-70	Oct-16			**0.0189**	0.0162				<0.000540	**4.69**	<0.000240	**0.381**			<0.000380		
	MW-70	Apr-17			**0.0156**	0.0149				<0.000540	**2.19**	<0.000240	**0.440**			<0.000380		
	MW-70	Oct-17			**0.0180**	0.0159 J				<0.000540	**4.58**	<0.00120	**0.272**			<0.00190		
	MW-72	Apr-14			**0.0480**	0.0154				<0.00100	**7.13**	<0.000700	**5.69**			<0.00100		
	MW-72	Apr-15			**0.149**	0.0321				<0.00270	**32.3**	<0.00120	**3.05**			0.0155		
	MW-72	Apr-16			**0.0318**	0.0195 J				<0.00270	**7.20**	<0.00120	**4.86**			<0.00190		
	MW-72	Apr-17			**0.0164**	0.0213				<0.000540	**1.62**	<0.000240	**3.88**			0.00210		
	MW-73	Apr-14			**0.0982**	0.0132 J				<0.00500	**5.71**	<0.00350	**2.77**			<0.00500		
	MW-73	Apr-15			**0.0757**	0.00999 J				<0.00270	**2.4**	<0.00120	**2.61**			0.00233 J		
	MW-73	Apr-16			**0.0990**	0.0114 J				<0.00270	**8.28**	<0.00120	**3.17**			0.00201 J		
	MW-73	Apr-17			**0.0650**	0.00734				<0.000540	**1.92**	<0.000240	0.187			0.00184 J		
	MW-74	Apr-15			**0.0549**	0.00894 J				<0.00270	0.175 J	<0.00120	**0.406**			**0.480**		
	MW-74	Oct-15			**0.0733**	0.0127				<0.00108	<0.0300	<0.000480	**1.17**			**0.0608**		
	MW-74	Apr-16			**0.136**	0.0151 J				<0.00270	0.756	<0.00120	**2.19**			0.0150		
	MW-74	Oct-16			**0.0699**	0.0147				0.00120 J	0.203 B	<0.000240	0.0907			**0.585**		
	MW-74	Apr-17			**0.0672**	0.0132				<0.000540	0.0369 J	<0.000240	**1.04**			**0.156**		
	MW-74	Oct-17			**0.0696**	0.0146				<0.000540	0.0463 J	<0.000240	**1.05**			**0.144**		
	MW-75	Apr-15			**0.400**	0.0183 J				0.00396 J	**10.7**	<0.00120	**0.901**			0.00311 J		
	MW-75	Oct-15			**0.328**	0.0149				0.00155 J	**3.75**	<0.000240	**0.821**			0.00248		
	MW-75	Apr-16			**0.183**	0.0218 J				<0.00270	**2.52**	<0.00120	**1.01**			0.00310 J		
	MW-75	Oct-16			**0.275**	0.0150				0.00156 J	**3.29**	<0.000240	**0.916**			0.00245		
	MW-75	Apr-17			**0.220**	0.0174				<0.000540	**3.39**	<0.000240	**0.828**			0.00229		
	MW-75	Oct-17			**0.296**	0.0159				0.00133 J	**3.58**	0.000323 J	**0.834**			0.00196 J		
	MW-76	Apr-15			**0.0777**	0.0127 J				<0.00270	**4.04**	<0.00120	**1.10**			0.00258 J		
	MW-76	Oct-15			**0.0582**	0.0143				0.00126 J	**3.75**	0.000242 J	**0.753**			0.00250		
	MW-76	Apr-16			**0.0610**	0.0140 J				<0.00270	**4.68**	<0.00120	**1.07**			0.00298 J		
	MW-76	Oct-16			**0.0818**	0.0163				0.00266	**6.79**	<0.000240	**1.25**			0.00582		
	MW-76	Apr-17			**0.0561**	0.0120				<0.000540	**4.06**	<0.000240	**0.780**			0.00327		
	MW-76	Oct-17			**0.0594**	0.0134				0.00185 J	**3.93**	<0.000240	**0.741**			0.00399		
	MW-77	Apr-15			**0.0928**	0.0158 J				0.0144	**14.9**	<0.00120	**0.666**			0.0135		
	MW-77	Oct-15			**0.0500**	0.0132 J				0.0098 J	**8.54**	<0.00120	**0.703**			0.0119		
	MW-77	Apr-16			**0.0749**	0.0136 J				0.0132	**12.2**	<0.00120	**0.687**			0.0137		
	MW-77	Oct-16			**0.0505**	0.0120 JB				0.00899 J	**7.87**	<0.00120	**0.706**			0.00996 J		
	MW-77	Apr-17			**0.0466**	0.0100				0.00752	**7.88**	<0.000240	**0.521**			0.0106		
	MW-78	Apr-14			**0.0217**	0.0388				0.0476	**7.58**	0.00107 J	**1.46**			0.0105		
	MW-78	Apr-15			**0.0211**	0.0318				**0.133**	**12.3**	<0.00120	**1.29**			0.0156		
	MW-78	Apr-16			**0.0210**	0.0445				**0.0761**	**14.8**	<0.00120	**0.946**			0.0141		
	MW-78	Apr-17			0.00820	0.0388				0.0422	0.469	<0.000240	**0.435**			0.00957		
	MW-79	Apr-15			0.00807 J	0.0154 J				<0.00270	0.276 J	<0.00120	**1.46**			<0.00190		
	MW-79	Oct-15			**0.0126**	0.0165				<0.00108	**3.03**	<0.000480	**3.76**			0.00144 J		
	MW-79	Apr-16			**0.0113**	0.0181 J				<0.00270	0.882	<0.00120	**3.00**			<0.00190		
	MW-79	Oct-16			**0.0208**	0.0184				<0.000540	**5.37**	<0.000240	**3.68** V			<0.000380		
	MW-79	Apr-17			0.00521	0.0166				<0.000540	0.150	<0.000240	**1.11** V			0.000569 J		
	MW-79	Oct-17			0.00441	0.0178				<0.000540	0.751	<0.000240	**3.82**			<0.000380		
	MW-80	Apr-14			**0.0143**	0.0160				<0.00200	**2.10**	<0.00140	**0.703**			<0.00200		
	MW-80	Apr-15			**0.0187**	0.0151 J				<0.00270	**1.73**	<0.00120	**0.555**			<0.00190		
	MW-80	Apr-16			0.00788 J	0.0185 J				0.0465	**1.34**	<0.00120	**0.234**			<0.00190		
	MW-80	Apr-17			0.00643	0.0173				0.00138 J	0.160	<0.000240	**0.598**			0.00218		
	MW-81	Apr-14			**0.0188**	0.0162				<0.00200	<0.100	<0.00140	0.137			0.00757 J		
	MW-81	Apr-15			**0.0220**	0.0131 J				<0.00270	0.183 J	<0.00120	0.132			0.0235		
	MW-81	Apr-16			**0.0300**	0.0212 J				<0.00270	0.136 J	<0.00120	0.106			0.0467		
	MW-81	Apr-17			**0.0157**	0.0144				<0.000540	<0.0150	0.000248 J	0.0117			0.0182		
	MW-82	Apr-14			**0.133**	0.0210				<0.00200	**3.06**	0.000773 J	**1.33**			<0.00200		
	MW-82	Apr-14	FD		**0.126**	0.0210				<0.00200	**2.73**	<0.00140	**1.36**			<0.00200		
	MW-82	Apr-15			**0.0929**	0.0302				0.00570 J	**1.68**	<0.00120	**1.38**			0.00302 J		
	MW-82	Apr-16			**0.0510**	0.0387				<0.00270	0.414 J	<0.00120	**1.76**			0.00199 J		
	MW-82	Apr-17			**0.0468**	0.0273				0.00182 J	0.792	0.000744 J	**2.02**			0.00137 J		
	MW-83	Apr-15			**0.0304**	0.0116 J				0.0115	**8.98**	<0.00120	**0.863**			0.00376 J		
	MW-83	Oct-15			**0.0215**	0.0403				0.00791	**1.87**	0.000860 J	0.170			0.00806		
	MW-83	Apr-16			**0.0313**	0.0248 J				0.0153	**5.63**	<0.00120	**0.573**			0.00364 J		
	MW-83	Oct-16			**0.0131**	0.121				0.00973	**1.85**	0.00141 JB	**0.434**			0.00925		
	MW-83	Apr-17			**0.0236**	0.0387				0.0224	**8.80**	0.00153 J	**0.570**			0.00556		
	MW-83	Oct-17			**0.0237**	0.0457				0.0338	**5.69**	0.00154 J	**0.460**			0.00446		
	MW-84	Apr-15			**0.116**	0.0135 J				0.00500 J	**2.54**	<0.00120	**2.83**			0.00452 J		
	MW-84	Oct-15			**0.0827**	0.0249 J				0.0220	0.397 J	<0.00240	**2.74**			0.0308		
	MW-84	Apr-16			**0.115**	0.0173 J				0.00771 J	**1.27**	<0.00120	**3.30**			0.00714 J		
	MW-84	Oct-16			**0.0981**	0.0189				0.00917	0.868	<0.000240	**2.71**			0.0110		
	MW-84	Apr-17			**0.0798**	0.0132				0.000849 J	0.439	0.000346 J	**2.28**			0.00527		
	MW-84	Oct-17			**0.151**	0.0133				0.00353	**6.03**	<0.000240	**2.90**			0.00432		
	MW-87	Apr-15			0.00635	0.0184				0.000789 J	0.194	<0.000240	0.102			0.00115 J		
	MW-87	Oct-15			0.00702	0.0322				<0.000540	**11.8**	<0.000240	**6.04**			0.00131 J		
	MW-87	Apr-16			**0.0106**	0.0200 JO1				<0.00270	**4.56**	<0.00120	**2.70** V			<0.00190		
	MW-87	Oct-16			0.00673	0.0179				<0.000540	**1.53**	<0.000240	**0.731**			<0.000380		
	MW-87	Apr-17			0.00551	0.0155				<0.000540	**1.52**	<0.000240	**1.62**			<0.000380		
	MW-87	Oct-17			0.00776 J	0.0174 J				<0.000540	**1.71**	0.00473 J	**1.48**			<0.00190		

Table 4B - Summary of Groundwater Analytical Data - Total Metals

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	Total Metals													
				Analyte:	Arsenic	Barium	Boron	Cadmium	Cobalt	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Uranium	Vanadium
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	0.010	1.00	0.75	0.005	0.050	0.050	1.00	0.015	0.200	0.002	0.200	0.050	0.030	0.0631
				CGWSL Source:	USEPA MCL	WQCC HH	WQCC Irr	USEPA MCL	WQCC Irr	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	WQCC HH	NMED TW
Area	Well ID	Date	Dup															
Evaporation Ponds	MW-88	Apr-15		**0.0231**	0.0132 J				<0.00270	**2.11**	<0.00120	**1.42**			<0.00190		
	MW-88	Oct-15		0.00917	0.0108				<0.000540	0.0268 J	<0.000240	**0.772**			<0.000380		
	MW-88	Apr-16		0.00976 J	0.0107 J				<0.00270	<0.0750	<0.00120	**0.844**			<0.00190		
	MW-88	Oct-16		0.00911	0.0104				0.000551 J	<0.0150	<0.000240	**0.976**			<0.000380		
	MW-88	Apr-17		0.00709	0.0101				<0.000540	<0.0150	<0.000240	**0.819**			<0.000380		
	MW-88	Oct-17		0.00742	0.0113				<0.000540	0.0458 J	0.000315 J	**0.823**			<0.000380		
	MW-120	Apr-15		0.00974 J	0.0108 J				<0.00270	**2.63**	<0.00120	**1.33**			0.0335		
	MW-120	Oct-15		**0.0101**	0.0149				<0.000540	**4.74**	<0.000240	**1.79**			0.00113 J		
	MW-120	Apr-16		**0.0138**	0.0176 J				<0.00270	**7.32**	<0.00120	**2.14**			0.00511 J		
	MW-120	Oct-16		**0.0135**	0.0194				<0.000540	**5.90**	<0.000240	**1.96**			<0.000380		
	MW-120	Apr-17		**0.0106**	0.0144				<0.000540	**4.54**	0.000345 J	**1.48**			0.00251		
	MW-120	Oct-17		**0.0112**	0.0160				0.000571 J	**4.59**	<0.000240	**1.49**			0.000531 J		
	MW-121	Apr-15		**0.0366**	0.0142				<0.00110	0.700	<0.000480	**3.85**			0.00792		
	MW-121	Oct-15		**0.0413**	0.0138				<0.000540	0.287	<0.000240	**2.70**			0.0109		
	MW-121	Apr-16		**0.0443**	0.0179 J				<0.00270	0.530	<0.00120	**3.56**			0.00777 J		
	MW-121	Oct-16		**0.0377**	0.0130				<0.000540	0.262	<0.000240	**2.33**			0.00746		
	MW-121	Apr-17		**0.0322**	0.0128				<0.000540	0.304	<0.000240	**2.66**			0.00468		
	MW-121	Oct-17		**0.0345**	0.0136				<0.000540	0.221	<0.000240	**2.40**			0.00788		
	MW-122	Apr-15		**0.0116** J	0.0273 J				<0.00540	0.606 J	<0.00240	**1.92**			0.00988 J		
	MW-122	Oct-15		0.00629	0.0251				<0.00108	**1.59**	<0.000480	**1.27**			0.00120 J		
	MW-122	Apr-16		0.00444 J	0.0291				<0.00270	0.610	<0.00120	**1.50**			<0.00190		
	MW-122	Oct-16		0.00559	0.0272				<0.000540	**5.20**	<0.000240	**1.61**			<0.000380		
	MW-122	Apr-17		0.00519	0.0300				<0.000540	**2.02**	<0.000240	**2.03**			0.000551 J		
	MW-122	Oct-17		0.00559	0.0231				<0.000540	**5.01**	<0.000240	**1.28**			<0.000380		
	MW-123	Apr-15		**0.0258**	0.0200 J				<0.00270	<0.0750	<0.00120	**2.59**			<0.00190		
	MW-123	Oct-15		**0.0250**	0.0226				<0.000540	0.0657 J	0.000254 J	**2.72**			<0.000380		
	MW-123	Apr-16		**0.0275**	0.0242 J				<0.00270	<0.0750	<0.00120	**2.92**			<0.00190		
	MW-123	Oct-16		**0.0226**	0.0236				<0.000540	0.0599 J	0.000364 JB	**2.59**			<0.000380		
	MW-123	Apr-17		**0.0231**	0.0213 O1				<0.000540	0.0684 B	<0.000240	**2.59**			0.000395 J		
	MW-123	Oct-17		**0.0221**	0.0239				<0.000540	<0.0150	<0.000240	**2.88**			<0.000380		
	MW-124	Apr-15		0.00276	0.0192				0.00126 J	**1.22**	0.000379 J	**0.816**			<0.000380		
	MW-124	Oct-15		0.00443	0.0247				<0.00108	**2.93**	<0.000480	**0.562**			<0.000760		
	MW-124	Apr-16		0.00477 J	0.0288				<0.00270	**4.08**	<0.00120	**0.749**			<0.00190		
	MW-124	Oct-16		0.00303	0.0323				0.00124 J	**4.99**	0.000546 JB	**0.469**			<0.000380		
	MW-124	Apr-17		0.00565	0.0205				<0.000540	**10.6**	<0.000240	**0.448**			<0.000380		
	MW-124	Oct-17		0.00354 J	0.0219 J				<0.000540	**5.08**	<0.00120	**0.521**			<0.00190		
	OCD-1R	Apr-15		0.00662 J	0.0176 J				<0.00540	0.238 J	<0.00240	**0.773**			0.0217		
	OCD-1R	Oct-15		0.00447	0.0184				<0.00108	0.593	<0.000480	**1.59**			0.00229 J		
	OCD-1R	Apr-16		0.00729 J	0.0141 J				**0.105**	**1.54**	<0.00120	**0.462**			0.00420 J		
	OCD-1R	Oct-16		0.00524	0.0286				0.00312	**3.04**	<0.000240	**3.92**			0.000543 J		
	OCD-1R	Apr-17		0.00319	0.0150				0.00119 J	0.275 B	<0.000240	**1.27**			0.000988 J		
	OCD-1R	Oct-17		0.00433	0.0192				0.000885 J	0.830	0.000662 J	**1.56**			0.000822 J		
	OCD-2A	Apr-15		0.00197 J	0.0193 J				<0.00270	0.965	<0.00120	**0.313**			<0.00190		
	OCD-2A	Oct-15		0.00361 J	0.0234				0.00385 J	**2.64**	<0.000480	**1.34**			<0.000760		
	OCD-2A	Apr-16		0.0064 J	0.0209 J				0.00304 J	**5.47**	<0.00120	**1.66**			<0.00190		
	OCD-2A	Oct-16		0.00234	0.0264				0.000783 J	**1.50**	0.000260 J	**0.535**			<0.000380		
	OCD-2A	Apr-17		0.00591	0.0213				<0.000540	**6.76**	<0.000240	**1.22**			<0.000380		
	OCD-2A	Oct-17		0.00323	0.0197				<0.000540	**3.74**	<0.000240	**0.966**			<0.000380		
	OCD-3	Apr-15		0.00421 J	0.0198 J				<0.00270	**1.69**	<0.00120	0.165			<0.00190		
	OCD-3	Oct-15		0.00184 J	0.0224				<0.000540	0.352	<0.000240	**0.412**			0.00113 J		
	OCD-3	Apr-16		0.00389 J	0.0214 J				<0.00270	**1.23**	<0.00120	0.0524			<0.00190		
	OCD-3	Oct-16		0.00422	0.0228				<0.000540	**2.31**	<0.000240	**0.527**			<0.000380		
	OCD-3	Apr-17		0.00141 J	0.0207				<0.000540	0.681	<0.000240	0.0337			<0.000380		
	OCD-3	Oct-17		**0.0104**	0.0255				0.000587 J	**5.44**	<0.000240	**0.770**			<0.000380		
	OCD-4	Apr-15		0.00351 J	0.0263 J				<0.00540	**4.06**	<0.00240	**0.311**			<0.00380		
	OCD-4	Oct-15		0.00701	0.0226				<0.000540	**6.61**	<0.000240	**0.233**			<0.000380		
	OCD-4	Apr-16		0.00209 J	0.0226 J				<0.00270	0.855	<0.00120	0.119			<0.00190		
	OCD-4	Oct-16		0.00374	0.0255				<0.000540	**3.46**	<0.000240	**0.285**			<0.000380		
	OCD-4	Apr-17		0.00227	0.0219				<0.000540	**2.00**	<0.000240	0.0669			<0.000380		
	OCD-4	Oct-17		**0.0105**	0.0248				<0.000540	**10.0**	<0.000240	**0.270**			<0.000380		
	OCD-5	Apr-15		0.00805 J	0.0284 J				<0.00540	**5.34**	<0.00240	**0.328**			<0.00380		
	OCD-5	Oct-15		**0.0166**	0.0272				0.00108 J	**11.3**	<0.000480	**0.306**			<0.000760		
	OCD-5	Apr-16		**0.0126**	0.0279				<0.00270	**15.4**	0.00177 J	**0.267**			<0.00190		
	OCD-5	Oct-16		0.00863	0.0288				0.000559 J	**9.09**	<0.000240	**0.295**			<0.000380		
	OCD-5	Apr-17		**0.0108**	0.0269				<0.000540	**17.0**	<0.000240	**0.343**			<0.000380		
	OCD-5	Oct-17		**0.0124**	0.0261				0.000602 J	**12.6**	<0.000240	**0.271**			<0.000380		
	OCD-6	Apr-15		**0.0141**	0.0240 J				<0.00270	**3.91**	<0.00120	**2.07**			<0.00190		
	OCD-6	Oct-15		**0.0235**	0.0254				<0.00108	**9.38**	<0.000480	**2.32**			0.00110 J		
	OCD-6	Apr-16		**0.0139**	0.0214 J				<0.00270	**2.39**	<0.00120	**2.22**			<0.00190		
	OCD-6	Oct-16		**0.0120**	0.0253				0.000759 JB	**1.82**	0.000501 JB	**2.61**			0.000900 J		
	OCD-6	Apr-17		0.00911	0.0222				<0.000540	**2.28**	<0.000240	**2.09**			0.000598 J		
	OCD-6	Oct-17		**0.0200**	0.0256				<0.000540	**11.4**	<0.000240	**2.29**			<0.000380		
	OCD-7AR	Apr-15		**0.0840**	0.0111 J				<0.00270	**1.66**	<0.00120	**2.56**			<0.00190		
	OCD-7AR	Oct-15		**0.201**	0.0162				<0.00108	**9.36**	<0.000480	**2.88**			0.00230 J		
	OCD-7AR	Apr-16		**0.150**	0.0145 J				<0.00270	**2.89**	<0.00120	**2.25**			0.00195 J		
	OCD-7AR	Oct-16		**0.169**	0.0151				0.000837 J	**10.3**	<0.000240	**2.92**			0.00178 J		
	OCD-7AR	Apr-17		**0.113**	0.0134				<0.000540	**1.77**	<0.000240	**2.14**			0.00141 J		
	OCD-7AR	Oct-17		**0.181**	0.0150				<0.000540	**10.9**	<0.000240	**2.69**			0.00160 J		
	OCD-7B	Mar-13		<0.00500	0.0160				<0.00500	<0.200	<0.00500	0.0246			<0.00500		
	OCD-7B	Apr-15		0.00294 J	0.0196 J				<0.00270	**3.52**	<0.00120	**0.710**			<0.00190		
	OCD-7B	Apr-17		0.00194 J	0.0179				<0.000540	**2.73**	<0.000240	**0.621**			<0.000380		
	OCD-8A	Apr-15		**0.0541**	0.0336				0.000836 J	**12.3**	<0.000240	**6.38**	<0.000049	0.0598	0.000802 J		0.00100 J
	OCD-8A	Oct-15		**0.0622**	0.0287				0.000787 J	**9.70**	0.000380 J	**4.11**	<0.000049 J	0.0471	0.000836 J		0.00231 J
	OCD-8A	Apr-16		**0.0618**	0.0199 J	**0.813**	<0.00500	<0.00130	<0.00270	**8.89**	<0.00120	**3.80**	<0.000049	0.0306	<0.00190	<0.00165	0.00190 J
	OCD-8A	Oct-16		**0.0616**	0.0213	**0.776**	<0.000160	0.00124 J	0.000710 J	**6.60**	0.000478 JB	**3.08**	<0.000049	0.0260	0.000984 J	0.00108 J	0.000745 J
	OCD-8A	Apr-17		**0.0632**	0.0177	**0.837**	<0.000160	0.00103 J	<0.000540	**6.72**	<0.000240	**2.91**	<0.000049	0.0246	0.000793 J	0.00102 J	0.000626 J
	OCD-8A	Oct-17		**0.0857**	0.0196	**0.888**	<0.000160	0.00180 J	0.000994 J	**7.29**	<0.000240	**3.25**	<0.000049	0.0230	0.000961 J	0.000983 J	0.00103 J
	OCD-8B	Apr-13		**<0.0250**	<0.0250				<0.0250	<1.00	**<0.0250**	**0.417**			<0.0250		
	OCD-8B	Apr-15		**0.0126**	0.0141				0.000872 J	0.239	0.000392 J	**5.98**			0.000525 J		
	OCD-8B	Apr-17		0.00912	0.0124				<0.000540	0.266	0.000256 J	**6.36**			<0.000380		
Field East of Refinery	KWB-1A	Apr-15		0.00362	0.00932				0.000649 J	0.108	0.000599 J	**0.543**	<0.000049	0.00866	0.00247		0.0236
	KWB-1A	Oct-15		0.00416	0.00949				<0.000540	0.0387 J	0.000260 J	**0.439**	<0.000049	0.00846	0.000753 J		0.0209
	KWB-1A	Apr-16		0.00401 J	0.0131 J	0.741	<0.00500	0.0122	<0.00270	<0.0750	<0.00120	**0.552**	<0.000049	0.0100	0.00528 J	0.0247 J	0.0258
	KWB-1A	Oct-16		0.00296	0.00944	0.608 O1V	<0.000160	0.0143	0.00127 JB	0.0845 JB	0.000408 J	**0.500**	<0.000049	0.00846	0.00106 J	0.0188	0.0204
	KWB-1A	Apr-17		0.00319	0.00857	0.706	<0.000160	0.00583	<0.000540	<0.0150	<0.000240	**0.447**	<0.000049	0.00881	0.00164 J	0.0232	0.0221
	KWB-1A	Oct-17		0.00342	0.00856	0.745	<0.000160	0.00612	<0.000540	<0.0150	<0.000240	**0.413**	<0.000049	0.00841	0.000912 J	0.0174	0.0237
	KWB-1C	Apr-13		<0.0100	0.0146				<0.0100	<0.400	<0.0100	<0.0100			<0.0100		
	KWB-1C	Apr-15		0.00338	0.00918				<0.000540	0.0537 J	0.000320 J	**0.462**			0.000549 J		
	KWB-1C	Apr-17		0.00303	0.00955				<0.000540	<0.0150	<0.000240	**0.501**			<0.000380		
	KWB-7	Apr-15		**0.0200**	0.0645				0.000832 J	**1.44**	0.000625 J	**5.65**	<0.000049	0.00901	<0.000380		0.00133 J
	KWB-7	Oct-15		0.00939	0.0647				<0.000540	**1.04**	<0.000240	**4.09**	<0.000049	0.00442	<0.000380		0.00182 J
	KWB-7	Apr-16		**0.0104**	0.0550	0.503	<0.00500	0.00739 J	<0.00270	**1.42**	<0.00120	**3.48**	<0.000049	0.0121	<0.00190	0.00299 J	0.00196 J
	KWB-7	Oct-16		0.00597	0.0560	0.455	<0.000160	0.00298	<0.000540	0.677	0.000441 J	**3.04**	<0.000049	0.0107	<0.000380	0.00286 J	0.000901 J
	KWB-7	Apr-17		0.00307	0.0650	0.436	<0.000160	0.00206	<0.000540	**1.47**	0.000707 J	**3.44**	<0.000049	0.00746	<0.000380	0.00159 J	0.00102 J
	KWB-7	Oct-17		0.00415	0.0915	0.460	<0.000160	0.00247	0.000670 J	**1.37**	0.000698 J	**3.22**	<0.000049	0.00875	0.00100 J	0.00142 J	0.00129 J

Table 4B - Summary of Groundwater Analytical Data - Total Metals

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Area	Well ID	Date	Dup	Arsenic	Barium	Boron	Cadmium	Cobalt	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Uranium	Vanadium
	Analyte Group:			Total Metals													
	Units:			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	CGWSL:			0.010	1.00	0.75	0.005	0.050	0.050	1.00	0.015	0.200	0.002	0.200	0.050	0.030	0.0631
	CGWSL Source:			USEPA MCL	WQCC HH	WQCC Irr	USEPA MCL	WQCC Irr	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	WQCC HH	NMED TW
Field East of Refinery	KWB-8	Oct-16		0.00109 J	0.139	0.665	<0.000160	<0.000260	0.000710 JB	0.672	0.00387	**0.997**	<0.000049 J6	0.00102 JB	0.000475 J	0.000746 J	0.00122 J
	KWB-8	Apr-17		0.00129 J	0.106	0.632	<0.000160	0.000264 J	0.000851 J	**1.07**	0.00495	**1.83**	<0.000049	0.00120 J	<0.000380	<0.00033	0.00157 J
	KWB-8	Oct-17		0.00135 J	0.130	**0.769**	<0.000160	<0.000260	0.00153 J	0.0804 J	0.00296	**0.510**	<0.000049	0.000997 J	0.0463	<0.00033	0.00112 J
	KWB-10R	Apr-15		**0.0259**	**3.50**				<0.000540	**7.48**	0.00172 J	0.149			<0.000380		
	KWB-10R	Oct-15		**0.0217**	**3.72**				<0.000540	**5.84**	0.00109 J	0.157			<0.000380		
	KWB-10R	Apr-16		**0.0226**	**4.31**				<0.00270	**7.43**	0.00131 J	0.199			<0.00190		
	KWB-10R	Oct-16		**0.0301**	0.816				0.000798 JB	**6.11**	0.00102 J	0.161			<0.000380		
	KWB-10R	Apr-17		**0.0157**	**3.82**				<0.000540	**5.21**	0.000971 J	0.157			<0.000380		
	KWB-10R	Oct-17		**0.0170**	**3.85**				<0.000540	**5.24**	0.000996 J	0.163			<0.000380		
	KWB-11A	Apr-15		0.00251 J	0.0240 J				<0.00270	<0.0750	0.00825 J	**0.294**	<0.000049	0.00675 J	0.00262 J		0.0122 J
	KWB-11A	Oct-15		0.00266	0.0267				<0.000540	<0.0150	0.00515	0.191	<0.000049	0.00461	0.00776		0.0112
	KWB-11A	Apr-16		0.00231 J	0.00508	0.502	<0.00500	0.00175 J	<0.00270	<0.0750	0.00851 J	**0.222**	<0.000049	0.00476 J	0.00852 J	**0.0326** J	0.0118 J
	KWB-11A	Oct-16		0.00220	0.0227	0.449	<0.000160	0.00194 J	<0.000540	<0.0150	0.00525	**0.212**	<0.000049 J3J6O1	0.00476 B	0.00529	0.0217	0.0102
	KWB-11A	Apr-17		0.00183 J	0.0214	0.412	<0.000160	0.00126 J	<0.000540	<0.0150	0.00281	**0.243**	<0.000049	0.00431	0.00536	0.0187	0.0113
	KWB-11A	Oct-17		0.00890	0.0190	0.502	<0.000160	0.00470	<0.000540	0.100	0.00271	**0.325**	<0.000049	0.00598	0.00200 J	0.0127	0.00608
	KWB-11B	Apr-15		0.00147 J	0.0127				0.00116 J	<0.0150	<0.000240	0.00271 J	<0.000049	<0.000350	0.00783		0.00806
	KWB-11B	Oct-15		0.00185 J	0.0134				0.000703 J	<0.0150	<0.000240	0.000257 J	<0.000049	<0.000350	0.00769		0.00812
	KWB-11B	Apr-16		<0.00125	0.0135 J	0.173 JJ6O1	<0.00500	<0.00130	<0.00270	0.121 J	<0.00120	0.00188 J	<0.000049	<0.00175	0.00949 J	0.00987 J	0.00814 J
	KWB-11B	Oct-16		0.00109 J	0.0116	0.105	<0.000160	<0.000260	<0.000540	<0.0150	<0.000240	0.000800 J	<0.000049 J3	0.000559 JB	0.00701	0.0101	0.00727
	KWB-11B	Apr-17		0.00126 J	0.0138	0.121	<0.000160	<0.000260	<0.000540	<0.0150	<0.000240	0.000954 J	<0.000049	<0.000350	0.00959	0.0113	0.00846
	KWB-11B	Oct-17		0.00133 J	0.0127	0.133 J	<0.000160	<0.000260	0.000977 J	0.0153 J	<0.000240	0.00153 J	<0.000049	0.00144 J	0.00907	0.0112	0.00864
	KWB-12A	Apr-15		0.00160 J	0.0168				0.00164 J	0.269	0.000780 J	0.00353 J	<0.000049	0.000930 J	0.00435		0.0108
	KWB-12A	Apr-15	FD	0.00145 J	0.0138				<0.000540	<0.0150	<0.000240	0.000251 J	<0.000049	0.000503 J	0.00375		0.0100
	KWB-12A	Oct-15		0.00242	0.0170				0.000659 J	0.0285 J	<0.000240	0.000862 J	<0.000049	0.000959 J	0.00368		0.0139
	KWB-12A	Apr-16		0.00162 J	0.0164 J	0.695	<0.00500	<0.00130	<0.00270	<0.0750	<0.00120	<0.00125	<0.000049	<0.00175	0.00370 J	**0.0331** J	0.0132 J
	KWB-12A	Oct-16		0.00159 J	0.0156	0.481	<0.000160	<0.000260	0.00159 JB	<0.0150	0.000256 J	<0.000250	<0.000049 J3	0.000739 J	0.00360	0.0288	0.0110
	KWB-12A	Apr-17		0.00149 J	0.0157	0.492	<0.000160	<0.000260	<0.000540	<0.0150	<0.000240	0.00213 J	<0.000049	<0.000350	0.00372 B	0.0260	0.0112
	KWB-12A	Oct-17		0.00142 J	0.0144	0.593	<0.000160	<0.000260	<0.000540	<0.0150	<0.000240	0.000334 J	<0.000049	0.000495 J	0.00334	0.0252	0.0127
	KWB-12B	Apr-15		0.00151 J	0.00823				0.000588 J	<0.0150	<0.000240	0.000826 J	<0.000049	0.000469 J	0.00348		0.0108
	KWB-12B	Oct-15		0.00182 J	0.0118				<0.000540	0.0175 J	<0.000240	0.00117 J	<0.000049	0.00120 J	0.00370		0.0129
	KWB-12B	Oct-15	FD	0.00237	0.0118				0.000599 J	0.0312 J	<0.000240	<0.000250 B	<0.000049	0.000565 J	0.00361		0.0129
	KWB-12B	Apr-16		0.00178 J	0.0130 J	0.712	<0.00500	<0.00130	<0.00270	<0.0750	<0.00120	0.00441 J	<0.000049	<0.00175	0.00307 J	**0.0302** J	0.0125 J
	KWB-12B	Apr-16	FD	0.00165 J	0.0116 J	0.651	<0.00500	<0.00130	<0.00270	<0.0750	<0.00120	0.00434 J	<0.000049	<0.00175	0.00301 J	0.0282 J	0.0117 J
	KWB-12B	Oct-16		0.00159 J	0.0101	0.464	<0.000160	<0.000260	0.00136 JB	0.0358 J	<0.000240	0.00955	<0.000049 J3	0.000824 J	0.00248	0.0263	0.0112
	KWB-12B	Oct-16	FD	0.00161 J	0.0108	0.533	<0.000160	<0.000260	0.00147 JB	0.0369 J	0.000299 J	0.0104	<0.000049 J3	0.000703 J	0.00295	0.0265	0.0114
	KWB-12B	Apr-17		0.00157 J	0.00901	0.525	<0.000160	<0.000260	<0.000540	<0.0150	<0.000240	0.00232 J	<0.000049	<0.000350	0.00382 B	0.0273	0.0122
	KWB-12B	Apr-17	FD	0.00167 J	0.00968	0.558	<0.000160	<0.000260	<0.000540	0.0486 J	<0.000240	0.00129 J	<0.000049	0.000513 JB	0.00356	**0.0307**	0.0127
	KWB-12B	Oct-17		0.00159 J	0.00870	0.616	<0.000160	<0.000260	0.000543 J	0.0534 J	<0.000240	0.00158 J	<0.000049	0.000457 J	0.00346	0.0264 J	0.0127
	KWB-12B	Oct-17	FD	0.00169 J	0.00878	0.629	<0.000160	<0.000260	<0.000540	0.0374 J	<0.000240	0.00122 J	<0.000049	0.000453 J	0.00298	0.0273	0.0122
	KWB-P4	Apr-13															
	KWB-P4	Apr-15															
	KWB-P4	Apr-17															
	MW-57	Apr-15		0.00495	0.0267				0.00104 J	0.658	0.000946 J	0.192			0.0300		
	MW-57	Oct-15		0.00660	0.0339				<0.000540	0.301	0.000729 J	**0.852**			0.0159		
	MW-57	Apr-16		0.00654 J	0.0344				0.00322 J	0.881	0.00266 J	**0.378**			0.0131		
	MW-57	Oct-16		0.00564	0.0253				0.000798 JB	0.559	0.000516 J	0.104			0.0169		
	MW-57	Apr-17		0.00502	0.0202				<0.000540	0.353	0.000515 J	**0.278**			0.0231		
	MW-57	Oct-17		0.00391	0.0176				0.000652 J	0.0996 J	<0.000240	0.0323			0.0171		
	MW-58	Apr-15		**0.0121**	0.819				<0.000540	**1.76**	0.00339	0.0946	<0.000049	0.00140 J	<0.000380		0.00229 J
	MW-58	Oct-15		0.00810	**1.03**				<0.000540	**1.29**	0.00190 J	0.117	<0.000049	0.00108 J	<0.000380		<0.000180 B
	MW-58	Apr-16		**0.0135**	0.744	0.518	<0.00500	<0.00130	<0.00270	**1.06**	0.00297 J	**0.391**	<0.000049	<0.00175	0.00524 J	<0.00165	0.00259 J
	MW-58	Oct-16		0.00683	0.915	0.455	<0.000160	0.000318 J	0.00108 JB	**1.01**	0.00234	0.114	<0.000049 J3	0.00133 J	<0.000380	<0.00033	0.00451 J
	MW-58	Apr-17		**0.0115**	0.716	0.453	<0.000160	<0.000260	<0.000540	0.521	0.00218	**0.333**	<0.000049	0.000637 J	<0.000380	<0.00033	0.00233 J
	MW-58	Oct-17		0.00648	**1.15**	0.471	<0.000160	<0.000260	<0.000540	0.385	0.00204	**0.319**	<0.000049	0.00129 J	<0.000380	<0.00165	0.00422 J
	MW-111	Apr-15		**0.0201**	0.147				0.00167 J	**5.03**	0.00141 J	**1.72**			<0.000380		
	MW-111	Oct-15		**0.0144**	0.127				0.00239	**7.14**	0.00205	**1.52**			<0.000380		
	MW-111	Apr-16		**0.0131**	0.0926				<0.00270	**6.67**	<0.00120	**1.66**			<0.00190		
	MW-111	Oct-16		**0.0108**	0.0757				0.000976 JB	**6.14**	0.000310 J	**1.41**			<0.000380		
	MW-111	Apr-17		**0.0127**	0.0697				<0.000540	**6.15**	<0.000240	**1.57**			<0.000380		
	MW-111	Oct-17		0.00926	0.0714				<0.000540	**7.15**	<0.000240	**1.45**			<0.000380		
	MW-113	Apr-15		0.00294	0.0330				0.00171 J	0.559	0.000733 J	**0.918**			0.00250		
	MW-113	Apr-15	FD	0.00418	0.0518				0.00221	**1.01**	0.000872 J	**0.857**			<0.000380		
	MW-113	Oct-15		0.00366	0.0242				<0.000540	0.196	<0.000240	**0.765**			<0.000380		
	MW-113	Oct-15	FD	0.00379	0.0233				<0.000540	0.203	<0.000240	**0.767**			<0.000380		
	MW-113	Apr-16		0.00282 J	0.0251				<0.00270	0.270 J	<0.00120	**0.734**			<0.00190		
	MW-113	Apr-16	FD	0.00306 J	0.0289				<0.00270	0.347 J	<0.00120	**0.823**			<0.00190		
	MW-113	Oct-16		0.00138 J	0.0249				<0.000540	**1.17** O1	<0.000240	**1.36** O1V			<0.000380		
	MW-113	Oct-16	FD	0.00125 J	0.0245				<0.000540	**1.13**	<0.000240	**1.37**			<0.000380		
	MW-113	Apr-17		0.00284	0.0257				<0.000540	0.512	<0.000240	**1.08**			<0.000380		
	MW-113	Apr-17	FD	0.00285	0.0244				<0.000540	0.480	<0.000240	**1.05**			<0.000380		
	MW-113	Oct-17		0.00138 J	0.0253				<0.000540	0.764	<0.000240	**1.14**			0.000401 J		
	MW-113	Oct-17	FD	0.00140 J	0.0235				<0.000540	0.774	0.000324 J	**1.19**			<0.000380		
	MW-125	Apr-15		0.00369	0.00961				<0.000540	<0.0150	<0.000240	**0.405**			0.00581 J		
	MW-125	Oct-15		0.00440	0.00911				<0.000540	0.0196 J	<0.000240	**0.371**			0.00409		
	MW-125	Apr-16		0.00408 J	0.00922 J				<0.00270	<0.0750	<0.00120	**0.438**			0.00410 J		
	MW-125	Oct-16		0.00383	0.00806				0.000898 JB	<0.0150	<0.000240	**0.370**			0.00253		
	MW-125	Apr-17		0.00336	0.00822				<0.000540	<0.0150	<0.000240	**0.374**			0.00962		
	MW-125	Oct-17		0.00386	0.0153				0.00253	0.0228 J	<0.000240	**0.329**			0.00635		
	MW-126A	Apr-15		0.00270	0.0185				0.00164 J	**1.02**	0.000293 J	**0.824**			<0.000380		
	MW-126A	Oct-15		0.00195 J	0.0146				<0.000540	0.786	<0.000240	**0.642**			<0.000380		
	MW-126A	Apr-16		0.00222	0.0174				<0.00270	0.803	<0.00120	**0.797**			<0.00190		
	MW-126A	Oct-16		0.00257	0.0109				<0.000540	0.299	<0.000240	**0.371**			<0.000380		
	MW-126A	Apr-17		0.00171 J	0.0157				<0.000540	0.602	<0.000240	**0.821**			<0.000380		
	MW-126A	Oct-17		0.00118 J	0.0133				<0.000540	0.485	<0.000240	**0.651**			<0.000380		
	MW-126B	Apr-15		0.00377 J	0.0110 J				<0.00270	<0.0750	<0.00120	0.0892			0.00215 J		
	MW-126B	Oct-15		0.00442	0.0116				0.000580 J	0.154	0.000342 J	0.0609			0.00206		
	MW-126B	Apr-16		0.00430 J	0.0133 J				<0.00270	0.170 J	<0.00120	0.0744			0.00285 J		
	MW-126B	Oct-16		0.00404	0.00919				<0.000540	0.0351 J	<0.000240	0.0539			0.00133 J		
	MW-126B	Apr-17		0.00367	0.0101				<0.000540	0.0356 J	<0.000240	0.0612			0.00207		
	MW-126B	Oct-17		0.00360	0.0100				0.000749 J	0.0330 J	0.000777 J	0.0547			0.00256		
	MW-127	Apr-15		0.00626	0.534				0.00241	**1.64**	0.00138 J	0.109			<0.000380		
	MW-127	Oct-15		0.00499	0.116				<0.000540	0.323	<0.000240	0.0943			<0.000380		
	MW-127	Apr-16		0.00535 J	0.137				<0.00270	0.357 J	<0.00120	0.103			<0.00190		
	MW-127	Oct-16		0.00453	0.0797				<0.000540	0.296	<0.000240	0.101			<0.000380		
	MW-127	Apr-17		0.00383	0.0718				<0.000540	0.187	<0.000240	0.0940			<0.000380		
	MW-127	Oct-17		**0.0114**	0.212				0.00109 J	**1.39**	0.000965 J	0.135			<0.000380		
	MW-128	Apr-15		**0.0520**	0.0783				0.000905 J	**2.94**	0.00246	**2.42**			<0.000380 B		
	MW-128	Oct-15		**0.0552**	0.0772				<0.000540	**2.65**	<0.000240	**2.31**			<0.000380		
	MW-128	Apr-16		**0.341**	0.372				0.00347 J	**15.4**	0.00336 J	**12.9**			<0.00190		
	MW-128	Oct-16		**0.0643**	0.0676				0.00182 JB	**3.12**	0.00222	**2.11**			<0.000380		
	MW-128	Apr-17		**0.0583**	0.0621				0.000580 J	**2.98**	0.00114 J	**2.09**			0.00973		
	MW-128	Oct-17		**0.0554**	0.0610				0.000618 J	**3.07**	0.000404 J	**2.09**			0.00122 J		

Table 4B - Summary of Groundwater Analytical Data - Total Metals

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	Total Metals													
				Analyte:	Arsenic	Barium	Boron	Cadmium	Cobalt	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Uranium	Vanadium
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	0.010	1.00	0.75	0.005	0.050	0.050	1.00	0.015	0.200	0.002	0.200	0.050	0.030	0.0631
				CGWSL Source:	USEPA MCL	WQCC HH	WQCC Irr	USEPA MCL	WQCC Irr	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	WQCC HH	NMED TW
Area	Well ID	Date	Dup															
Field East of Refinery	MW-129	Apr-15		**0.0338**	0.498				0.00227	**6.42**	0.00277	**1.21**			<0.000380		
	MW-129	Oct-15		**0.0271**	0.546				<0.000540	**5.07**	0.000292 J	**1.09**			<0.000380		
	MW-129	Apr-16		**0.0272**	0.593				<0.00270	**5.49**	<0.00120	**1.10**			<0.00190		
	MW-129	Oct-16		**0.0236**	0.607				0.000625 JB	**4.79**	0.000529 J	**1.00**			<0.000380		
	MW-129	Apr-17		**0.0226**	0.627				<0.000540	**5.10**	<0.000240	**0.987**			<0.000380		
	MW-130	Apr-15		0.00718	0.677				0.00205	0.143 J	0.00929	**0.242**			<0.00190 B		
	MW-130	Oct-15		0.00477	0.0195				0.000567 J	0.162	0.000362 J	0.0921			0.00224		
	MW-130	Apr-16		0.00449 J	0.0228 J				<0.00270	0.451 J	<0.00120	0.105			0.00575 J		
	MW-130	Oct-16		0.00403	0.0188				0.000869 JB	0.104	<0.000240	0.0891			0.00675		
	MW-130	Apr-17		0.00391	0.0198				<0.000540	0.0756 J	<0.000240	0.0972			0.0101		
	MW-130	Oct-17		0.00374	0.0179				<0.000540	0.0360 J	<0.000240	0.0918			0.00852		
	MW-131	Apr-15		**0.0220**	**2.67**				0.000747 J	**2.34**	0.000919 J	**0.316**			<0.000380		
	MW-131	Oct-15		**0.0261**	**2.88**				0.00371	**4.71**	0.00294	**0.337**			<0.000380		
	MW-131	Apr-16		**0.0222**	**2.67**				<0.00270	**1.46**	<0.00120	**0.305**			<0.00190		
	MW-131	Oct-16		**0.0207**	**2.69**				<0.000540	**1.34**	<0.000240	**0.285**			<0.000380		
	MW-131	Apr-17		**0.0214**	**2.75**				<0.000540	**1.29**	<0.000240	**0.294**			<0.000380		
	MW-131	Oct-17		**0.0223**	**1.98**				<0.000540	**1.56**	<0.000240	**0.283**			<0.000380		
	MW-133	Nov-14		**0.0190**	0.130				0.000600 J	**3.50**	0.000800 J	**0.380**			<0.000380		
	MW-133	Apr-15		0.00897	0.157				<0.000540	**5.53**	0.00145 J	**0.312**			0.00124 J		
	MW-134	Apr-15		0.00881 J	0.0143 J				0.00285 J	0.234 J	<0.00120	0.00773 J			0.0197		
	MW-134	Apr-15	FD	0.00575	0.0107				0.00148 J	0.131	<0.000240	0.00795			0.0129		
	MW-134	Oct-15		0.00621	0.0101				0.000869 J	<0.0150	<0.000240	0.00650			0.00756		
	MW-134	Oct-15	FD	0.00630	0.00964				0.000709 J	<0.0150	<0.000240	0.00594			0.00807		
	MW-134	Apr-16		0.00566 J	0.0112 J				<0.00270	<0.0750	0.00131 J	0.0102 J			0.00812 J		
	MW-134	Apr-16	FD	0.00555 J	0.00895 J				<0.00270	0.0767 J	<0.00120	0.0110 J			0.00711 J		
	MW-134	Oct-16		0.00511	0.00827				0.00158 JB	0.0181 JB	<0.000240	0.00886			0.00647		
	MW-134	Oct-16	FD	0.00475	0.00833				0.00148 JB	0.0293 JB	0.000513 J	0.00817			0.00416		
	MW-134	Apr-17		0.00453	0.00963				<0.000540	<0.0150	<0.000240	0.00801			0.00537		
	MW-134	Apr-17	FD	0.00464	0.00877				0.000611 J	<0.0150	<0.000240	0.00808			0.00572		
	MW-134	Oct-17		0.00432	0.00942				0.000691 J	<0.0150	<0.000240	0.00999			0.00743		
	MW-134	Oct-17	FD	0.00445	0.0100				0.000840 J	0.0489 J	<0.000240	0.0109			0.00554		
	MW-135	Apr-15		0.00871 J	0.413				0.0168	**5.33**	0.0119	**0.500**			0.0337		
	MW-135	Oct-15		0.00442	0.0580				0.00319	**1.52**	0.00144 J	0.0438			0.0399		
	MW-135	Apr-16		**0.0216**	0.303				0.0130	**5.54**	0.00566 J	**0.225**			**0.128**		
	MW-135	Oct-16		0.00394	0.0397				0.00149 JB	0.598	0.000686 J	0.0324			0.0368		
	MW-135	Apr-17		0.00324	0.0221				<0.000540	0.339	0.000499 J	0.0187			0.0361		
	MW-135	Oct-17		0.00339	0.0249				0.00166 J	0.526	0.000498 J	0.0229			0.0341		
	RA-4196	Apr-15															
	RA-4196	Oct-15															
	RA-4196	Apr-16															
	RA-4196	Oct-16															
	RA-4196	Apr-17															
	RA-4196	Oct-17															
	RA-4798	Apr-15															
	RA-4798	Oct-15															
	RA-4798	Apr-16															
	RA-4798	Oct-16															
	RA-4798	Apr-17															
	RA-4798	Oct-17															
	RW-12R	Apr-16		<0.00125	0.0512				0.0453	0.213 J	0.00204 J	**0.547**			<0.00740		
	RW-12R	Apr-17		0.000503 J	0.0409				0.0359	0.241	0.00193 J	**0.398**			<0.000380		
	RW-13R	Apr-16		0.00922 J	0.0165				<0.00270	0.572	<0.00120	**1.26**					
	RW-18	Apr-14		0.00496 J	0.0137				<0.00200	0.295 J	<0.00140	0.00572 J			0.0110		
	RW-18	Apr-15		0.00379	0.0105				0.000703 J	<0.0150	<0.000240	<0.000250			0.00988		
	RW-18	Apr-16		0.00400 J	0.0124 J				<0.00270	<0.0750	<0.00120	<0.00125			0.00436 J		
	RW-18	Apr-17		0.00331	0.0107				<0.000540	<0.0150	<0.000240	0.000927 J			0.00406		
	RW-20	Apr-15		0.00375 J	0.527				<0.00270	**1.75**	0.00354 J	**0.872**			<0.00190		
	RW-22	Apr-15		0.00248	0.816				0.00320	0.140	0.00397	**0.845**			0.00234		
North Refinery	MW-23	Apr-15		**0.0164**	0.319				<0.00270	0.560	0.00336 J	**0.212**			**0.125**		
	MW-23	Oct-15		**0.0104**	**11.0**				0.00113 J	0.0742 J	0.00578	0.0890			0.00109 J		
	MW-23	Apr-16		**0.0113**	**12.8**				<0.00270	0.456 J	**0.0186**	0.105			<0.00190		
	MW-23	Oct-16		0.00776	**12.0**				0.00711	**1.89**	**0.0334**	0.184			0.00190 J		
	MW-23	Apr-17		0.00608	**9.82**				0.000789 J	0.0552 J	0.00296	0.0653			0.00287		
	MW-23	Oct-17		0.00636	**10.5**				0.00108 J	0.0413 J	**0.0172**	0.0662			0.00939		
	MW-29	Apr-15		0.000896 J	0.0170				<0.000540	0.0678 J	<0.000240	**0.382**			<0.000380		
	MW-29	Oct-15		0.00100 J	0.0161				<0.000540	<0.0150	<0.00120	**0.369**			0.00165 J		
	MW-29	Apr-16		<0.00125	0.0182 J				<0.00270	<0.0750	<0.00120	**0.485**			0.0141		
	MW-29	Oct-16		0.00165 J	0.0156				0.000619 JB	0.0168 J	0.000465 J	**0.374**			0.000713 J		
	MW-29	Apr-17		0.000518 J	0.0156				<0.000540	0.0276 J	<0.000240	**0.436** V			<0.000380		
	MW-29	Oct-17		0.00193 J	0.0161				<0.000540	0.0193 J	<0.000240	**0.382**			0.000672 J		
	MW-39	Apr-15		0.00256 J	0.0228 J				<0.00270	<0.0750	<0.00120	**0.208**			<0.00190		
	MW-39	Oct-15		0.00156 J	0.0222				<0.000540	0.0199 J	<0.00240	0.186			0.00266		
	MW-39	Apr-16		**0.0195**	0.0209 J				0.00407 J	0.0932 J	0.00124 J	0.0161 J			0.0192		
	MW-39	Oct-16		**0.0274**	0.0145				0.00128 JB	0.0160 J	0.000867 J	0.0211			0.00146 J		
	MW-39	Apr-17		**0.0135**	0.0192				0.00275	0.101	0.00157 J	0.0113			0.00268		
	MW-39	Oct-17		**0.0148**	0.0158				0.00186 J	0.0837 J	0.000906 J	0.0169			0.00410		
	MW-40	Apr-14		0.00157 J	0.0278				<0.00100	<0.0500	<0.000700	0.0451			0.00202 J		
	MW-40	Apr-15		0.00122 J	0.0336				<0.00270	0.345 J	0.00213 J	0.0398			<0.00190		
	MW-40	Apr-16		0.00154 J	0.0392				<0.00270	0.512	0.00311 J	0.0321			<0.00190		
	MW-40	Apr-17		0.000786 J	0.0249				<0.000540	0.0151 J	0.000660 J	0.0241			**0.0704**		
	MW-41	Apr-14		0.00475 J	0.0140				<0.00100	0.0729 J	<0.000700	**0.854**			0.00163 J		
	MW-41	Apr-15		0.00591 J	0.0203 J				<0.00270	0.136 J	<0.00120	**1.01**			<0.00190		
	MW-41	Apr-16		0.00578 J	0.0210 J				<0.00270	<0.0750	<0.00120	**0.888**			<0.00190		
	MW-41	Apr-17		0.00391	0.0154				<0.000540	0.0429 J	0.000578 J	**0.737**			0.00229		
	MW-42	Apr-14		**0.0120**	0.0284				<0.00100	0.527	0.000766 J	0.189			0.00168 J		
	MW-42	Apr-15		0.00935 J	0.0242 J				<0.00270	0.136 J	<0.00120	0.171			0.00393 J		
	MW-42	Apr-16		0.00814 J	0.0274				<0.00270	0.182 J	<0.00120	0.197			<0.00190		
	MW-42	Apr-17		0.00486	0.0182				<0.000540	<0.0150	0.000252 J	0.177			0.00222		
	MW-43	Apr-15		**0.0134**	0.239				<0.00270	<0.0750	<0.00120	**0.402**	<0.000049	0.00482 J	**0.0518**		<0.000900
	MW-43	Oct-15		**0.0180**	0.108				0.00111 J	0.0583 J	0.000577 J	0.157	<0.000049	0.00465	0.000853 J		0.00386 J
	MW-43	Apr-16		**0.0106**	0.251	**1.78**	<0.000800	<0.00130	<0.00270	0.163 J	0.00151 J	**0.274**	<0.000049	0.00625 J	**0.205**	<0.00165	0.00455 J
	MW-43	Oct-16		0.00946	0.0772	**1.36**	<0.000160	<0.000260	0.00121 JB	0.0890 J	0.000510 J	0.196	<0.000049 J3	0.00666	0.0211	0.000344 J	0.00328 J
	MW-43	Apr-17		0.00987	0.100	**1.21**	<0.000160	<0.000260	<0.000540	<0.0150	<0.000240	0.175	<0.000049	0.00534	0.00413 B	<0.00033	0.00200 J
	MW-43	Oct-17		0.00616	0.130	**1.43**	<0.000160	<0.000260	0.000981 J	0.0345 J	0.000387 J	0.142	<0.000049	0.00700	0.0447	<0.00033	0.00261 J
	MW-59	Apr-14		**0.0324**	0.0144				<0.00100	0.164 J	<0.000700	**0.464**			0.00432 J		
	MW-59	Apr-15		**0.0172**	0.0163				<0.000540	0.163	0.000394 J	**0.465**			0.00573 J		
	MW-59	Apr-16		**0.0763**	0.113				<0.00270	0.976	<0.00120	**2.34**			<0.00190		
	MW-59	Apr-17		**0.0234**	0.0202				<0.000540	0.123	<0.000240	**0.440**			<0.000380		
	MW-60	Apr-15		0.00464 J	0.0177 J				<0.000540	0.0725 J	0.000305 J	**0.340**	<0.000049	<0.000350 B	<0.00190		0.000695 J
	MW-60	Apr-15	FD	0.00850 J	0.0177				<0.000540	0.0960 J	<0.000240	**0.335**		<0.000350 B	<0.000380 B		
	MW-60	Oct-15		0.00884	0.0167				<0.000540	0.286	0.000907 J	**0.332**	<0.000049 J	0.000645 J	0.0140		0.00128 J
	MW-60	Oct-15	FD	0.00880	0.0179				<0.000540	0.291	0.000328 J	**0.342**	<0.000049	0.000516 J	<0.000380		0.00115 J
	MW-60	Apr-16		**0.0111**	0.0203 J	0.438	<0.00500	<0.00130	<0.00270	0.105 J	<0.00120	**0.364**	<0.000049	<0.00175	<0.00190	0.00235 J	0.000910 J
	MW-60	Apr-16	FD	**0.0121**	0.0193 J	0.449	<0.00500	<0.00130	<0.00270	0.165 J	<0.00120	**0.377**	<0.000049	<0.00175	<0.00190	0.00254 J	0.00110 J

Table 4B - Summary of Groundwater Analytical Data - Total Metals

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	Total Metals													
				Analyte:	Arsenic	Barium	Boron	Cadmium	Cobalt	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Uranium	Vanadium
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	0.010	1.00	0.75	0.005	0.050	0.050	1.00	0.015	0.200	0.002	0.200	0.050	0.030	0.0631
				CGWSL Source:	USEPA MCL	WQCC HH	WQCC Irr	USEPA MCL	WQCC Irr	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	WQCC HH	NMED TW
Area	Well ID	Date	Dup															
North Refinery	MW-60	Oct-16			0.00457	0.0154	0.347	<0.000160	0.000490 J	0.00133 JB	0.151 B	0.000403 J	**0.336**	<0.000049	0.00178 JB	<0.000380	0.00252 J	0.000358 J
	MW-60	Oct-16	FD		0.00478	0.0147	0.332	<0.000160	0.000589 J	0.00129 JB	0.148 B	0.000342 J	**0.339**	<0.000049	0.00135 JB	<0.000380	0.00251 J	0.000307 J
	MW-60	Apr-17			0.00595	0.0167	0.376	<0.000160	<0.000260	<0.000540	0.0568 J	<0.000240	**0.294**	<0.000049	0.000791 J	<0.000380	0.00223 J	0.000578 BJ
	MW-60	Apr-17	FD		0.00605	0.0167	0.376	<0.000160	<0.000260	<0.000540	0.0692 J	<0.000240	**0.290**	<0.000049	0.000704 J	<0.000380	0.00222 J	0.000605 BJ
	MW-60	Oct-17			0.00682	0.0185	0.567	<0.000160	0.000302 J	<0.000540	0.0449 J	0.000355 J	**0.258**	<0.000049	0.00205	0.00188 J	0.00149 J	0.000363 J
	MW-60	Oct-17	FD		0.00299	0.0186	0.613	<0.000160	<0.000260	<0.000540	0.0330 J	0.000245 J	**0.259**	<0.000049	0.00420	<0.000380	0.00144 J	0.000347 J
	MW-61	Apr-15			0.00463 J	0.0499 J				<0.00270	<0.150	<0.00240	0.00444 J			**0.168**		
	MW-61	Oct-15			0.00107 J	0.0246				0.00119 J	0.0828 J	0.00122 J	0.0416			0.00688		
	MW-61	Apr-16			<0.00125	0.0192 J				<0.00270	<0.0750	<0.00120	0.0664			0.0101		
	MW-61	Oct-16			0.000831 J	0.0223				0.00145 JB	0.0204 J	0.000914 J	0.0746			<0.000380		
	MW-61	Apr-17			0.000981 J	0.0218				0.000618 J	0.0299 J	0.000959 J	0.0352			0.00551		
	MW-61	Oct-17			0.00125 J	0.0330				0.00316	0.0342 J	0.00128 J	0.0320			**0.0519**		
	MW-62	Apr-15			**0.0136**	**9.30**				0.00149 J	0.0542 J	0.00419	0.0677			0.0187		
	MW-62	Oct-15			0.00293	0.0235				<0.000540	0.0154 J	0.000278 J	0.00266 J			0.00587		
	MW-62	Apr-16			0.00321 J	0.0390				<0.00270	<0.0750	<0.00120	<0.00125			0.00935 J		
	MW-62	Oct-16			**0.0115**	0.0252				0.000596 JB	0.0385 J	0.000715 J	0.00213 J			<0.000380		
	MW-62	Apr-17			0.00450	0.0285				<0.000540	<0.0150	0.000317 J	0.00311 J			0.00328		
	MW-62	Oct-17			0.00366	0.0312				<0.000540	0.0375 J	0.000415 J	0.000930 J			**0.0554**		
	MW-67	Apr-15			0.00371	0.140				<0.000540	0.0384 J	0.00113 J	0.0800	<0.000049	0.00198 J	0.000386 J		0.00108 J
	MW-67	Oct-15			0.00630	0.129				0.000623 J	<0.0150	0.00100 J	0.0785	<0.000049	0.000885 J	0.000445 J		0.00164 J
	MW-67	Apr-16			**0.0101**	0.229	0.471	<0.00500	<0.00130	<0.00270	<0.0750	0.00135 J	0.117	<0.000049	<0.00175	<0.00190	<0.00165	0.00139 J
	MW-67	Oct-16			**0.0103**	0.161	0.451	<0.000160	<0.000260	0.000671 JB	0.0242 J	0.00127 J	0.104	<0.000049	0.000689 J	0.000479 J	<0.00033	0.000595 J
	MW-67	Apr-17			**0.0147**	0.137	0.435	<0.000160	<0.000260	0.000612 J	0.0312 J	0.00155 J	0.0878	<0.000049	0.000780 J	0.00230	<0.00033	0.00124 BJ
	MW-67	Oct-17			**0.0103**	0.0906	0.464	<0.000160	<0.000260	0.000639 J	0.0172 J	0.00112 J	0.0986	<0.000049	0.000648 J	<0.000380	<0.00033	0.000547 J
	MW-90	Apr-15			0.00709	0.0233				<0.000540	0.473	0.000242 J	**0.345**			0.00172 J		
	MW-90	Oct-15			0.00883	0.0126				<0.000540	**1.56**	<0.000240	0.0504			0.0334		
	MW-90	Apr-16			**0.0111**	0.0140 J				<0.00270	**1.34**	<0.00120	0.166			0.00262 J		
	MW-90	Oct-16			**0.0103**	0.00945				<0.000540	0.201	0.000244 J	0.0186			**0.0663**		
	MW-90	Apr-17			0.00894	0.0159				<0.000540	**1.53**	<0.000240	0.144			0.00359 B		
	MW-90	Oct-17			0.00392	0.0152				0.000863 J	0.223	<0.000240	0.0711			0.00150 J		
	MW-91	Apr-15			0.00509	0.0940				<0.000540	0.0957 J	0.00236	0.00502			0.0138		
	MW-91	Oct-15			0.00552	0.0824				<0.000540	0.0165 J	0.00270	0.00246 J			0.0248		
	MW-91	Apr-16			0.00660 J	0.0716				<0.00270	<0.0750	0.00376 J	0.00267 J			<0.00740		
	MW-91	Oct-16			0.00880	0.0554				<0.000540	<0.0150	0.00340	0.00304 JB			0.000630 J		
	MW-91	Apr-17			0.00780	0.0532				<0.000540	0.0336 J	0.00352	0.00138 J			0.00138 BJ		
	MW-91	Oct-17			0.00586	0.0512				0.000787 J	0.0900 J	0.00312	0.00640			0.00111 J		
	MW-92	Apr-16			0.00316 J	**3.44** O1V				<0.00270	0.328 J	<0.00120	0.0363			0.00207 J		
	MW-92	Oct-16			0.00732	**2.81**				0.00101 JB	0.0744 J	0.00183 J	0.0274			0.00172 J		
	MW-93	Apr-15			0.00687 J	0.0346				0.00442 J	**1.83**	0.00126 J	**0.227**			**0.0646**		
	MW-93	Oct-15			0.00502	0.0486				0.00365	**1.29**	0.00327	0.120			**0.0709**		
	MW-93	Apr-16			**0.0137**	0.0231 J				0.00907 J	0.858	<0.00120	0.0663			0.0242		
	MW-93	Oct-16			0.00195 JJ3J6	0.0263				0.00337 B	**1.19**	0.00112 J	**0.335**			0.0119 J3J6		
	MW-93	Apr-17			0.00456	0.0228				0.00367	0.278	0.00116 J	0.0258			0.00683		
	MW-94	Oct-15			**0.0215**	**1.57**				0.00144 J	<0.0150	<0.000240	0.00194 J			0.000935 J		
	MW-94	Apr-16			**0.0286**	0.353				<0.00270	<0.0750	<0.00120	0.00666 J			<0.00190		
	MW-94	Oct-16			**0.0115**	0.635				0.00119 JB	0.0159 J	0.000255 J	0.00631			0.000962 J		
	MW-94	Apr-17			**0.0170**	0.873				0.00141 J	0.134	0.000298 J	0.00382 J			0.00304		
	MW-95	Apr-14			<0.00100	0.126				<0.00100	0.0549 J	<0.000700	0.0419			<0.00100		
	MW-95	Apr-15			0.00133 J	0.0762				<0.000540	0.0357 J	0.000477 J	0.0247			0.000381 J		
	MW-95	Apr-16			0.00175 J	0.0736				<0.00270	<0.0750	<0.00120	0.0214 J			<0.00190		
	MW-95	Apr-17			0.00173 J	0.0612				<0.000540	<0.0150	<0.000240	0.0330			0.000407 J		
	MW-96	Apr-15			0.00421	0.126				0.000816 J	0.0338 J	0.000576 J	0.00352 J			0.000731 J		
	MW-96	Oct-15			0.00397	0.158				0.000655 J	0.132	0.000953 J	0.00236 J			0.000640 J		
	MW-96	Apr-16			0.00463 J	0.155				<0.00270	<0.0750	<0.00120	0.00174 J			0.00330 J		
	MW-96	Oct-16			0.00238	0.106				<0.000540	0.0573 J	<0.000240	0.00700			0.000695 J		
	MW-96	Apr-17			0.00314	0.124				<0.000540	<0.0150	<0.000240	0.000699 J			0.00148 BJ		
	MW-96	Oct-17			0.00241	0.0709				<0.000540	0.117	<0.000240	0.00173 J			0.000629 J		
	MW-98	Apr-15			<0.00250	0.0177 J				<0.00270	<0.0750	0.00894 J	0.0192 J			**0.108**		
	MW-98	Oct-15			0.00109 J	0.0149				0.000932 J	0.0339 J	0.00659	0.0213			0.00514		
	MW-98	Apr-16			0.00199 J	0.0204 J				<0.00270	<0.0750	0.00934 J	0.0312			<0.00190		
	MW-98	Oct-16			0.00110 J	0.0150				0.000797 JB	0.0160 J	0.00734	0.0233			0.000906 J		
	MW-98	Apr-17			0.00109 J	0.0163				<0.000540	<0.0150	0.00875	0.0261			0.00227 B		
	MW-98	Oct-17			0.00082 J	0.0159				0.000791 J	0.126	0.00929	0.0280			0.000620 J		
	MW-137	Oct-15			**0.0525**	0.127				0.00326	**1.63**	0.00596	0.120	<0.000049	0.00874	0.00218		0.00904
	MW-137	Apr-16			**0.0893**	0.0567	**0.982**	<0.00500	<0.00130	<0.00270	0.0953 J	0.00601 J	0.144	<0.000049	0.0101	0.00327 J	<0.00165	0.00840 J
	MW-137	Oct-16			**0.0345**	0.0453	**0.799**	<0.000160	<0.000260	0.000628 JB	0.0169 J	0.00436	0.120	<0.000049	0.00652	0.00368	<0.00033	0.00529
	MW-137	Apr-17			**0.0496**	0.0564	**0.752**	<0.000160	<0.000260	<0.000540	<0.0150	0.00408	0.113	<0.000049	0.00689	0.00397 B	<0.00033	0.00580
	MW-137	Oct-17			**0.0156**	0.0756	**1.03**	<0.000160	<0.000260	0.00109 J	0.260	0.00338	**0.209**	<0.000049	0.0198	0.0393	<0.00033	0.00771
	MW-138	Oct-15			0.00728	0.131				0.00218	**2.54**	0.00195 J	**0.249**	<0.000049	0.00420	0.000743 J		0.00705
	MW-138	Apr-16			0.00777 J	0.220	**1.56**	<0.00500	<0.00130	<0.00270	0.221 J	<0.00120	0.164	<0.000049	0.00598 J	<0.00190	<0.00165	0.00531 J
	MW-138	Oct-16			0.00609	0.0947	**1.01**	<0.000160	<0.000260	0.000775 JB	0.0178 J	0.000407 J	0.143	<0.000049	0.00523	0.00284	<0.00033	0.00306 J
	MW-138	Apr-17			0.00569	0.130	**1.01**	<0.000160	<0.000260	<0.000540	<0.0150	<0.000240	0.111	<0.000049	0.00546	0.00267 B	<0.00033	0.00269 J
	MW-138	Oct-17			0.00507	0.103	**1.11**	<0.000160	<0.000260	0.000747 J	0.0334 J	0.000271 J	0.0931	<0.000049	0.00619	0.00945	<0.00033	0.00195 J
	RW-1	Apr-15			0.00607	0.0305				0.00290	0.216	0.000495 J	0.126			0.00302 J		
	RW-1R	Apr-16			0.00695 J	0.0414				<0.00270	**17.1**	0.00149 J	**0.317**			0.00246 J		
	RW-1R	Apr-17			**0.0359**	0.0243				0.00254	**4.88**	0.00492	**0.240**			0.00573 B		
	RW-2	Apr-15			**0.0264**	0.0245 J				0.00553 J	0.381 J	0.00233 J	**0.313**			**0.0705**		
	RW-2R	Apr-16			0.00552 J	0.171				0.00750 J	**2.25**	**0.0153**	0.0705			**0.422**		
	RW-2R	Apr-17			0.00504	0.0566				0.00173 J	0.264	0.000960 J	0.0161			0.0100		
	RW-7	Apr-15			0.00239 J	0.508				<0.00270	0.0976 J	<0.00120	0.0280			<0.00190		
	RW-7R	Apr-16			**0.0154**	0.0293				<0.00270	**1.09**	<0.00120	**1.22**			<0.00190		
	RW-7R	Apr-17			0.00332	0.0198				<0.000540	0.183	<0.000240	**1.13**			<0.000380		
	RW-8	Apr-15			0.00556 J	0.0889				<0.00270	0.427 J	<0.00120	0.0556			0.00200 J		
	RW-8	Apr-17			**0.0343**	0.0593				0.00135 J	**9.50**	0.00169 J	**1.12**			<0.000380		
	RW-9	Apr-14			0.00434 J	0.0470				<0.00100	0.942	<0.000700	**0.417**			0.00250 J		
	RW-9	Apr-15			0.00392	0.0397				0.00102 J	0.257	0.000449 J	**0.460**			0.0144		
	RW-9	Apr-16			0.00476 J	0.0550				<0.00270	0.169 J	<0.00120	**0.441**			0.00735 J		
	RW-9	Apr-17			0.00338	0.0378				<0.000540	<0.0150	<0.00120	**0.784**			0.0217		
	RW-10	Apr-14			0.00174 J	0.0185				<0.00100	**5.22**	<0.000700	**0.217**			0.00143 J		
	RW-10	Apr-15			0.00171 J	0.0258				0.000561 J	0.454	<0.000240	**0.237**			0.00517		
	RW-10	Apr-16			0.00175 J	0.0372				<0.00270	**1.27**	<0.00120	**0.266**			0.0404		
	RW-10	Apr-17			0.00167 J	0.0184				<0.000540	0.0250 J	0.000433 J	0.173			<0.000380		
	RW-16	Apr-14			**0.0127**	0.0141				<0.00100	0.174 J	0.000789 J	**0.576**			0.00272 J		
	RW-16	Apr-14	FD		**0.0132**	0.0147				<0.00100	0.184 J	<0.000700	**0.596**			0.00278 J		
	RW-16	Apr-15			**0.0171**	0.0138 J				<0.00270	<0.0750	<0.00120	**0.421**			<0.00190		
	RW-16	Apr-16			**0.0115**	0.0138 J				<0.00270	<0.0750	<0.00120	**0.406**			0.0223		
	RW-16	Apr-17			**0.0129**	0.0126				0.00108 J	0.0227 J	0.00125 J	**0.263**			0.00658		
	RW-17	Apr-14			0.00888	0.0228				<0.00100	0.471	**0.0190**	**0.675**			0.00156 J		
	RW-17	Apr-15			**0.0111**	0.0274				<0.00270	0.0850 J	0.00425 J	0.121			0.0361		
	RW-17	Apr-16			**0.0522**	0.119				<0.00270	0.197 J	**0.0385**	**3.55**			**0.0714**		
	RW-17	Apr-17			**0.0113**	0.0223				0.000584 J	0.0569 J	0.0106	**0.719**			0.0106		

Table 4B - Summary of Groundwater Analytical Data - Total Metals

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	Total Metals													
				Analyte:	Arsenic	Barium	Boron	Cadmium	Cobalt	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Uranium	Vanadium
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	0.010	1.00	0.75	0.005	0.050	0.050	1.00	0.015	0.200	0.002	0.200	0.050	0.030	0.0631
				CGWSL Source:	USEPA MCL	WQCC HH	WQCC Irr	USEPA MCL	WQCC Irr	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	WQCC HH	NMED TW
Area	Well ID	Date	Dup															
North RO Reject Field	MW-117	Apr-15		0.00249 J	0.0162 J				<0.00270	0.492 J	<0.00120	0.00809 J			0.0168		
	MW-117	Oct-15		0.00351	0.0214				0.00364	**1.42**	0.00113 J	0.0149			0.00486		
	MW-117	Apr-16		0.00266 J	0.0186 J				<0.00270	0.684	<0.00120	0.0103 J			0.00857 J		
	MW-117	Oct-16		0.00312	0.0249				0.00417 B	**1.57**	0.00137 J	0.0171			0.00403		
	MW-117	Apr-17		0.00255	0.0197				0.00209	**1.11**	0.000901 J	0.0147			0.00349 B		
	MW-117	Oct-17		0.00238	0.0177				0.00279	**1.15**	0.000777 J	0.0110			0.00982		
	MW-118	Apr-15		0.00977 J	0.0180 J				<0.00270	0.253 J	0.00175 J	0.00454 J			0.00863 J		
	MW-118	Oct-15		**0.0117**	0.0131				0.00137 J	0.155	0.000329 J	0.00223 J			0.00509		
	MW-118	Apr-16		**0.0108**	0.0139 J				<0.00270	0.426 J	<0.00120	0.00480 J			0.00645 J		
	MW-118	Oct-16		**0.0117**	0.0111				0.000649 JB	0.0658 J	<0.000240	0.000302 J			0.0156		
	MW-118	Apr-17		**0.0105**	0.00910				<0.000540	0.0337 J	<0.000240	0.000670 J			0.0222		
	MW-118	Oct-17		**0.0109**	0.00884				0.000983 J	<0.0150	<0.000240	<0.000250			0.0196		
	MW-119	Apr-15		0.00398 J	0.0156 J				<0.00270	0.309 J	<0.00120	0.0151 J			<0.00190		
	MW-119	Oct-15		0.00417	0.0105				0.000744 J	0.0886 J	<0.000240	0.00485 J			0.00189 J		
	MW-119	Apr-16		0.00315 J	0.00645 J				<0.00270	<0.0750	<0.00120	<0.00125			0.00259 J		
	MW-119	Oct-16		0.00404	0.00979				<0.000540	0.0660 J	<0.000240	0.00190 J			0.00334		
	MW-119	Apr-17		0.00376	0.00966				<0.000540	0.0438 J	<0.000240	0.00331 J			0.00442		
	MW-119	Oct-17		0.00513	0.0108				0.000757 J	0.0324 J	<0.000240	0.00324 J			0.00145 J		
NCL	MW-18	Apr-14		0.00313 J	0.0168				<0.00100	0.146 J	<0.000700	0.0203	<0.000049	0.00151 J	0.0112		0.0172
	MW-18	Apr-15		0.00321	0.0167				0.00108 J	<0.0150	<0.000240	0.00671	<0.000049	0.00120 J	0.00947		0.0147
	MW-18	Apr-16		0.00395 J	0.0207 J	**1.36**	<0.00500	<0.00130	<0.00270	<0.0750	<0.00120	0.0157 J	<0.000049	<0.00350	0.0153	**0.0480** J	0.0200 J
	MW-18	Apr-17		0.00365	0.0183	**1.71**		0.000321 J	0.00222	<0.0150	<0.000240	0.00474 JB	<0.000049	0.00120 J	0.0151	0.0250	0.0195
	MW-45	Apr-15		0.00395	0.0185				<0.000540	**1.66**	0.00527	**0.534**	<0.000049	0.00666	<0.000380		0.000411 J
	MW-45	Oct-15		0.00373	0.0216				0.000591 J	0.600	0.00667	**0.551**	<0.000049	0.00472	<0.000380		0.00118 J
	MW-45	Apr-16		0.00752 J	0.0191 J	0.671	<0.00500	<0.00130	<0.00270	**4.14**	0.00443 J	**0.633**	<0.000049	0.00631 J	<0.00190	<0.00165	0.00188 J
	MW-45	Oct-16		0.00346	0.0182	0.636	<0.000160	<0.000260	<0.000540	0.942	0.000647 J	**0.576**	<0.000049	0.00513 B	<0.000380	0.000909 J	0.000251 J
	MW-45	Apr-17		0.00404	0.0162	0.514	<0.000160	<0.000260	<0.000540	**1.29**	<0.000240	**0.582**	<0.000049	0.00558	<0.000380	0.00109 J	0.000466 J
	MW-45	Oct-17		0.00460	0.0154	0.675	<0.000160	<0.000260	<0.000540	**2.27**	0.00143 J	**0.583**	<0.000049	0.00569	<0.000380	0.000671 J	0.000377 J
	MW-53	Apr-14		0.00217 J	0.0232				<0.00100	<0.00500	<0.000700	**0.778**			0.00141 J		
	MW-53	Apr-15		0.00179 J	0.0256				<0.000540	0.0338 J	0.000252 J	**1.20**			0.00566		
	MW-53	Apr-16		0.00193 J	0.0308				<0.00270	<0.0750	<0.00120	**1.07**			0.00617 J		
	MW-53	Apr-17		0.00166 J	0.0201				<0.000540	<0.0150	<0.000240	**1.60**			0.00281		
	MW-54A	Apr-15		0.00312	0.0173				<0.000540	0.0537 J	<0.000240	**0.450**			0.000509 J		
	MW-54A	Oct-15		0.00312	0.0192				0.000898 J	<0.0150	0.00110 J	**0.488**			0.00126 J		
	MW-54A	Apr-16		0.00343 J	0.0189 J				<0.00270	<0.0750	<0.00120	**0.512**			<0.00190		
	MW-54A	Oct-16		0.00236	0.0158				<0.000540	<0.0150	<0.000240	**0.437**			0.000709 J		
	MW-54A	Apr-17		0.00464	0.0147				<0.000540	0.227	<0.000240	**0.456**			<0.000380		
	MW-54A	Oct-17		0.00375	0.0184				<0.000540	0.0535 J	<0.000240	**0.506**			0.000562 J		
	MW-54B	Apr-13		<0.00500	0.0183				<0.00500	<0.200	<0.00500	0.145			<0.00500		
	MW-54B	Apr-15		0.00220	0.0165				<0.000540	0.0520 J	<0.000240	0.165			0.000400 J		
	MW-54B	Apr-17		0.00181 J	0.0158				<0.000540	<0.0150	<0.000240	**0.253**			0.000720 J		
	MW-55	Apr-15		0.00457	0.0110				0.00108 J	0.0483 J	<0.000240	0.139	<0.000049	0.00268	0.0190		0.0147
	MW-55	Oct-15		0.00582	0.0128				0.00104 J	<0.0150	<0.000240	0.0468	<0.000049	0.00168 J	0.00934		0.0189
	MW-55	Apr-16		0.00933 J	0.0157 J	**1.31**	0.000891 J	0.00141 J	<0.00270	0.128 J	0.00168 J	0.151	5.14E-05 J	<0.00350	0.00896 J	**0.0460** J	0.0244 J
	MW-55	Oct-16		0.00543	0.0140	**1.21**	<0.000160	0.000680 J	0.00168 J	0.0587 JB	0.000582 J	0.113	5.31E-05 J	0.00314 B	0.00746	**0.0335**	0.0170
	MW-55	Apr-17		0.00565	0.0128	**0.829**	<0.000160	0.000407 J	<0.000540	0.0222 J	<0.000240	0.0682	<0.000049	0.00552	0.00436	**0.0406**	0.0192
	MW-55	Oct-17		0.00566	0.0123	**1.52**	<0.000160	0.000827 J	0.00121 J	0.0843 J	<0.000240	0.167	<0.000049	0.00562	0.00703	**0.0466**	0.0204
	MW-56	Apr-15		0.00727	0.0143				<0.000540	0.0230 J	0.000739 J	**0.293**			0.00372		
	MW-56	Oct-15		0.00731	0.0166				<0.000540	<0.0150	0.000392 J	**0.321**			0.00491		
	MW-56	Apr-16		0.00777 J	0.0203 J				<0.00270	<0.0750	<0.00120	**0.373**			0.00381 J		
	MW-56	Oct-16		0.00721	0.0138				<0.000540	<0.0150	0.000540 J	**0.282**			0.00125 J		
	MW-56	Apr-17		0.00642	0.0157				<0.000540	<0.0150	0.000467 J	**0.320**			0.00325		
	MW-108	Apr-15		0.00462	0.0387				0.00259	0.0411 J	0.00155 J	0.0256			<0.000380		
	MW-108	Oct-15		0.00399	0.0482				0.00226	0.0288 J	0.00157 J	0.0239			0.00234		
	MW-108	Apr-16		0.00454 J	0.481				<0.00270	0.206 J	0.00209 J	0.0501			<0.00190		
	MW-108	Oct-16		**0.0102**	0.0462				0.00732	**3.13**	0.0101	0.182			0.00126 J		
	MW-108	Apr-17		0.00252	0.0366				0.00124 J	0.0538 J	0.00145 J	0.0412			<0.000380		
	MW-108	Oct-17		0.00251	0.0495				0.00210	0.441	0.00199 J	0.0395			0.00201		
	NCL-31	Apr-15		0.00847	0.0224				0.000989 J	0.834	0.000803 J	**1.70**			<0.000380		
	NCL-31	Oct-15		0.00655	0.0334				0.00175 J	**1.49**	0.00140 J	**2.28**			<0.000380		
	NCL-31	Apr-16		0.00495 J	0.0241 J				<0.00270	0.838	<0.00120	**1.85**			<0.00190		
	NCL-31	Oct-16		**0.0428**	0.0220				0.000711 JB	**1.04**	0.000493 J	**2.48**			<0.000380		
	NCL-31	Apr-17		0.00975	0.0152				<0.000540	0.446	0.000330 J	**2.19**			0.000525 J		
	NCL-31	Oct-17		**0.0122**	0.0140				<0.000540	0.978	<0.000240	**2.26**			<0.000380		
	NCL-32	Apr-15		0.00446 J	0.0556				0.00960 J	**1.39**	**0.0167**	**0.968**			<0.00190		
	NCL-32	Oct-15		0.00653	0.129				0.0280	**4.57**	**0.0289**	**1.34**			0.000884 J		
	NCL-32	Apr-16		**0.0108**	0.227				**0.0660**	**9.75**	**0.0681**	**1.77**			<0.00190		
	NCL-32	Oct-16		0.00428	0.0254				0.00312	0.407 B	0.00296	**1.06**			0.00138 J		
	NCL-32	Apr-17		0.00358	0.0195				0.00114 J	0.116	0.00127 J	**0.988**			0.00124 J		
	NCL-32	Oct-17		0.00304	0.0166				<0.000540	0.0488 J	0.000454 J	**1.11**			0.00207		
	NCL-33	Apr-15		0.00407 J	0.0247 J				<0.00270	**2.26**	0.00569 J	0.108			<0.00190		
	NCL-33	Oct-15		0.00385	0.0274				<0.000540	**2.49**	0.000259 J	0.117			0.000519 J		
	NCL-33	Apr-16		0.00444 J	0.0246 J				<0.00270	0.770	<0.00120	0.188			<0.00190		
	NCL-33	Oct-16		0.00593	0.0224				0.00187 J	**1.93**	0.000459 J	0.128			0.00217		
	NCL-33	Apr-17		0.00302	0.0194				<0.000540	**1.12**	0.000288 J	0.135			0.000546 J		
	NCL-33	Oct-17		0.00325	0.0201				0.000552 J	**1.67**	<0.000240	0.138			0.000672 J		
	NCL-34A	Apr-15		<0.00120	0.547				<0.00270	<0.0750	0.00183 J	0.0369			<0.00190		
	NCL-34A	Oct-15		0.00218 J	0.382				<0.00270	<0.0750	0.00136 J	0.0420			0.00641 J		
	NCL-34A	Apr-16		0.00184 J	0.854				<0.00270	<0.0750	<0.00120	0.0185 J			<0.00190		
	NCL-34A	Oct-16		0.000745 J	0.370				<0.000540	<0.0150	<0.000240	0.0279			0.0142		
	NCL-34A	Apr-17		0.000829 J	0.458				<0.000540	<0.0150	<0.000240	0.0146			<0.000380		
	NCL-34A	Oct-17		0.000562 J	0.338				0.00104 J	0.0445 J	0.00105 J	0.0224			<0.000380		
	NCL-44	Apr-15		**0.0617**	0.0311				<0.00270	**1.47**	0.00123 J	**0.703**			<0.00190		
	NCL-44	Oct-15		**0.0700**	0.0306				0.00105 J	**2.09**	0.000414 J	**0.723**			<0.000380		
	NCL-44	Apr-16		**0.0459**	0.0371				<0.00270	**1.82**	<0.00120	**1.11**			<0.00190		
	NCL-44	Oct-16		**0.0490**	0.0276				0.00165 JB	**1.78**	0.000521 J	**0.896**			0.000394 J		
	NCL-44	Apr-17		**0.0348**	0.0269				0.00235	0.953	0.00102 J	**0.860**			<0.000380		
	NCL-44	Oct-17		**0.0479**	0.0252				0.00122 J	**1.61**	0.000413 J	**0.896**			0.000416 J		
	NCL-49	Apr-15		0.00151 J	0.0109				<0.000540	0.0232 J	0.000252 J	0.00215 J			0.00279		
	NCL-49	Apr-15	FD	0.00145 J	0.0106				<0.000540	<0.0150	<0.000240	0.00146 J			0.00281		
	NCL-49	Oct-15		0.00218	0.0118				<0.000540	<0.0150	<0.000240	0.000528 J			0.00363		
	NCL-49	Oct-15	FD	0.00208	0.0116				<0.000540	<0.0150	<0.000240	0.000279 J			0.00365		
	NCL-49	Apr-16		0.00188 J	0.0150 J				<0.00270	<0.0750	<0.00120	<0.00125			0.00518 J		
	NCL-49	Apr-16	FD	0.00178 J	0.0134 J				<0.00270	<0.0750	<0.00120	<0.00125			0.00483 J		
	NCL-49	Oct-16		0.00156 J	0.0116				<0.000540	<0.0150	<0.000240	0.000460 JB			0.00551		
	NCL-49	Oct-16	FD	0.00137 J	0.0117				<0.000540	<0.0150	<0.000240	0.000493 JB			0.00549		
	NCL-49	Apr-17		0.00151 J	0.0118				<0.000540	<0.0150	<0.000240	0.000320 J			0.00871		
	NCL-49	Apr-17	FD	0.00149 J	0.0115				<0.000540	<0.0150	<0.000240	0.000263 J			0.00924		
	NCL-49	Oct-17		0.00142 J	0.0113				0.000635 J	0.0590 J	<0.000240	<0.000250			0.0111		
	NCL-49	Oct-17	FD	0.00163 J	0.0121				0.000649 J	0.0255 J	<0.000240	<0.000250			0.0110		

Table 4B - Summary of Groundwater Analytical Data - Total Metals

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	Total Metals													
				Analyte:	Arsenic	Barium	Boron	Cadmium	Cobalt	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Uranium	Vanadium
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	0.010	1.00	0.75	0.005	0.050	0.050	1.00	0.015	0.200	0.002	0.200	0.050	0.030	0.0631
				CGWSL Source:	USEPA MCL	WQCC HH	WQCC Irr	USEPA MCL	WQCC Irr	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	WQCC HH	NMED TW
Area	Well ID	Date	Dup															
South Refinery	KWB-2R	Apr-15		0.00281	0.274				0.000702 J	0.329	0.00468	**0.356**			<0.000380		
	KWB-2R	Oct-15		0.00390	0.259				0.000641 J	0.0295 J	0.00195 J	0.0529			<0.000380		
	KWB-2R	Apr-16		0.00401 J	0.0326				<0.00270	0.883	<0.00120	**0.898**			0.00551 J		
	KWB-2R	Oct-16		0.00325	0.0343				0.00113 JB	0.465	0.000548 J	**0.609**			<0.000380		
	KWB-2R	Apr-17		0.00152 J	0.0271				<0.000540	0.0346 J	0.000273 J	**0.564**			<0.000380		
	KWB-2R	Oct-17		0.00258	0.324				<0.000540	0.0522 J	0.00130 J	0.0596			<0.000380		
	KWB-5	Apr-15		**0.0225**	**3.42**				<0.000540	**3.39**	0.000632 J	**1.57**			<0.000380		
	KWB-5	Oct-15		**0.0209**	**3.65**				<0.000540	**3.22**	0.000340 J	**1.59**			<0.000380		
	KWB-5	Apr-16		**0.0252**	**3.63**				<0.00270	**4.28**	<0.00120	**1.82**			<0.00190		
	KWB-5	Oct-16		**0.0212**	**3.82**				<0.000540	**3.13**	<0.000240	**1.60**			<0.000380		
	KWB-5	Apr-17		**0.0219**	**3.49**				<0.000540	**4.43**	<0.000240	**1.81**			0.000511 BJ		
	KWB-5	Oct-17		**0.0202**	**5.06**				<0.000540	**2.11**	0.000287 J	**1.64**			<0.000380		
	KWB-6	Apr-15		0.00621	0.294				<0.000540	0.870	0.00182 J	**2.16**			<0.000380		
	KWB-6	Oct-15		**0.0124**	0.136				<0.000540	0.558	0.00137 J	**2.04**	<0.000049	0.00186 J	<0.000380		0.00239 J
	KWB-6	Apr-16		0.00703 J	0.327				<0.00270	0.546	0.00143 J	**2.55**			<0.00190		
	KWB-6	Oct-16		0.00915	0.0891				0.000950 JB	0.303	0.00103 J	**1.87**			<0.000380		
	KWB-6	Apr-17		0.00406	0.152				<0.000540	0.152	0.000533 J	**1.91**			<0.000380		
	KWB-6	Oct-17		0.00898	0.0998				<0.000540	0.250	0.000661 J	**2.15**			<0.000380		
	MW-28	Apr-15		0.00912 J	0.0772				0.000931 J	0.0712 J	0.0110	0.0685	<0.000049	0.00489	0.0204 J		0.00634
	MW-28	Oct-15		0.00936	0.0484				0.000931 J	0.0744 J	0.0136	0.0261	<0.000049	0.00360	0.0205		0.00557
	MW-28	Apr-16		**0.0610**	0.331	**1.23**	<0.00500	<0.00130	0.00274 J	0.342 J	**0.0520**	0.164	<0.000049	0.0226	0.00220 J	<0.00165	0.0158 J
	MW-28	Oct-16		**0.0154**	0.0424	**1.27**	<0.000160	0.000289 J	0.00213 B	0.0951 JB	**0.0168**	0.0375	<0.000049	0.00387 B	0.000605 J	<0.00033	0.00701
	MW-28	Apr-17		0.00674	0.0462	**1.21**	<0.000160	<0.000260	0.000618 J	0.0779 J	0.0130	0.0624	<0.000049	0.0484	0.0491	0.000382 J	0.00329 J
	MW-28	Oct-17		0.00777	0.0492	**1.39**	<0.000160	<0.000260	0.00947	0.0870 J	0.00855	0.0417	<0.000049	0.00719	<0.000380	<0.00033	0.00227 J
	MW-48	Apr-15		0.00400	0.0204 J				<0.000540	0.562	0.000320 J	0.0948 J			<0.000380 B		
	MW-48	Oct-15		**0.0108**	0.367				0.000690 J	0.131	0.00215	**1.24**			0.00487		
	MW-48	Apr-16		**0.0125**	**2.77**				<0.00270	0.177 J	0.00371 J	**0.390**			<0.00190		
	MW-48	Oct-16		**0.0107**	**1.18**				0.00119 JB	0.166	0.00173 J	**0.565**			0.000520 J		
	MW-48	Apr-17		0.00786	**2.54**				<0.000540	0.0884 J	0.00150 J	**0.210**			0.000838 BJ		
	MW-48	Oct-17		0.00558	**1.81**				0.000835 J	0.141	0.00166 J	**0.286**			**0.0669**		
	MW-50	Apr-15		0.00138 J	0.0226				<0.000540	0.471	0.00102 J	**1.53**			<0.000380		
	MW-50	Oct-15		0.00166 J	0.0219				<0.000540	0.0271 J	0.000889 J	**1.37**			0.000495 J		
	MW-50	Apr-16		0.00234 J	0.0141 JB				<0.00270	0.0916 J	<0.00120	**0.214**			**0.0994**		
	MW-50	Oct-16		0.00434	0.0207				<0.000540	0.160	0.000413 J	**0.295**			**0.0704**		
	MW-50	Apr-17		0.00210	0.0137				<0.000540	0.0253 J	<0.000240	**0.433**			0.0485		
	MW-50	Oct-17		0.00250	0.0142				<0.000540	0.0340 J	<0.000240	**0.494**			0.0436		
	MW-52	Apr-15		0.00318	0.00980				<0.000540	0.0256 J	<0.000240	0.0478	<0.000049	0.00625	<0.000380 B		0.0253
	MW-52	Oct-15		0.00429	0.0129				0.000582 J	0.0180 J	<0.000240	0.0446	<0.000049	0.00684	0.00187 J		0.0262
	MW-52	Apr-16		**0.0193**	0.0436	0.736	<0.00500	0.00155 J	<0.00270	0.158 J	<0.00120	**0.230**	<0.000049	0.0263	0.00545 J	**0.0438** J	**0.123**
	MW-52	Oct-16		0.00343	0.0104	0.718	<0.000160	0.000423 J	0.000547 JB	<0.0150	<0.000240	0.0484	<0.000049 J3	0.00810	0.00179 J	0.0105	0.0243
	MW-52	Apr-17		0.00368	0.0101	0.702	<0.000160	0.000503 J	<0.000540	0.0447 J	<0.000240	0.0659	<0.000049	0.00798	0.00178 J	0.00976 J	0.0269
	MW-52	Oct-17		0.00363	0.0113	**0.852**	<0.000160	0.000429 J	<0.000540	0.0245 J	<0.000240	0.0774	<0.000049	0.00817	0.00607	0.0124	0.0246
	MW-64	Apr-16		**0.0333**	**2.26**				<0.00270	<0.0750	0.00187 J	0.0599			<0.00190		
	MW-64	Oct-16		**0.0302**	**2.41**				0.000897 JB	0.0566 JB	0.00105 J	0.0480			0.000493 J		
	MW-64	Apr-17		**0.0346**	**2.00**				<0.000540	0.151	0.000997 J	0.0515			0.000642 J		
	MW-64	Oct-17		**0.0317**	**2.10**				<0.000540	0.139	0.00101 J	0.0571			0.000523 J		
	MW-65	Apr-15		**0.0186**	**3.08**				<0.000540	**2.88**	0.00153 J	**0.790**			<0.000380		
	MW-65	Apr-16		**0.0142**	**3.42** V				<0.00270	**2.09**	0.00124 J	**0.748** V			<0.00190		
	MW-65	Oct-16		**0.0120**	**2.97**				0.00121 JB	**1.66**	0.00103 J	**0.605**			<0.000380		
	MW-65	Apr-17		**0.0108**	**3.01**				<0.000540	**1.58**	0.000874 J	**0.593**			<0.000380		
	MW-65	Oct-17		**0.0113**	**3.03**				<0.000540	**2.16**	0.00128 J	**0.568**			<0.000380		
	MW-66	Apr-15		0.00298	**2.35**				<0.000540	0.635	0.000902 J	0.189	<0.000049	0.00613	<0.000380		0.000941 J
	MW-66	Oct-15		0.00370	**2.00**				<0.000540	0.792	0.000430 J	**0.220**	<0.000049	0.00743	<0.000380		0.00175 J
	MW-66	Apr-16		**0.0148**	**12.7**	0.378	<0.00500	<0.00130	0.00289 J	**4.74**	0.00659 J	**1.13**	<0.000049	0.121	<0.00190	<0.00165	0.00670 J
	MW-66	Oct-16		0.00269	**1.88**	0.283	<0.000160	<0.000260	0.000733 JB	0.717	0.000342 J	**0.216**	<0.000049 J3	0.00497	<0.000380	<0.00033	0.000342 J
	MW-66	Apr-17		0.00255	**2.22**	0.263	<0.000160	<0.000260	<0.000540	0.773	0.000592 J	0.193	<0.000049	0.00829	0.0134	<0.00033	0.000535 BJ
	MW-66	Oct-17		0.00282	**1.81**	0.314	<0.000160	<0.000260	0.00128 J	**1.02**	0.00453	**0.288**	<0.000049	0.00602	<0.000380	<0.00033	0.00169 J
	MW-99	Apr-15		0.00289	0.159				0.000639 J	0.457	0.00571	0.0802			0.000808 J		
	MW-99	Oct-15		0.00812	0.279				0.000832 J	0.382	0.00153 J	0.191			<0.000380		
	MW-99	Apr-16		**0.0491**	**5.05**				0.00682 J	**4.55**	**0.0193**	**1.20**			<0.00190		
	MW-99	Oct-16		0.00635	**1.14**				0.00128 JB	0.208	0.00150 J	**0.354**			<0.000380		
	MW-99	Apr-17		0.00772	0.297				<0.000540	0.204	0.00116 J	**0.243**			**0.0857**		
	MW-99	Oct-17		0.00865	0.221				<0.000540	0.0585 J	0.000379 J	**0.232**			<0.000380		
	MW-101	Apr-15		**0.0939**	0.0501				0.000581 J	**3.58**	<0.000240	**1.08**			<0.000380		
	MW-101	Oct-15		**0.0560**	0.0382				<0.000540	**2.59**	<0.00240	**1.13**			0.00344 J		
	MW-101	Apr-16		**0.0293**	0.0898				<0.00270	**1.38**	<0.00120	**1.34**			<0.00190		
	MW-101	Oct-16		**0.0783**	0.0366				0.00145 JB	**2.56**	0.000266 J	**1.06**			<0.000380		
	MW-101	Apr-17		**0.0659**	0.0732				<0.000540	**1.18**	<0.000240	**1.18**			<0.000380		
	MW-101	Oct-17		**0.0824**	0.0472				0.0137	**2.99**	0.000670 J	**1.21**			0.00139 J		
	MW-102	Apr-15		0.0100	**6.21**				<0.000540	0.138	0.00344	0.0431			<0.000380		
	MW-102	Oct-15		**0.0123**	0.423				0.00106 J	0.0723 J	0.00263	0.0273			0.000393 J		
	MW-102	Apr-16		**0.0117**	**7.71**				<0.00270	0.222 J	0.00339 J	0.0308			<0.00190		
	MW-102	Oct-16		**0.0132**	0.427				0.00200 B	0.0940 JB	0.00223	0.0214			<0.000380		
	MW-102	Apr-17		**0.0123**	**5.06**				<0.000540	0.201	0.00242	0.0231			0.000673 BJ		
	MW-102	Oct-17		**0.0135**	**5.52**				0.00110 J	**1.12**	0.00254	0.0176			0.000450 J		
	MW-103	Apr-14		0.00270 J	**1.47**				<0.00100 B	<0.0500	<0.000700 B	0.00278 J			<0.00100		
	MW-103	Apr-15		0.00617 J	**9.36**				<0.0110	<0.300	<0.00480	0.0125 J			**0.0607** J		
	MW-103	Apr-16		0.00594 J	**26.8**				<0.00270	<0.0750	0.00148 J	0.0262			<0.00190		
	MW-103	Apr-17		0.00848 J	**8.12**				<0.0108	<0.300	<0.00480	0.00689 J			<0.00760		
	MW-104	Apr-15		0.00041 J	0.0195				<0.000540	0.0945 J	0.000364 J	0.0228			<0.000380		
	MW-104	Apr-15	FD	0.00040 J	0.0196				<0.000540	0.0490 J	<0.000240	0.0217			<0.000380		
	MW-104	Oct-15		0.00150 J	0.0229				0.000591 J	0.0385 J	<0.000240	0.0148			<0.000380		
	MW-104	Oct-15	FD	0.00149 J	0.0218				<0.000540	<0.0150	<0.000240	0.0142			<0.000380		
	MW-104	Apr-16		0.00165 J	0.0343 O1				<0.00270	<0.0750	<0.00120	0.0113 J			<0.00190 J3J6		
	MW-104	Apr-16	FD	0.00195 J	0.0319				<0.00270	<0.0750	<0.00120	0.00995 J			<0.00190		
	MW-104	Oct-16		**0.0164**	0.0293				0.00128 JB	0.0150 JB	<0.000240	0.00278 J			<0.000380		
	MW-104	Oct-16	FD	**0.0194**	0.0290				0.00132 JB	0.0190 JB	<0.000240	0.00277 J			<0.000380		
	MW-104	Apr-17		**0.0551**	0.0438				<0.000540	0.0283 J	<0.000240	0.00109 J			<0.000380		
	MW-104	Apr-17	FD	**0.0570**	0.0451 O1				<0.000540	<0.0150	<0.000240	0.00134 J			0.00166 BJ		
	MW-104	Oct-17		**0.0584**	0.0430				<0.000540	0.0218 J	<0.000240	0.00326 J			<0.000380		
	MW-104	Oct-17	FD	**0.0602**	0.0446				0.000624 J	0.0247 J	<0.000240	0.00416 J			<0.000380		
	MW-105	Apr-15		0.00662	0.108				0.00184 J	**2.55**	0.00279	0.105			<0.000380		
	MW-105	Oct-15		0.00849	0.214				0.00221	**1.07**	0.00562	0.0917			0.0108 J		
	MW-105	Apr-16		**0.0197**	**1.31**				<0.00270	0.286 J	0.00176 J	0.195			0.00947 J		
	MW-105	Oct-16		**0.0121**	**1.15**				0.00154 JB	0.265	0.00118 J	0.117			<0.000380		
	MW-105	Apr-17		**0.0123**	**2.63**				0.00150 J	0.151	0.00143 J	0.0622			0.0357		
	MW-105	Oct-17		**0.0237**	**1.23**				0.00900	0.492	0.00112 J	0.0657			0.000624 J		
	MW-106	Apr-15		0.00491	0.0890				0.00283	**1.16**	**0.0296**	0.147			0.00957		
	MW-106	Oct-15		0.00726	0.0451				0.00385	0.650	0.00907	0.0119			0.00522		
	MW-106	Apr-16		**0.0150**	0.0379				<0.00270	<0.0750	0.00274 J	0.0113 J			<0.00190		
	MW-106	Oct-16		**0.0152**	0.0232				0.00143 JB	0.0422 JB	0.00305 B	0.00515 B			0.000476 J		
	MW-106	Apr-17		**0.0114**	0.0259				<0.000540	<0.0150	0.00133 J	0.00658			0.00216 B		
	MW-106	Oct-17		**0.0105**	0.0263				0.0111	0.119	0.00271	0.00542			0.00731		

Table 4B - Summary of Groundwater Analytical Data - Total Metals

2017 Annual Groundwater Monitoring Report
HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	Total Metals													
				Analyte:	Arsenic	Barium	Boron	Cadmium	Cobalt	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Uranium	Vanadium
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	0.010	1.00	0.75	0.005	0.050	0.050	1.00	0.015	0.200	0.002	0.200	0.050	0.030	0.0631
				CGWSL Source:	USEPA MCL	WQCC HH	WQCC Irr	USEPA MCL	WQCC Irr	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	WQCC HH	NMED TW
Area	**Well ID**	**Date**	**Dup**															
South Refinery	MW-107	Apr-15		**0.0107**	**1.75**				<0.000540	0.787	0.000331 J	0.158			<0.000380 B		
	MW-107	Oct-15		0.00883	**1.55**				0.000625 J	0.368	0.000259 J	0.178			<0.000380		
	MW-107	Apr-16		0.0100	**10.2**				0.00340 J	**1.78**	0.00200 J	**0.454**			<0.00190		
	MW-107	Oct-16		0.00388	**1.30**				0.000930 JB	0.158	0.000595 J	0.0896			<0.000380		
	MW-107	Apr-17		0.00143 J	**1.99**				<0.000540	**5.17**	0.000437 J	0.105			0.0145		
	MW-109	Apr-15		0.00554	0.101				<0.000540	0.154	<0.000240	0.140 J			<0.000380 B		
	MW-109	Oct-15		0.00134 J	0.112				0.000783 J	0.102	0.000334 J	0.127			0.00328		
	MW-109	Apr-16		**0.0331**	0.299				<0.00270	0.677	0.00147 J	**0.624**			<0.00190		
	MW-109	Oct-16		0.00269	0.0617				<0.000540	0.0900 J	<0.000240	0.0821			<0.000380		
	MW-109	Apr-17		0.00176 J	0.0479				<0.000540	0.0422 J	<0.000240	0.0425			<0.000380		
	MW-109	Oct-17		0.00146 J	0.0605				0.000611 J	0.0514 J	<0.000240	0.0413			0.000784 J		
	MW-110	Apr-15		0.00924	0.0617				0.000649 J	0.379	0.000690 J	**0.612**			<0.000380 B		
	MW-110	Oct-15		**0.0130**	0.0765				0.000557 J	0.321	0.000523 J	**0.882**			<0.000380		
	MW-110	Apr-16		**0.0854**	0.300				0.00399 J	**2.77**	0.00565 J	**6.26**			<0.00190		
	MW-110	Oct-16		**0.0344**	0.0480				<0.000540	0.730	0.000412 J	**1.67**			<0.000380		
	MW-110	Apr-17		0.00529	0.0571				<0.000540	0.229	<0.000240	**0.510**			<0.000380		
	MW-110	Oct-17		**0.0384**	0.0483				<0.000540	0.913	<0.000240	**1.78**			<0.000380		
	RA-313	Apr-14															
	RA-313	Apr-15															
	RA-313	Apr-16															
	RA-313	Apr-17															
	RW-4	Apr-15		0.00183 J	0.0521				<0.000540	0.0744 J	0.000665 J	0.104			<0.000380		
	RW-4R	Apr-16		0.00440 J	0.0623				<0.00270	0.181 J	<0.00120	0.0728			<0.00190		
	RW-4R	Apr-17		0.00340	0.0732				<0.000540	0.192	0.000419 J	0.0261			<0.000380		
	RW-5R	Apr-15		0.00136 J	0.0259				<0.000540	0.0952 J	0.000336 J	0.0177			<0.000380		
	RW-5R	Apr-16		0.00183 J	0.0282				<0.00270	<0.0750	<0.00120	0.0191 J			<0.00190		
	RW-6	Apr-15		**0.0332**	**1.66**				<0.000540	**13.8**	0.000574 J	**0.280**			<0.000380		
	RW-6R	Apr-16		**0.0712**	0.480				<0.00270	**3.70**	<0.00120	**0.553**			<0.00190		
	RW-15C	Apr-17		**0.0274**	0.885				<0.000540	0.316	0.0116	**0.358**			0.000461 BJ		
South RO Reject Field	MW-114	Apr-15		0.00279	0.0165				0.000896 J	0.361	0.000317 J	**0.927**			<0.000380 B		
	MW-114	Oct-15		0.00355	0.0134				<0.000540	0.0486 J	<0.000240	**0.905**			0.000757 J		
	MW-114	Apr-16		0.00344 J	0.0155 J				<0.00270	<0.0750	<0.00120	**1.15**			<0.00190		
	MW-114	Oct-16		0.00327	0.0119				0.00115 JB	<0.0150	0.000617 J	**0.899**			0.00839		
	MW-114	Apr-17		0.00262	0.0138				<0.000540	<0.0150	<0.000240	**0.944**			0.00129 J		
	MW-114	Oct-17		0.00262	0.0129				<0.000540	0.0208 J	<0.000240	**0.873**			0.0179		
	MW-115	Apr-15		0.00697 J	0.0118				<0.000540	0.0684 J	<0.000240	0.120			<0.000380 B		
	MW-115	Oct-15		0.00761	0.0119				0.000763 J	0.0367 J	<0.000240	0.124			0.000590 J		
	MW-115	Apr-16		**0.0230**	0.0415				<0.00270	0.134 J	0.00135 J	**0.308**			0.00217 J		
	MW-115	Oct-16		0.00838	0.00908				0.000944 JB	0.116 B	0.000381 J	0.146			<0.000380		
	MW-115	Apr-17		0.00336	0.00809				<0.000540	0.0381 J	<0.000240	0.0455			<0.000380		
	MW-115	Oct-17		0.00342	0.00796				<0.000540	0.0264 J	<0.000240	0.0553			0.000723 J		
	MW-116	Apr-15		0.00521	0.00931				<0.000540	<0.0150	<0.000240	0.00454 J			<0.000380 B		
	MW-116	Oct-15		0.00825	0.0434				0.00542	**2.45**	0.00183 J	0.0815			0.000668 J		
	MW-116	Apr-16		0.00422 J	0.0231 J				<0.00270	0.800	<0.00120	0.0396			<0.00190		
	MW-116	Oct-16		0.00720	0.0118				0.000922 JB	0.119	0.000397 J	0.0506			0.000738 J		
	MW-116	Apr-17		0.00357	0.0121				0.000560 J	0.224	0.000542 J	0.0545			0.00488		
	MW-116	Oct-17		0.00521	0.0178				0.00151 J	0.598	0.000647 J	0.0402			0.00741		
TEL	MW-49	Apr-15		0.00433	0.0514				0.00147 J	0.530	0.00133 J	**0.269**	<0.000049	0.00842	<0.000380		0.00195 J
	MW-49	Oct-15		<0.00025 B	0.0429				<0.000540	0.0195 J	0.000453 J	**0.209**	<0.000049	0.00740	0.0117		0.00145 J
	MW-49	Apr-16		0.00489 J	0.0439	0.695	<0.00500	<0.00130	<0.00270	0.0770 J	<0.00120	**0.269**	<0.000049	0.00686 J	<0.00190	<0.00165	0.00245 J
	MW-49	Oct-16		0.00505	0.0449	0.642	<0.000160	<0.000260	0.000766 JB	0.127	0.000423 J	**0.223**	<0.000049 J6	0.00867	<0.000380	<0.00033	0.000357 J
	MW-49	Apr-17		0.00426	0.0461	0.733	<0.000160	<0.000260	<0.000540	0.100	0.000499 J	**0.250**	<0.000049	0.00809	<0.000380	<0.00033	0.000515 J
	MW-49	Oct-17		0.00467	0.0480	0.747	<0.000160	<0.000260	0.000609 J	0.128	0.000563 J	0.146	<0.000049	0.0152	<0.000380	<0.00033	0.000321 J
	TEL-1	Apr-15		0.00537	0.0119				0.00501	0.0741 J	<0.000240	0.0523			<0.000380		
	TEL-1	Oct-15		<0.00025 B	<0.000360 B				0.00318	0.0506 J	<0.000240	0.103			0.00798 J		
	TEL-1	Apr-16		0.00407 J	0.0126 J				0.0269	0.104 J	<0.00120	0.199			<0.00190		
	TEL-1	Oct-16		0.00256	0.00987				0.00911 B	0.0829 J	0.000300 J	**0.216**			<0.000380		
	TEL-1	Apr-17		0.00520	0.0116				0.0260	0.382	<0.000240	0.117			<0.000380		
	TEL-1	Oct-17		**0.0139**	0.0121				0.0196	0.258	0.000341 J	0.0700			<0.000380		
	TEL-2	Apr-15		**0.0132**	0.185				0.00134 J	0.0326 J	0.00276	0.0101			0.000383 J		
	TEL-2	Oct-15		**0.0118**	0.153				0.00178 J	0.0291 J	0.00242	0.00753			0.00679		
	TEL-2	Apr-16		**0.0101**	0.127				0.00303 J	<0.0750	0.00131 J	0.0212 J			<0.00190		
	TEL-2	Oct-16		**0.0147**	0.0773				0.00209 B	0.0279 J	0.00145 J	0.0144			0.000618 J		
	TEL-2	Apr-17		**0.0123**	0.162				0.00307	0.0749 J	0.00143 J	0.0149			0.000558 J		
	TEL-2	Oct-17		**0.0140**	0.0942				0.00457	0.0896 J	0.00111 J	0.0166			0.000473 J		
	TEL-3	Apr-15		0.00354	0.0145				0.00466	0.0738 J	0.000599 J	0.00827			<0.000380		
	TEL-3	Oct-15		<0.00025 B	<0.000360 B				0.00613	0.0417 J	0.000435 J	0.0139			0.00966		
	TEL-3	Apr-16		0.00876 J	0.0208 J				0.0269	0.171 J	<0.00120	0.00661 J			<0.00190		
	TEL-3	Oct-16		0.00126 J	0.0156				**0.138**	0.456	0.000368 J	0.0133			<0.000380		
	TEL-3	Apr-17		0.00204	0.0161				**0.156**	0.473	0.000250 J	0.0121			<0.000380		
	TEL-4	Apr-15		0.00613	0.0244				**0.419**	**1.57**	0.00227	**0.872**			<0.000380		
	TEL-4	Apr-15	FD	0.00598	0.0233				**0.599**	**2.41**	0.00262	**0.860**			0.000420 J		
	TEL-4	Oct-15		**0.0106**	0.0338				**0.315**	0.107	0.00255	**0.406**			0.0201		
	TEL-4	Oct-15	FD	0.00929	0.0326				**0.281**	0.107	0.00206	**0.412**			0.0135		
	TEL-4	Apr-16		0.00710 J	0.0247 J				**0.282**	0.331 J	0.00330 J	**0.751**			<0.00190		
	TEL-4	Apr-16	FD	0.00736 J	0.0245 J				**0.306**	0.628	0.00316 J	**0.750**			<0.00190		
	TEL-4	Oct-16		0.00784	0.0190				**0.688**	**1.93**	0.00263	**0.508**			0.000883 J		
	TEL-4	Oct-16	FD	0.00700	0.0199				**0.389**	**1.07**	0.00241	**0.501**			<0.000380		
	TEL-4	Apr-17		0.00723	0.0185				**0.790**	**1.45**	0.00173 J	**0.973**			0.000535 J		
	TEL-4	Apr-17	FD	0.00707	0.0180				**0.443**	0.105	0.00110 J	**0.963**			<0.000380		
	TEL-4	Oct-17		0.00750	0.0178				**0.236**	0.952	0.00118 J	**1.05**			0.000561 J		
	TEL-4	Oct-17	FD	0.00731	0.0172				**0.273**	**1.03**	0.00125 J	**1.04**			0.000454 J		
TMD	MW-8	Apr-14		0.00884 J	0.0114				0.0212	<0.100	<0.00140	**0.557**			0.0237		
	MW-8	Apr-15		**0.0108**	0.0107				**0.234**	0.779	0.000470 J	**0.507**			0.0188		
	MW-8	Apr-16		0.00885 J	0.0117 J				**0.107**	0.397 J	<0.00120	**0.538**			0.00622 J		
	MW-8	Apr-17		0.00678	0.0102				0.0259	0.111	<0.000240	**0.467**			0.00647		
	MW-16	Apr-14		0.00470 J	0.0151				<0.00200	<0.100	<0.00140	**0.244**			0.00322 J		
	MW-16	Apr-15		0.00500 J	0.0174 J				<0.00270	<0.0750	<0.00120	0.0950 J			0.00213 J		
	MW-16	Apr-17		0.00498	0.0127				<0.000540	<0.0150	<0.000240	0.00510			0.0106		
	MW-20	Apr-14		0.00750 J	0.00905 J				<0.00200	<0.100	<0.00140	0.0906			0.0179		
	MW-20	Apr-14	FD	0.00865 J	0.0103				<0.00200	<0.100	<0.00140	0.0800			0.0170		
	MW-20	Apr-15		0.00621	0.0104				<0.000540	0.0746 J	<0.000240	0.00743			0.0289		
	MW-20	Apr-16		0.00628 J	0.0113 J				<0.00270	<0.0750	<0.00120	0.00814 J			0.0305		
	MW-20	Apr-17		0.00575	0.00980				<0.000540	<0.0150	<0.000240	0.00756			0.0188		
	MW-21	Apr-15		0.00656 J	0.0100 J				<0.00270	<0.0750	<0.00120	**0.323** J			0.0258		
	MW-21	Oct-15		0.00635	0.00939				<0.000540	<0.0150	<0.000240	**0.658**			0.0290		
	MW-21	Apr-16		0.00607 J	0.0100 J				<0.00270	<0.0750	<0.00120	**0.354**			0.0327		
	MW-21	Oct-16		0.00613	0.00790				<0.000540	<0.0150	<0.000240	**0.616**			0.0287		
	MW-21	Apr-17		0.00530	0.00817				<0.000540	<0.0150	<0.000240	**0.204**			0.0258		
	MW-21	Oct-17		0.00545	0.00860				0.000607 J	0.0290 J	<0.000240	**0.607**			0.0314		
	MW-25	Apr-14		0.00502 J	0.0265				<0.00500	<0.250	<0.00350	**1.09**			<0.00500		
	MW-25	Apr-15		0.00984 J	0.0187 J				<0.00270	<0.0750	<0.00120	**0.582** J			0.0204		
	MW-25	Apr-16		0.00582 J	0.0148 J				0.00332 J	<0.0750	<0.00120	**0.889**			<0.00190		
	MW-25	Apr-17		0.00300	0.0121				0.000842 J	0.0157 J	<0.000240	**0.507** V			0.00254		

Table 4B - Summary of Groundwater Analytical Data - Total Metals

2017 Annual Groundwater Monitoring Report
HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	Total Metals													
				Analyte:	Arsenic	Barium	Boron	Cadmium	Cobalt	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Uranium	Vanadium
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	0.010	1.00	0.75	0.005	0.050	0.050	1.00	0.015	0.200	0.002	0.200	0.050	0.030	0.0631
				CGWSL Source:	USEPA MCL	WQCC HH	WQCC Irr	USEPA MCL	WQCC Irr	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	WQCC HH	NMED TW
Area	**Well ID**	**Date**	**Dup**															
TMD	MW-26	Apr-14		0.00413 J	0.00878 J				<0.00200	<0.100	<0.00140	**0.731**			0.0241		
	MW-26	Apr-15		0.00351	0.00944				<0.000540	0.0811 J	<0.000240	**0.613**			0.0197		
	MW-26	Apr-16		0.00384 J	0.0101 J				<0.00270	<0.0750	<0.00120	**0.847**			0.0194		
	MW-26	Apr-17		0.00335	0.00916				<0.000540	<0.0150	<0.000240	**0.560**			0.0232		
	MW-27	Apr-14		0.00249 J	0.0166				<0.00100	<0.00500	<0.000700	0.00554			0.0192		
	MW-27	Apr-15		0.00239	0.0235				<0.000540	<0.0150	<0.000240	0.0318			0.0180		
	MW-27	Apr-16		0.00228 J	0.0179 J				<0.00270	<0.0750	<0.00120	0.0186 J			0.0127		
	MW-27	Apr-17		0.00216	0.0153				<0.000540	<0.0150	<0.000240	0.0158			0.00706		
	MW-46R	Nov-14		0.00420	0.0240				0.00280	**1.10**	0.000830 J	0.140			0.00340		
	MW-46R	Apr-15		0.00307	0.0188				0.00106 J	0.297	0.000608 J	0.116			0.00116 J		
	MW-46R	Apr-16		0.00317 J	0.0140 J				<0.00270	0.159 J	<0.00120	0.125			<0.00190		
	MW-46R	Oct-16		0.00314	0.0150				0.000894 JB	0.196	0.000459 J	0.137			0.00154 J		
	MW-46R	Apr-17		0.00266	0.0134				<0.000540	0.167	0.000538 J	0.162			0.00199 J		
	MW-46R	Oct-17		0.00262	0.0130				<0.000540	0.0344 J	0.000354 J	0.124			0.00135 J		
	MW-68	Apr-14		0.00325 J	0.0142				<0.00200	<0.100	<0.00140	<0.00500			0.0248		
	MW-68	Apr-15		0.00292	0.0159				<0.000540	0.0594 J	0.000524 J	0.00131 J			0.0123		
	MW-68	Apr-16		0.00314 J	0.0133 J				<0.00270	<0.0750	<0.00120	0.0393			0.00339 J		
	MW-68	Apr-17		0.00244	0.0107				<0.000540	<0.0150	<0.000240	0.0824			0.00275		
	MW-71	Apr-14		0.00458 J	0.00860				<0.00100	<0.0500	<0.000700	<0.00250	<0.000040	0.00123 J	0.0452		0.0252
	MW-71	Apr-15		0.00411	0.00897				0.000581 J	0.0373 J	<0.000240	0.000898 J	<0.000049	0.00134 J	0.0349		0.0229
	MW-71	Apr-16		0.00436 J	0.0103 J	0.689 V	<0.00500	<0.00130	<0.00270	<0.0750	<0.00120	<0.00125	<0.000049	<0.00175	0.0370	**0.0605**	0.0257
	MW-71	Apr-17		0.00387	0.00845	0.538	<0.000160	<0.000260	<0.000540	<0.0150	<0.000240	0.000841 J	<0.000049	0.000916 J	0.0324	**0.0587**	0.0248
	MW-89	Apr-14		**0.0128**	0.0140				<0.00100	0.195 J	<0.000700	**0.537**			0.0188		
	MW-89	Apr-15		0.00900 J	0.0144 J				<0.00270	0.120 J	<0.00120	0.0710 J			0.0275		
	MW-89	Apr-16		0.00839 J	0.0155 J				<0.00270	0.228 J	<0.00120	0.0788			0.0311	<0.00100	
	MW-89	Apr-17		0.00657	0.0145				0.00102 J	<0.0150	<0.000240	0.0420			**0.0534**		
	NP-1	Apr-15															
	NP-1	Oct-15															
	NP-1	Apr-16															
	NP-1	Oct-16															
	NP-1	Apr-17															
	NP-1	Oct-17															
	NP-2	Apr-13															
	NP-6	Apr-13															
	NP-6	Apr-15															
	NP-6	Apr-17															
Up-Gradient	UG-1	Apr-14		0.00158 J	0.0128				0.00159 J	0.0832 J	<0.000700	0.00575	<0.000040	0.00121 J	0.00728		0.0135
	UG-1	Apr-15		0.00113 J	0.0137				0.00242	0.0262 J	<0.000240	0.000764 J	<0.000049	<0.000350 B	0.0103		0.0105
	UG-1	Apr-16		<0.00125	0.0136 J	0.574	<0.00500	<0.00130	<0.00270	<0.0750	<0.00120	<0.00125	<0.000049	<0.00175	0.0140	0.0252 J	0.0107 J
	UG-1	Apr-17		0.00106 J	0.0135	0.548	<0.000160	<0.000260	0.000572 J	0.0561 J	<0.000240	0.00689	<0.000049	0.00145 J	0.0100	0.0262	0.0118
	UG-2	Apr-14		0.00385 J	0.0167				<0.00100	0.673	<0.000700	**0.488**	<0.000040	0.0256	0.00209 J		0.00820
	UG-2	Apr-15		0.00205	0.0153				<0.000540	<0.0150	<0.000240	0.0110	<0.000049	0.00527	<0.000380 B		0.0115
	UG-2	Apr-16		0.00202 J	0.0150 J	0.343	<0.00500	<0.00130	<0.00270	<0.0750	<0.00120	0.0147	<0.000049	0.00905	0.00321 J	0.0156 J	0.0123 J
	UG-2	Apr-17		0.00197 J	0.0154	0.303	<0.000160	<0.000260	<0.000540	0.0172 J	<0.000240	0.0154	<0.000049	0.00271	0.00572	0.0153	0.0154
	UG-3R	Apr-14		0.00184 J	0.0170				<0.00100	<0.0500	<0.000700	<0.00250	<0.000049	<0.00100	0.00534		0.0109
	UG-3R	Apr-14	FD	0.00167 J	0.0163				<0.00100	<0.0500	<0.000700	<0.00250	<0.000049	<0.00100	0.00640		0.0101
	UG-3R	Apr-15		0.00258	0.0595				0.00368	**2.05**	0.000626 J	0.0725	<0.000049	<0.000350 B	<0.000380 B		0.0135
	UG-3R	Apr-16		0.00182 J	0.0198 J	0.295	<0.00500	<0.00130	<0.00270	<0.0750	<0.00120	0.00141 J	<0.000049	0.00188 J	0.00386 J	0.0122 J	0.0104 J
	UG-3R	Apr-17		0.00161 J	0.0185	0.256	<0.000160	0.000465 J	<0.000540	0.0316 J	<0.000240	0.00182 J	<0.000049	0.00225	0.00325	0.0129	0.00961
	UG-4	Apr-16		<0.00125	0.0184 J	**1.19**	<0.00500	<0.00130	<0.00270	<0.0750	<0.00120	0.00752 J	<0.000049	0.00203 J	0.00634 J	**0.0364** J	0.00749 J
	UG-4	Apr-17		0.00111 J	0.0164	**1.06**	<0.000160	<0.000260	<0.000540	0.0249 J	<0.000240	0.00935	<0.000049	0.00143 J	0.0143	**0.0361**	0.00739

Definitions

X	Reported concentration, X, exceeds the CGWSL.
X	Analyte detected above the detection limit at a concentration equal to X.
<x	Analyte not detected at detection limit equal to x.
<x	Analyte not detected at detection limit equal to x, but x exceeds the CGWSL.
	Blank cell indicates a sample was collected from the well during the indicated sampling event, but the analyte was not analyzed.

Abbreviations

CGWSL	Critical Groundwater Screening Level (see Table 3)
CGWSL Source	Source for CGWSL value (see Table 3)
Dup	Duplicate sample
FD	Field duplicate sample
mg/L	Milligrams per Liter
NMED TW	NMED Risk Assessment Guidance for Site Investigations and Remediation, March 2017, Table A-1, Tap Water Screening Level
WQCC Dom	NMED Groundwater standard for domestic exposure taken from 20.6.2.3103.B NMAC
WQCC HH	NMED Groundwater standard for human health exposure, 20.6.2.3103.A NMAC
WQCC Irr	NMED Groundwater standard for irrigation exposure, 20.6.2.3103.C NMAC
USEPA MCL	United States Environmental Protection Agency Maximum Contaminant Level, "Regional Screening Levels (RSL) Summary Table", November 2017

Lab Footnote

B	Analyte was also detected in the associated method blank.
J	Indicates an estimated value.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Table 4C - Summary of Groundwater Analytical Data - Water Quality Parameters and Cyanide

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

		Analyte Group:		Water Quality Parameters								Cyanide
		Analyte:		Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite	Cyanide
		Units:		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		CGWSL:		---	250	1.60	---	---	600	1,000	10.0	0.200
		CGWSL Source:			WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL	USEPA MCL
Area	**Well ID**	**Date**	**Dup**									
Cross-Gradient	KWB-13	Apr-14		418	158	0.580	0.724	143	**1,820**	**3,750**	**14.6**	<0.00500 H
	KWB-13	Apr-15		474	**788**	0.704	6.65	148	**1,970**	**3,060**	**15.3**	<0.00180
	KWB-13	Apr-16		626	148	0.630	2.26 J	258	**2,500**	**3,720**	**13.7**	<0.00120
	KWB-13	Apr-17		526	180	0.803	1.18	200	**2,390**	**3,600**	**16.1**	<0.00180
	MW-17	Apr-14		395	174	1.19	2.31	72.2	**1,200**	**2,340**	2.19	
	NP-5	Apr-13		465	**413**	**2.58**	<0.400	253	**3,090**	**5,980**	2.33	
	NP-5	Apr-15		448	**993**	**2.13**	0.484 J	209	**3,030**	**6,060** J	1.38	
	NP-5	Apr-17		514	**444**	**1.63**	0.422 J	212	**3,770**	**4,810**	2.22	
	RA-3156	Nov-13		537	238	0.208	3.06	169	**1,450**	**3,390**	9.09	
	RA-3156	Apr-14		<0.500	**278**	0.299	2.67		**1,800**	**3,280**	7.89	
	RA-3156	Apr-16		370	**1,140**	0.478	3.67 J	695	**1,070**	**3,050**	<0.197	
	RA-3156	Apr-17		337	**568**	0.668	2.41	292	**1,080**	**2,400**	0.330 J	
	MW-136	Oct-15		706	**265**	1.56	3.20	144	**2,740**	**4,020**	**22.1**	<0.00180
	MW-136	Apr-16		699	**336**	1.23	2.95 J	149	**2,870**	**4,250**	9.76	<0.00120
	MW-136	Oct-16		651	**355**	**1.66**	2.81	140	**2,530**	**4,400**	**12.4**	0.00188 J
	MW-136	Apr-17		643	**401**	**1.81**	2.81	140	**2,370**	**4,360**	**17.1**	<0.00180
	MW-136	Oct-17		671	**357**	1.50	2.61	148	**2,470**	**3,850**	**10.5**	<0.00180
Evaporation Ponds	MW-1R	Apr-14		540	**1,560**	0.567	4.27	1010	**1,900**	**5,740**	<0.150	
	MW-1R	Apr-15		765 J	**1,970**	0.821	4.52 J	1080 J	**2,400**	**5,020**	<0.0200	
	MW-1R	Apr-16		1030	**3,330**	0.603 J6	6.54	2090	**3,320**	**10,100**	<0.197	
	MW-1R	Apr-17		763	**2,880**	0.736	5.11	1830	**3,010**	**9,180**	0.402 J	
	MW-2A	Apr-15		944	**6,730**	1.06	7.71 J	4780	**4,830**	**14,200**	0.0404 J	
	MW-2A	Oct-15		677	**3,870**	**2.14**	5.85	2590	**3,670**	**10,500**	0.0390 J	
	MW-2A	Apr-16		933	**8,400**	1.53	7.35	5280	**7,640**	**20,700**	0.501 J	
	MW-2A	Oct-16		598	**3,290**	**3.43**	4.91	2270	**3,450**	**9,660**	0.122	
	MW-2A	Apr-17		720	**6,650**	**2.19**	6.21	4310	**6,010**	**19,000**	0.0220 J	
	MW-2A	Oct-17		323	**1,980**	**3.25**	3.65	1,350	**2,500**	**6,060**	0.0340 J	
	MW-3	Apr-15		839	33.2	**2.10**	6.16	1850	25.0	**12,200**	**24.5**	
	MW-3	Apr-15	FD	927	**3,270**	1.60	6.80	1790	**3,000**	**17,800**	**20.2**	
	MW-3	Oct-15		613	**1,950**	**1.99**	7.17	1220	**2,810**	**6,140**	0.182	
	MW-3	Oct-15	FD	636	**1,920**	**1.84**	7.11	1210	**2,730**	**6,480**	0.0580 J	
	MW-3	Apr-16		728	**1,360**	**1.87**	5.64	1160	**2,640**	**6,260**	0.404 J	
	MW-3	Apr-16	FD	690	**1,290**	**1.87**	5.47	1140	**2,530**	**6,240**	0.231 J	
	MW-3	Oct-16		574	**1,290**	**2.21**	5.69	865	**2,380**	**5,180**	0.0520 J	
	MW-3	Oct-16	FD	591	**1,270**	**2.20**	5.85	854	**2,380**	**5,040**	0.0490 J	
	MW-3	Apr-17		603	**1,330**	**1.94**	4.57	944	**2,480**	**5,080**	<0.197	
	MW-3	Apr-17	FD	599	**1,330**	**1.98**	4.57	876	**2,380**	**5,190**	<0.0197	
	MW-3	Oct-17		549	**1,340**	**2.39**	6.28	829	**2,470**	**4,640**	<0.0197	
	MW-3	Oct-17	FD	578	**1,290**	**1.99**	6.35	803	**2,430**	**4,660**	<0.0197	
	MW-4A	Apr-15		660	**1,560**	1.29	4.12 J	1080	**2,850**	**7,470**	<0.0200	
	MW-4A	Oct-15		394	**1,380**	**1.92**	5.23	1010	**2,110**	**4,290**	0.0530 J	
	MW-4A	Apr-16		507	**1,860**	**1.78**	4.03 J	1060	**2,990**	**5,090**	<0.197	
	MW-4A	Oct-16		393	**1,510**	**2.06**	4.06	890	**1,970**	**4,610**	0.0640 J	
	MW-4A	Apr-17		417	**1,480**	**1.93**	3.51	919	**2,070**	**4,550**	<0.0197	
	MW-4A	Oct-17		434	**1,470**	**1.85**	5.42	913	**2,050**	**4,500**	<0.0197	
	MW-4B	Apr-13		371	**928**	0.870	3.64	556	**1,330**	**3,660**	<1.00	
	MW-4B	Apr-15		367	**1,110**	0.963	2.32	696	**1,340**	**3,410** J	<0.0200	
	MW-4B	Apr-17		360	**1,330**	0.985	2.55	758	**1,410**	**3,690**	<0.0197	
	MW-5A	Apr-15		519	**4,100**	1.53	6.15 J	4220	**9,370**	**17,000**	<0.0200	
	MW-5A	Oct-15		513	**4,760**	**1.78**	7.27	4500	**8,480**	**17,800**	0.0450 J	
	MW-5A	Apr-16		472	**3,010**	**3.11**	7.39	2990	**5,610**	**13,700**	1.72	
	MW-5A	Oct-16		500	**3,500**	**3.43**	6.34	3880	**7,950**	**16,300**	0.0440 JJ6	
	MW-5A	Apr-17		439	**3,010**	**2.92**	7.27	3360	**5,840**	**12,500**	0.212	
	MW-5A	Oct-17		436	**2,580**	**2.83**	8.93	2,440	**4,960**	**9,500**	<0.0197	
	MW-5B	Apr-13		473	**1,840**	**2.20**	10.8	1600	**2,950**	**7,500**	2.93	
	MW-5B	Apr-15		482	**1,590**	1.41	9.01	1580	**3,510**	**5,980**	<0.0200	
	MW-5B	Apr-17		420	**1,560**	**1.73**	9.18	1650	**2,590**	**6,290**	0.0210 J	
	MW-5C	Apr-13		420	**639**	1.20	4.21	446	**1,580**	**3,620**	<1.00	
	MW-5C	Apr-15		427	**585**	0.910	3.97 J	485	**2,020**	**3,290**	<0.0200	
	MW-5C	Apr-17		383	**576**	0.971	3.90	500	**1,740**	**3,110**	<0.0197	
	MW-6A	Apr-14		762	**1,620**	1.31	2.44	998	**1,980**	**5,600**	0.245 J	
	MW-6A	Apr-15		809	**2,010**	**1.85**	2.14 J	1090	**2,240**	**6,500**	0.875	
	MW-6A	Apr-16		449	**1,300**	1.52	1.74 J	835	**2,360**	**4,290**	0.461 J	
	MW-6A	Apr-17		353	**904**	**1.62**	1.38	770	**2,080**	**4,660**	<0.197	
	MW-6B	Mar-13		530	**1,370**	0.533	4.31	710	**1,640**	**4,480**	<1.00	
	MW-6B	Mar-13	FD	478	**1,420**	0.814	4.87	753	**1,690**	**4,510**	<1.00	
	MW-6B	Apr-15		568	**1,740**	0.669 J	5.09	873	**2,280**	**4,760**	<0.0200	
	MW-6B	Apr-17		418	**1,250**	0.694	3.97	738	**1,730**	**4,150**	<0.197	
	MW-7A	Apr-15		609	**3,080**	0.693	4.18	2060	**3,620**	**9,840**	<0.0200	
	MW-7A	Apr-15	FD	593	**3,100**	0.996	4.21	2060	**3,190**	**9,300**	0.0262 J	
	MW-7A	Oct-15		403	**2,470**	1.08	3.96	1590	**4,020**	**7,100**	<0.0197	
	MW-7A	Oct-15	FD	404	**2,230**	1.12	3.95	1690	**3,150**	**7,180**	<0.0197	
	MW-7A	Apr-16		459	**2,500**	1.24	4.18 J	1810	**3,360**	**7,620**	<0.197	
	MW-7A	Apr-16	FD	423	**2,550**	1.24	3.94 J	1690	**3,710**	**7,540**	<0.197 J6	
	MW-7A	Oct-16		406	**2,790**	1.49	4.22	1600	**3,420**	**7,460**	0.0260 J	
	MW-7A	Oct-16	FD	395	**2,240**	1.45	4.01	1550 O1V	**2,790**	**7,340**	0.0470 J	
	MW-7A	Apr-17		371	**2,240**	1.31	3.79	2000	**2,700**	**6,690**	0.0360 J	
	MW-7A	Apr-17	FD	434	**2,230**	1.07	3.89 O1	1780	**2,930**	**7,810**	<0.0197	
	MW-7A	Oct-17		366	**2,300**	1.23	3.97	1,550	**2,990**	**7,100**	<0.0197	
	MW-7A	Oct-17	FD	386	**2,520**	1.24	3.94	1,650	**3,290**	**6,820**	<0.0197	
	MW-7B	Apr-13		545	**1,030**	**3.09**	6.66	540	**1,800**	**4,280**	<1.00	
	MW-7B	Apr-15		556	**1,060**	0.795	6.27	672	**2,200**	**4,640**	<0.0200	
	MW-7B	Apr-17		530	**1,060**	0.966	6.71	652	**1,750**	**4,720**	0.0670 J	
	MW-10	Apr-15		466	**1,380**	0.919	3.54 J	941	**2,110**	**5,030**	<0.0200	
	MW-10	Oct-15		518	**1,580**	0.783	3.68	1080	**2,620**	**5,340**	0.280 J	
	MW-10	Apr-16		523	**1,530**	0.826	3.83 J	1110	**2,220**	**5,120**	<0.197	
	MW-10	Oct-16		647	**2,100**	1.18	3.54	1180	**3,740**	**6,550**	0.0970 J	
	MW-10	Apr-17		460	**1,460**	0.825	3.41	996	**2,030**	**4,850**	**593**	
	MW-10	Oct-17		475	**1,370**	0.808	3.34	973	**2,060**	**4,830**	<0.0197	
	MW-11A	Apr-15		1630	**11,800**	0.0639 J	19.0 J	6090	**2,910**	**24,900** J	1.47	
	MW-11A	Oct-15		1200	**9,930**	0.152	20.3	5260	**3,780**	**18,300**	0.265	
	MW-11A	Apr-16		1280 V	**9,440**	0.414 J6	19.0	5150	**3,510**	**18,600**	0.715 JJ6	
	MW-11A	Oct-16		1230	**9,180**	0.752	20.8	4850	**3,250**	**16,600**	0.0480 JB	
	MW-11A	Apr-17		1280	**10,200**	0.683	20.1	5130	**3,290**	**19,500**	0.305 J	
	MW-11A	Oct-17		1,130	**9,650**	0.340	19.8	4,460	**3,510**	**17,900**	<0.0197	
	MW-11B	Mar-13		855	**6,560**	<0.500	35.2	3340	**3,030**	**15,100**	<1.00	
	MW-11B	Apr-15		1070	**6,000**	0.562	36.6	4040	**3,860**	**12,700**	<0.0200	
	MW-11B	Apr-17		979	**6,050**	0.825	35.2	3660	**2,890**	**14,000**	<0.197	
	MW-12	Apr-14		728	**2,460**	0.685	5.57	1280	**2,490**	**7,960**	4.10	
	MW-13	Apr-14		682	**1,780**	0.354	5.56	914	**2,180**	**6,520**	0.463 J	
	MW-15	Apr-14		849	**2,960**	**2.33**	5.68	1420	**1,770**	**19,900**	**40.2**	
	MW-15	Apr-15		565	**2,150**	**2.12**	5.01	1300	**2,000**	**5,470**	**16.0**	
	MW-15	Apr-16		487	**611**	**2.01**	5.53	795	**1,240**	**4,720**	3.99	
	MW-15	Apr-17		285	**612**	1.58	4.31	447	**1,100**	**2,640**	0.485 J	

Table 4C - Summary of Groundwater Analytical Data - Water Quality Parameters and Cyanide

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

		Analyte Group:		Water Quality Parameters								Cyanide
		Analyte:		Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite	Cyanide
		Units:		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		CGWSL:		---	250	1.60	---	---	600	1,000	10.0	0.200
		CGWSL Source:			WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL	USEPA MCL
Area	**Well ID**	**Date**	**Dup**									
Evaporation Ponds	MW-18A	Apr-15		718	**11,600**	**6.14**	56.7	7290	**9,490**	**32,600**	2.18	<0.00180
	MW-18A	Oct-15		711	**9,930**	**5.43**	51.8	6250	**10,600**	**27,400**	0.146	<0.00180
	MW-18A	Apr-16		704	**6,820**	**2.83**	46.6	4730	**6,360**	**20,500**	0.371 J	<0.00180
	MW-18A	Oct-16		662	**7,270**	**3.22**	42.4	4740	**6,870**	**20,200**	0.0300 J	<0.00180
	MW-18A	Apr-17		623	**5,790**	1.46	38.8	3940	**6,330**	**17,100**	0.0220 J	<0.00180
	MW-18A	Oct-17		713	**7,090**	1.60	40.7	4,020	**7,410**	**15,100**	<0.0197	<0.00180
	MW-18B	Apr-13		592	**803**	1.10	6.32	474	**1,870**	**4,060**	<1.00	
	MW-18B	Apr-15		581	**763**	0.931	5.91	460	**1,840**	**4,410**	0.0280 J	
	MW-18B	Apr-17		576	**860**	0.797	5.91	481	**2,070**	**4,080**	<0.0197	
	MW-22A	Apr-15		549	**2,150**	0.758	3.79 J	1450	**2,500**	**7,270**	<0.0200	
	MW-22A	Apr-15	FD	494	**2,020**	0.682	3.16 J	1240	**2,590**	**6,630**	<0.0200	
	MW-22A	Oct-15		529	**1,980**	0.621	3.64	1480	**2,660**	**6,330**	0.358 J	
	MW-22A	Oct-15	FD	527	**1,970**	0.610	3.65	1640	**2,650**	**6,090**	0.441 J	
	MW-22A	Apr-16		548	**1,890**	0.645	4.08 J	1440	**2,340**	**6,190**	<0.197	
	MW-22A	Apr-16	FD	541	**1,900**	0.660	4.04 J	1440	**2,560**	**6,160**	<0.197	
	MW-22A	Oct-16		570	**1,940**	0.752	3.96	1490	**2,380**	**6,970**	0.219 B	
	MW-22A	Oct-16	FD	563	**2,030**	0.733	3.88	1450	**2,400**	**7,220**	0.0490 JB	
	MW-22A	Apr-17		493	**2,090**	0.632	3.71	1350	**2,530**	**6,630**	<0.197	
	MW-22A	Apr-17	FD	503	**1,860**	0.743	3.73	1340	**2,160**	**4,210**	<0.0197	
	MW-22A	Oct-17		491	**1,990**	0.614	3.49	1,380	**2,450**	**6,010**	<0.0197	
	MW-22A	Oct-17	FD	505	**2,210**	0.655	3.43	1,340	**2,610**	**5,910**	<0.0197	
	MW-22B	Apr-13		530	**1,470**	0.619	4.48	932	**2,240**	**5,460**	<1.00	
	MW-22B	Apr-15		477	**1,400**	0.823	4.02 J	1150	**2,170**	**5,590**	<0.0200	
	MW-22B	Apr-17		396	**1,400**	0.771	4.15	1150	**2,080**	**5,670**	0.408 J	
	MW-70	Apr-15		695	**1,240**	0.740	4.90	774	**2,230**	**5,700**	<0.0200 J	
	MW-70	Oct-15		756			5.51	782				
	MW-70	Apr-16		720	**1,370**	0.775	5.46	908	**2,240**	**5,730**	0.416 J	
	MW-70	Oct-16										
	MW-70	Apr-17		673	**1,290**	0.626	4.87	852	**2,460**	**4,660**	<0.0197	
	MW-70	Oct-17										
	MW-72	Apr-14		795	**4,350**	**6.27**	9.87	2440	**3,020**	**10,300**	3.10	
	MW-72	Apr-15		896	**5,240**	**3.91**	13.3	3030	**3,800**	**12,900**	6.37	
	MW-72	Apr-16		700	**3,310**	**5.88**	8.82	2060	**3,400**	**9,140**	1.88	
	MW-72	Apr-17		670	**3,460**	**6.25**	9.30	2510	**2,950**	**9,140**	1.56	
	MW-73	Apr-14		590	**2,260**	**2.09**	2.54	2160	**3,510**	**9,120**	<0.150	
	MW-73	Apr-15		659	**2,480**	**1.94**	3.12 J	2200	**4,560**	**9,360**	0.757	
	MW-73	Apr-16		597	**2,790**	**1.96**	2.32 J	2240	**5,090**	**9,360**	0.501 J	
	MW-73	Apr-17		571	**2,390**	**2.11**	2.55	2690	**3,940**	**8,880**	0.313	
	MW-74	Apr-15		552	**1,170**	**6.02**	39.4	2230	**4,450**	**9,360**	**176**	
	MW-74	Oct-15		558	**1,810**	**6.19**	39.2	2330	**4,140**	**8,720**	**12.3**	
	MW-74	Apr-16		632	**1,640**	**7.44**	35.6	2080	**3,100**	**8,280**	0.796 J	
	MW-74	Oct-16		566	**1,900**	**8.61**	44.9	3120	**4,880**	**10,200**	**211**	
	MW-74	Apr-17		557	**2,030**	**7.23**	39.9	2690	**4,490**	**9,080**	**55.7**	
	MW-74	Oct-17		576	**2,050**	**7.68**	41.1	2,170	**4,470**	**9,220**	**44.7**	
	MW-75	Apr-15		372	11.8 J	**8.20**	20.3	1490	14.2 J	**4,020**	<0.200	
	MW-75	Oct-15		352	**1,550**	**7.80**	19.3	1560	**2,510**	**5,280**	0.0590 J	
	MW-75	Apr-16		374	**1,530**	**7.62**	21.5	1640	**1,940**	**5,940**	<0.197	
	MW-75	Oct-16		351	**1,400**	**7.88**	17.5	1480	**2,080**	**6,000**	0.0490 JB	
	MW-75	Apr-17		333	**1,550**	**7.16**	17.5	1510	**2,520**	**6,100**	3.35	
	MW-75	Oct-17		358	**1,490**	**7.81**	18.2	1,350	**2,240**	**5,020**	<0.0197	
	MW-76	Apr-15		558	18.1 J	**3.15**	29.7	1120	22.0 J	**4,650**	<0.200	
	MW-76	Oct-15		445	**1,370**	**3.10**	28.0	1070	**2,480**	**4,840**	0.0310 J	
	MW-76	Apr-16		531	**1,180**	**2.96**	29.4	1110	**2,250**	**5,220**	<0.197	
	MW-76	Oct-16		553	**1,200**	**3.26**	28.6	1130	**2,490**	**6,010**	0.0470 JB	
	MW-76	Apr-17		485	**1,380**	**2.54**	25.9	969	**2,850**	**5,750**	<0.197	
	MW-76	Oct-17		479	**1,300**	**3.06**	26.5	993	**2,440**	**4,630**	<0.0197	
	MW-77	Apr-15		609	10.8 J	**4.21**	72.1	1410	37.7 J	**5,350**	<0.200	
	MW-77	Oct-15		557	**433**	**2.42**	82.5	1490	**4,820**	**7,510**	0.211	
	MW-77	Apr-16		589	**378**	**3.03**	82.9	1610	**4,010**	**7,110**	0.406 J	
	MW-77	Oct-16		579	**294**	**3.14**	82.1	1380	**4,000**	**7,850**	0.0470 JB	
	MW-77	Apr-17		534	**393**	**2.43**	67.1	1280	**4,900**	**6,950**	<0.197	
	MW-78	Apr-14		542	215	**10.9**	25.2	524	**2,650**	**5,760**	<0.150	
	MW-78	Apr-15		576	63.2	0.0979 J	18.9	320	19.6 J	**2,560**	4.24	
	MW-78	Apr-16		659	72.5	**9.96**	22.9	540	**2,690**	**5,270**	<0.197	
	MW-78	Apr-17		537	98.0	**9.91**	17.4	366	**2,640**	**4,290**	0.372 J	
	MW-79	Apr-15		649	**1,570**	**5.52**	7.98	1150	**2,930**	**5,660**	1.90 J	
	MW-79	Oct-15		517	**1,440**	**6.43**	7.61	857	**2,440**	**5,210**	0.147	
	MW-79	Apr-16		603	**1,390**	**7.08**	8.43	1140	**2,040**	**5,320**	1.87	
	MW-79	Oct-16		525 V	**1,380**	**7.01**	7.28	869 V	**2,000**	**5,180**	0.0700 JB	
	MW-79	Apr-17		527 V	**1,590**	**7.33**	7.58	987	**2,330**	**5,040**	2.26	
	MW-79	Oct-17		598	**1,700**	**6.17**	6.86	871	**2,320**	**5,190**	0.188	
	MW-80	Apr-14		645	**1,470**	**3.62**	3.84	983	**2,070**	**6,080**	2.73	
	MW-80	Apr-15		693	**1,600**	**3.15**	3.08 J	1210	**2,700**	**5,600**	0.519	
	MW-80	Apr-16		875	**1,970**	**3.30**	4.07 J	1240	**2,270**	**6,340**	0.523 J	
	MW-80	Apr-17		759	**2,530**	**3.59**	3.53	1230	**2,640**	**7,920**	2.63	
	MW-81	Apr-14		111	**1,140**	**8.13**	9.51	255	**2,350**	**6,500**	**79.1**	
	MW-81	Apr-15		583	**1,110**	**6.20**	9.40	1380	**2,800**	**6,260**	**99.5**	
	MW-81	Apr-16		687	**1,120**	**5.93**	12.2	1690	**2,790**	**6,730**	**105**	
	MW-81	Apr-17		560	**1,370**	**7.55**	9.28	1260	**3,050**	**6,880**	**80.5**	
	MW-82	Apr-14		279	**2,880**	**18.2**	9.55	1800	**3,910**	**6,260**	<0.150	
	MW-82	Apr-14	FD	286	**1,510**	**18.0**	9.02	1810	**2,070**	**5,460**	<0.150	
	MW-82	Apr-15		284	**1,110**	**10.7**	9.28	1700	**2,200**	**5,770**	<0.0200	
	MW-82	Apr-16		350	**1,360**	**12.1**	9.87	1790	**2,350**	**5,410**	0.262 J	
	MW-82	Apr-17		347	**1,500**	**11.4**	8.92	1400	**2,380**	**5,630**	0.0820 J	
	MW-83	Apr-15		566	55.5	**3.96**	58.4	364	32.7 J	**4,810**	<0.200	
	MW-83	Oct-15		388	202	**7.32**	34.0	271	**3,210**	**4,530**	0.0860 J	
	MW-83	Apr-16		483	**769**	**4.80**	36.7	563	**3,770**	**4,980**	<0.197	
	MW-83	Oct-16		417	11.0	**6.99**	45.9	139	**3,300**	**4,610**	0.101	
	MW-83	Apr-17		483	45.4	**4.80**	49.4	256	**3,840**	**5,900**	<0.197	
	MW-83	Oct-17		462	**291**	**4.74**	48.2	293	**3,590**	**5,240**	<0.0197	
	MW-84	Apr-15		555	**1,460**	**4.41**	7.41	1480	**4,620**	**4,230**	<0.200	
	MW-84	Oct-15		596	**1,070**	**8.23**	17.0	1580	**7,300**	**12,400**	4.83	
	MW-84	Apr-16		643	**1,410**	**5.54**	10.2	1840	**4,550**	**9,480**	<0.197	
	MW-84	Oct-16		561	**1,230**	**5.96**	12.2	1460	**5,280**	**9,560**	0.0480 J	
	MW-84	Apr-17		573	**1,850**	**5.68**	8.06	1430	**4,690**	**9,360**	<0.197	
	MW-84	Oct-17		589	**1,860**	**5.22**	6.56	1,520	**4,670**	**8,460**	0.0570 J	
	MW-87	Apr-15		740	**4,880**	1.19	27.3	3190	**4,390**	**13,800**	0.241	
	MW-87	Oct-15		737			26.5	3250				
	MW-87	Apr-16		728 V	**4,180**	1.40	27.9 V	3230 V	**4,310**	**12,000**	<0.197	
	MW-87	Oct-16										
	MW-87	Apr-17		648	**4,340**	1.02	24.3	3560	**5,020**	**13,500**	<0.0197	
	MW-87	Oct-17										

Table 4C - Summary of Groundwater Analytical Data - Water Quality Parameters and Cyanide

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

		Analyte Group:		Water Quality Parameters								Cyanide
		Analyte:		Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite	Cyanide
		Units:		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		CGWSL:		---	250	1.60	---	---	600	1,000	10.0	0.200
		CGWSL Source:			WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL	USEPA MCL
Area	**Well ID**	**Date**	**Dup**									
Evaporation Ponds	MW-88	Apr-15		519	**3,000**	**1.80**	2.66 J	2250	**4,970**	**11,000**	<0.0200	
	MW-88	Oct-15		397			3.03	1270				
	MW-88	Apr-16		417	**1,610**	1.22	3.10 J	1220	**2,600**	**5,800**	<0.197	
	MW-88	Oct-16										
	MW-88	Apr-17		406	**1,710**	1.04	3.00	1100	**2,410**	**6,300**	<0.197	
	MW-88	Oct-17										
	MW-120	Apr-15		677	**2,480**	**2.49**	3.92 J	1620	**3,080**	**7,660**	2.49	
	MW-120	Oct-15		860 J	**3,640**	**2.38**	3.60	1790 J	**3,100**	**9,720**	0.0350 J	
	MW-120	Apr-16		939	**3,690**	**2.56**	4.25 J	1910	**2,510**	**9,100**	<0.197	
	MW-120	Oct-16		919	**3,830**	**2.68**	3.71	1520	**2,410**	**9,080**	0.0470 JJ6	
	MW-120	Apr-17		728	**3,070**	**3.15**	3.11	1600	**2,730**	**8,460**	<0.197	
	MW-120	Oct-17		671	**2,970**	**3.24**	3.33	1,240	**3,580**	**7,120**	<0.0197	
	MW-121	Apr-15		642	**1,370**	**3.69**	2.67	854	**2,740**	**6,040**	2.08	
	MW-121	Oct-15		619	**1,220**	**4.24**	3.38	942	**3,360**	**6,290**	2.96	
	MW-121	Apr-16		718	**1,520**	**4.34**	3.39 J	968	**3,790**	**5,550**	2.13	
	MW-121	Oct-16		588	**1,150**	**5.24**	3.18	834	**3,070**	**5,470**	1.69	
	MW-121	Apr-17		597	**1,210**	**4.69**	2.87	862	**2,840**	**5,100**	1.19	
	MW-121	Oct-17		610	**1,050**	**5.14**	3.19	780	**3,070**	**5,440**	1.39	
	MW-122	Apr-15		658	**2,970**	**3.38**	5.51 J	2660	**4,380**	**10,700**	0.229	
	MW-122	Oct-15		382	**1,580**	**3.29**	4.06	1090	**2,560**	**5,700**	0.0380 J	
	MW-122	Apr-16		549	**1,920**	**3.57**	4.78 J	1350	**3,430**	**6,700**	0.499 J	
	MW-122	Oct-16		491	**1,760**	**3.29**	4.31	1160	**2,270**	**5,730**	0.0280 J	
	MW-122	Apr-17		632	**2,700**	**3.71**	5.19	1770	**3,900**	**9,060**	<0.197	
	MW-122	Oct-17		397	**1,610**	**3.02**	3.93	950	**2,640**	**4,580**	<0.0197	
	MW-123	Apr-15		532	**1,560**	1.16	3.84 J	1120	**2,220**	**5,650**	<0.0200	
	MW-123	Oct-15		527	**1,710**	1.11	3.71	1190	**2,360**	**5,490**	0.270 J	
	MW-123	Apr-16		570	**1,880**	1.09	3.73 J	1320	**2,410**	**5,850**	<0.197	
	MW-123	Oct-16		510	**1,600**	1.20	3.59	1090	**2,420**	**4,990**	0.0470 J	
	MW-123	Apr-17		514 V	**1,730**	1.22	3.72	1240 V	**2,190**	**6,200**	0.0540 JP1	
	MW-123	Oct-17		516	**1,580**	1.08	3.46	1,030	**2,360**	**5,000**	<0.0197	
	MW-124	Apr-15		779	**3,240**	0.922	6.80	1970	**3,610**	**11,400**	0.0265 J	
	MW-124	Oct-15		780	**3,210**	0.915	7.41	1840	**4,120**	**10,100**	0.0310 J	
	MW-124	Apr-16		929	**1,490**	1.20	8.45	2150	**1,720**	**9,800**	0.415 J	
	MW-124	Oct-16		719	**3,270**	1.31	6.37	1670	**3,930**	**9,340**	0.0470 J	
	MW-124	Apr-17		715	**3,110**	0.739	6.44	2140	**3,950**	**9,780**	<0.0197	
	MW-124	Oct-17		781	**3,510**	0.871	6.24	1,830	**4,440**	**8,860**	<0.0197	
	OCD-1R	Apr-15		837	**5,290**	**2.50**	4.95 J	4050	**4,860**	**14,900**	1.29	
	OCD-1R	Oct-15		641	**3,100**	**2.78**	4.86	2660	**3,710**	**9,160**	0.144	
	OCD-1R	Apr-16		641	**2,570**	**2.90**	4.54 J	2220	**3,550**	**8,960**	0.928 J	
	OCD-1R	Oct-16		701	**2,560**	**3.36**	4.76	1800	**3,060**	**8,900**	0.0530 JB	
	OCD-1R	Apr-17		570	**2,490**	**3.60**	4.22	1960	**3,020**	**8,460**	0.213 J	
	OCD-1R	Oct-17		607	**2,280**	**3.08**	4.07	1,570	**3,110**	**7,220**	0.0720 J	
	OCD-2A	Apr-15		788	**2,960**	0.969	5.05	1600	**2,740**	**8,340**	0.264	
	OCD-2A	Oct-15		707			7.05	1490				
	OCD-2A	Apr-16		678	**1,800**	0.705	5.98	1340	**2,750**	**5,870**	0.417 J	
	OCD-2A	Oct-16										
	OCD-2A	Apr-17		655	**1,840**	0.800	5.49	995	**1,860**	**5,850**	<0.197	
	OCD-2A	Oct-17										
	OCD-3	Apr-15		659	**1,610**	1.02	12.6	1060	**2,240**	**6,070**	0.0878 J	
	OCD-3	Oct-15		760			14.1	904				
	OCD-3	Apr-16		746	**1,640**	0.899	14.5	1100	**3,080**	**5,890**	<0.197	
	OCD-3	Oct-16										
	OCD-3	Apr-17		733	**2,030**	0.998	14.4	1120	**2,160**	**6,440**	<0.197	
	OCD-3	Oct-17										
	OCD-4	Apr-15		1010	**5,850**	0.506	36.5	3590	**4,550**	**12,900**	<0.0200	
	OCD-4	Oct-15		833			33.2	2560				
	OCD-4	Apr-16		927	**5,320**	0.608	36.2	3400	**3,610**	**12,700**	0.446 J	
	OCD-4	Oct-16										
	OCD-4	Apr-17		809	**4,110**	0.908	33.7	2330	**2,850**	**11,000**	0.0390 JP1	
	OCD-4	Oct-17										
	OCD-5	Apr-15		901	**4,490**	0.691	39.6	2930	**3,090**	**10,800**	0.0434 J	
	OCD-5	Oct-15		836	**4,700**	0.548	39.6	3130	**3,430**	**12,000**	0.0380 J	
	OCD-5	Apr-16		900	**5,030**	0.774 J3J6	41.2	2960	**3,780**	**9,960**	0.222 J	
	OCD-5	Oct-16		851	**4,700**	0.892	39.0	2830	**3,080**	**12,700**	0.0520 JBJ6	
	OCD-5	Apr-17		829	**4,720**	0.872	40.0	2780	**2,990**	**12,100**	<0.197	
	OCD-5	Oct-17		906	**7,230**	0.669	35.5	2,710	**5,020**	**11,200**	<0.0197	
	OCD-6	Apr-15		779	**4,050**	**1.85**	15.5	2470	**3,320**	**10,300**	0.211	
	OCD-6	Oct-15		756	**4,510**	**2.09**	15.0	3380	**3,400**	**10,700**	0.0280 J	
	OCD-6	Apr-16		866	**4,440**	**2.47**	17.0	2700	**3,410**	**10,600**	1.22	
	OCD-6	Oct-16		790	**4,110**	**2.79**	14.1	2600	**2,850**	**10,200**	0.0920 J	
	OCD-6	Apr-17		834	**4,030**	**2.39**	15.8	2870	**2,570**	**11,000**	1.02	
	OCD-6	Oct-17		855	**4,770**	**2.66**	15.4	2580	**3,190**	**11,600**	<0.0197	
	OCD-7AR	Apr-15		609	**2,110**	**2.91**	5.52	2050	**3,650**	**8,260**	0.260	
	OCD-7AR	Oct-15		635	**2,490**	**2.55**	5.83	2870	**4,500**	**8,960**	0.0250 J	
	OCD-7AR	Apr-16		694	**2,550**	**2.78**	6.27	2580	**4,740**	**8,480**	1.03	
	OCD-7AR	Oct-16		596	**3,020**	**3.50**	5.78	2410	**4,870**	**8,860**	0.0430 J	
	OCD-7AR	Apr-17		600	**2,550**	**2.72**	5.59	2870	**3,970**	**8,960**	0.0420 J	
	OCD-7AR	Oct-17		618	**2,700**	**3.02**	5.71	2,450	**4,190**	**9,920**	<0.0197	
	OCD-7B	Mar-13		552	**867**	1.33	12.2	650	**2,270**	**4,670**	<1.00	
	OCD-7B	Apr-15		641	**910**	0.852	11.9	685	**2,580**	**4,520**	<0.0200	
	OCD-7B	Apr-17		564	**960**	1.05	11.0	629	**2,100**	**4,540**	<0.0197	
	OCD-8A	Apr-15		1190	**6,270**	0.826	10.8	3330	**3,620**	**13,700**	<0.0200	<0.00180
	OCD-8A	Oct-15		946	**5,140**	1.36	11.0	2870	**3,690**	**11,900**	<0.0197	<0.00180
	OCD-8A	Apr-16		762	**3,480**	**1.88**	9.09	2410	**3,630**	**11,000**	<0.197	<0.00180
	OCD-8A	Oct-16		680	**3,270**	**2.39**	9.22	2380	**3,660**	**9,600**	0.0870 J	0.00182 J
	OCD-8A	Apr-17		658	**2,870**	**2.16**	8.50	2510	**3,410**	**8,960**	0.0300 J	<0.00180
	OCD-8A	Oct-17		696	**2,960**	**2.27**	8.54	2030	**4,140**	**9,000**	<0.0197	<0.00180
	OCD-8B	Apr-13		716	**2,180**	0.980	8.75	1330	**2,880**	**7,400**	<1.00	
	OCD-8B	Apr-15		680	**2,020**	0.934	9.51	1520	**2,910**	**7,110**	0.0233 J	
	OCD-8B	Apr-17		660	**2,030**	0.925	9.07	1800	**2,620**	**7,390**	0.0320 J	
Field East of Refinery	KWB-1A	Apr-15		596	**555**	1.17	1.01	202	**3,400**	**5,320**	4.22	<0.00180
	KWB-1A	Oct-15		549	**539**	1.15	1.09	230	**2,800**	**4,580**	0.666 J	<0.00180
	KWB-1A	Apr-16		619	**575**	1.26	1.37 J	271	**3,080**	**4,990**	4.61	<0.00120
	KWB-1A	Oct-16		553	**553**	1.21	1.21	274	**2,950**	**4,600**	0.514 B	<0.00180
	KWB-1A	Apr-17		566	**530**	1.39	1.19	269	**2,940**	**4,930**	1.09	<0.00180
	KWB-1A	Oct-17		514	**387**	1.12	0.966 J	266	**2,990**	**4,520**	0.409	<0.00180
	KWB-1C	Apr-13		474	**380**	1.03	5.68	161	**2,150**	**4,420**	1.75	
	KWB-1C	Apr-15		619	**1,160**	**25.3**	1.23	210	**2,920**	**5,340**	0.180	
	KWB-1C	Apr-17		560	**508**	1.25	1.36	267	**2,860**	**5,000**	0.0350 JP1	
	KWB-7	Apr-15		279	**301**	0.754	0.209 J	238	**886**	**2,100**	<0.200	<0.00180 J
	KWB-7	Oct-15		320	**358**	0.813	0.152 J	252	**1,120**	**2,570**	0.202 J	<0.00180
	KWB-7	Apr-16		325	**281**	0.917	0.236 J	248	**953**	**2,830**	<0.197	0.00500 J
	KWB-7	Oct-16		355	**420**	0.933	0.194 J	281	**1,160**	**3,030**	0.0580 JB	<0.00180
	KWB-7	Apr-17		306	**305**	0.822	0.225 J	230	**1,070**	**2,540**	0.0600 J	<0.00180
	KWB-7	Oct-17		345	**354**	0.599	0.230 J	268	**907**	**3,080**	<0.0197	<0.00180

Table 4C - Summary of Groundwater Analytical Data - Water Quality Parameters and Cyanide

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

		Analyte Group:		Water Quality Parameters								Cyanide
		Analyte:		Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite	Cyanide
		Units:		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		CGWSL:		---	250	1.60	---	---	600	1,000	10.0	0.200
		CGWSL Source:			WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL	USEPA MCL
Area	**Well ID**	**Date**	**Dup**									
Field East of Refinery	KWB-8	Oct-16		251	**579**	0.467	0.351 J	443	**701**	**3,120**	0.0380 JB	<0.00900
	KWB-8	Apr-17		237	**574**	0.623	0.414 J	320	442	**2,400**	0.0510 J	<0.00180
	KWB-8	Oct-17		273	**913**	0.467	0.411 J	462	417	**3,270**	<0.985	<0.00180
	KWB-10R	Apr-15		132	**800**	**19.7**	0.440 J	141	1.03 J	**1,190**	<0.200	
	KWB-10R	Oct-15		132	192	1.31	0.491 J	136	0.117 J	**1,090**	0.0420 J	
	KWB-10R	Apr-16		149	190	1.42	0.573 J	153	<0.0774	**1,090**	<0.197	
	KWB-10R	Oct-16		148	189	1.28	0.548 J	135	110	**1,160**	0.364 B	
	KWB-10R	Apr-17		134	230	1.57	0.521 J	131	0.475 J	**1,130**	<0.0197	
	KWB-10R	Oct-17		138	186	1.39	0.453 J	123	3.08 J	**1,080**	0.440	
	KWB-11A	Apr-15		568	**1,270**	0.580	0.305 J	370	**2,280**	**4,020**	**15.7**	<0.00180 J
	KWB-11A	Oct-15		674	**1,620**	0.660	0.748 J	406	**1,570**	**5,320**	**49.3**	<0.00180
	KWB-11A	Apr-16		710	**1,600**	0.642	0.797 J	426	**1,570**	**5,840**	**42.4**	0.0230
	KWB-11A	Oct-16		647	**1,460**	0.742	0.719 J	450	**1,590**	**5,940**	**30.9**	<0.00180
	KWB-11A	Apr-17		607	**1,310**	0.487	0.903 J	372	**1,540**	**4,960**	**33.9**	<0.00180
	KWB-11A	Oct-17		406	**788**	0.474	0.566 J	379	**979**	**3,550**	1.95	<0.00180
	KWB-11B	Apr-15		469	**275**	0.318	2.12	93.0	**1,760**	**2,630**	2.80	<0.00180 J
	KWB-11B	Oct-15		410	247	0.467	2.07	80.6	**1,340**	**2,350**	2.17	<0.00180
	KWB-11B	Apr-16		438	218	0.441	2.11 JO1	81.3 V	**1,200**	**2,160**	2.43	<0.00120
	KWB-11B	Oct-16		408	239	0.479	2.00	81.0	**1,290**	**2,410**	2.17	<0.00180
	KWB-11B	Apr-17		479	**291**	0.369	2.37	89.5	**1,660**	**2,710**	3.48	<0.00180
	KWB-11B	Oct-17		476	230	0.280	2.13	87.5	**1,300**	**2,590**	3.54	<0.00180
	KWB-12A	Apr-15		528	**668**	**18.5**	0.723 J	128	**2,380**	**3,660**	4.31	<0.00180
	KWB-12A	Apr-15	FD	493	133	0.605	0.630 J	123	**2,110**	**3,630**	4.34	<0.00180
	KWB-12A	Oct-15		560	138	0.618	0.963 J	155	**2,730**	**3,490**	4.55	<0.00180
	KWB-12A	Apr-16		579	**539**	0.879	0.811 J	155	**2,360**	**3,670**	6.18	<0.00180
	KWB-12A	Oct-16		549	163	0.757	1.15	161	**2,400**	**3,930**	7.34	<0.00180
	KWB-12A	Apr-17		541	136	0.446	0.786 J	131	**2,280**	**4,260**	7.12	<0.00180
	KWB-12A	Oct-17		511	133	0.512	0.999 J	127	**2,230**	**3,640**	8.21	<0.00180
	KWB-12B	Apr-15		549	**689**	**20.2**	0.523 J	130	**2,520**	**3,730**	3.80	<0.00180
	KWB-12B	Oct-15		537	124	0.398	0.537 J	131	**2,580**	**3,320**	4.77	<0.00180
	KWB-12B	Oct-15	FD	538	123	0.430	0.569 J	127	**2,450**	**3,270**	4.82	<0.00180
	KWB-12B	Apr-16		528	121	0.438	0.466 J	132	**2,520**	**3,600**	6.42	<0.00120
	KWB-12B	Apr-16	FD	500	108	0.459	0.445 J	123	**1,930**	**3,930**	4.30	<0.00120
	KWB-12B	Oct-16		497	129	0.500	0.565 J	128	**2,210**	**3,620**	5.44	<0.00180
	KWB-12B	Oct-16	FD	505	116	0.474	0.584 J	129	**2,190**	**3,740**	5.56	<0.00180
	KWB-12B	Apr-17		554	144	0.419	0.641 J	135	**2,410**	**3,880**	6.87	<0.00180
	KWB-12B	Apr-17	FD	556	146	0.310	0.720 J	149	**2,980**	**3,520**	7.57	<0.00180
	KWB-12B	Oct-17		542	136	0.353	0.603 J	139	**2,370**	**3,730**	7.26	<0.00180
	KWB-12B	Oct-17	FD	526	115	0.332	0.584 J	134	**2,310**	**3,910**	6.71	<0.00180
	KWB-P4	Apr-13										
	KWB-P4	Apr-15										
	KWB-P4	Apr-17										
	MW-57	Apr-15		641	**1,430**	**22.3**	1.57	460	**2,890**	**6,010**	**16.2**	
	MW-57	Oct-15		487	**541**	**1.69**	1.16	342	**2,050**	**3,330**	**12.9**	
	MW-57	Apr-16		593	**386**	**2.02**	1.59 J	368	**2,350**	**3,660**	**11.0**	
	MW-57	Oct-16		538	210	**2.99**	2.00	387	**2,710**	**4,730**	**33.3**	
	MW-57	Apr-17		538	**336**	**2.38**	1.62	342	**2,630**	**4,530**	**13.8**	
	MW-57	Oct-17		570	179	**2.39**	1.81	402	**3,110**	**5,100**	**33.3**	
	MW-58	Apr-15		200	149	1.15	0.317 J	58.8	9.63	**1,150**	<0.200	<0.00180
	MW-58	Oct-15		234	239	1.35	0.459 J	71.5	4.80 J	**1,240**	<0.197	<0.00180
	MW-58	Apr-16		262	**278** J	1.24	0.421 J	123	134	**1,510**	0.518 J	<0.00120
	MW-58	Oct-16		210	174	1.57	0.392 J	94.2	3.77 J	**1,140**	0.0620 JB	<0.00180
	MW-58	Apr-17		229	**280**	1.40	0.370 J	123	106	**1,550**	0.0380 J	<0.00180
	MW-58	Oct-17		235	249	1.26	0.553 J	116	13.1	**1,340**	<0.0197	<0.00180
	MW-111	Apr-15		270	**427**	1.01	0.521 J	172	294	**1,600**	<0.0200	
	MW-111	Oct-15		227	**408**	1.51	0.415 J	222	473 J	**1,530**	0.0220 J	
	MW-111	Apr-16		248	**402**	1.33	<0.185	229	355	**2,130**	0.0640 J	
	MW-111	Oct-16		224	**426**	1.39	0.222 JB	192	390	**1,820**	0.0880 JB	
	MW-111	Apr-17		232	**456** J3	1.28	0.203 J	211	366 P1	**2,250**	0.266 J	
	MW-111	Oct-17		217	**392**	1.31	0.102 J	234	317	**1,880**	<0.0197	
	MW-113	Apr-15		285	194	0.606	0.526 J	151	**957**	**2,030**	<0.0200	
	MW-113	Apr-15	FD	259	191	0.607	0.622 J	132	**877**	**1,980**	<0.0200	
	MW-113	Oct-15		287	197	0.503	0.528 J	153	**1,000**	**2,020**	0.243 J	
	MW-113	Oct-15	FD	288	197	0.493	0.529 J	156	**998**	**2,140**	<0.197	
	MW-113	Apr-16		314	199	0.294 J3	0.611 J	154	**1,090**	**2,370**	0.393 J	
	MW-113	Apr-16	FD	327	207	0.389	0.612 J	167	**1,080**	**2,400**	0.0480 J	
	MW-113	Oct-16		298 V	182	0.488	0.429 J	156	**925**	**2,150**	0.0470 JB	
	MW-113	Oct-16	FD	299	195	0.594	0.408 J	160	**945**	**2,240**	0.0510 JB	
	MW-113	Apr-17		304	193	0.459	0.525 J	158	**1,070**	**2,140**	<0.197	
	MW-113	Apr-17	FD	296	208	0.525	0.514 J	151	**940**	**2,420**	<0.197	
	MW-113	Oct-17		294	148	0.331	0.405 J	150	**848**	**2,430**	0.442	
	MW-113	Oct-17	FD	301	184	0.510	0.414 J	151	**1,040**	**2,240**	<0.0197	
	MW-125	Apr-15		523 J	**329**	1.17	1.21	217	**2,680**	**4,700**	0.295	
	MW-125	Oct-15		524	**316**	1.22	1.31	224	**2,750**	**4,200**	0.348 J	
	MW-125	Apr-16		577	**342**	1.18	1.39 J	245	**2,900**	**4,440**	0.537 J	
	MW-125	Oct-16		530	**294**	1.25	1.33	220	**2,660**	**4,370**	0.247 B	
	MW-125	Apr-17		495	**310**	1.33	1.27	218	**2,810**	**4,600**	0.751 J	
	MW-125	Oct-17		573	**313**	1.39	1.78	236	**3,000**	**5,200**	0.216	
	MW-126A	Apr-15		355	**898**	0.833	0.602 J	189	**1,530**	**2,900**	<0.200	
	MW-126A	Oct-15		281	200	1.03	0.511 J	178	**1,300**	**2,500**	<0.197	
	MW-126A	Apr-16		342	245	1.02	0.465 J	124	**1,270**	**2,360**	0.258 J	
	MW-126A	Oct-16		192	78.9	1.28	0.379 J	132	**875**	**1,860**	0.139 B	
	MW-126A	Apr-17		369	**271**	0.804	0.584 J	193	**1,780**	**2,850**	0.509 J	
	MW-126A	Oct-17		294	150	0.957	0.418 J	146	**1,300**	**2,410**	<0.0197	
	MW-126B	Apr-15		548	**319**	0.658	2.10 J	196	**2,550**	**3,660**	0.684 J	
	MW-126B	Oct-15		531	**295**	0.850	2.18	201	**2,330**	**4,060**	0.438 J	
	MW-126B	Apr-16		574	**314**	0.837	2.54 J	214	**2,700**	**3,590**	0.737 JB	
	MW-126B	Oct-16		542	**286**	0.862	2.19	220	**2,210**	**3,650**	0.295 B	
	MW-126B	Apr-17		524	**308**	0.649	2.27	206	**2,550**	**3,890**	0.342 J	
	MW-126B	Oct-17		524	**290**	0.729	2.17	197	**2,410**	**3,740**	0.419	
	MW-127	Apr-15		238	209	0.902	0.579 J	147	511	**1,750**	<0.200	
	MW-127	Oct-15		234	243	1.06	0.256 J	143	**642**	**1,900**	<0.197	
	MW-127	Apr-16		244	245	1.10	0.335 J	153	552	**1,910**	<0.197	
	MW-127	Oct-16		248	237	1.14	0.282 J	146	**713**	**3,840**	0.0490 JB	
	MW-127	Apr-17		242	**251**	0.949	0.264 J	146	**799**	**2,140**	<0.197	
	MW-127	Oct-17		262	231	0.993	1.46	142	**776**	**1,970**	0.146	
	MW-128	Apr-15		214 J	**307**	1.22	0.414 J	104	290	**1,490**	<0.0200	
	MW-128	Oct-15		202	**282**	1.22	0.341 J	105	280	**1,560**	<0.197	
	MW-128	Apr-16		1010	**266**	1.22	1.92 J	560	286	**1,580**	1.28	
	MW-128	Oct-16		203	249	1.28	0.586 J	108	280	**1,470**	0.0460 JB	
	MW-128	Apr-17		182	**264**	1.27	0.536 J	106	273	**1,580**	0.0340 J	
	MW-128	Oct-17		186	200	1.29	0.354 J	107	248	**1,370**	<0.0197	

Table 4C - Summary of Groundwater Analytical Data - Water Quality Parameters and Cyanide

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	Water Quality Parameters								Cyanide
				Analyte:	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite	Cyanide
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	250	1.60	---	---	600	1,000	10.0	0.200
				CGWSL Source:		WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL	USEPA MCL
Area	**Well ID**	**Date**	**Dup**										
Field East of Refinery	MW-129	Apr-15		192	**302**	0.900	0.530 J	195	69.4	**1,330**	<0.200	
	MW-129	Oct-15		169	**313**	1.08	0.315 J	194	57.8	**1,280**	<0.197	
	MW-129	Apr-16		170	**300**	1.10	0.331 J	210	44.1	**1,520**	<0.197	
	MW-129	Oct-16		162	**293**	1.13	0.270 J	198	44.1	**1,340**	0.0770 JB	
	MW-129	Apr-17		163	**300**	1.02	0.334 J	199	44.1	**1,250**	<0.197 J5	
	MW-130	Apr-15		81.8 J	**259**	0.952	6.71	125	**1,080**	**3,710**	0.471	
	MW-130	Oct-15		261	237	0.829	0.688 J	293	**1,200**	**2,380**	0.495 J	
	MW-130	Apr-16		281	**293**	0.907	0.870 J	324	**1,030**	**2,570**	3.82 J6	
	MW-130	Oct-16		260	**253**	0.914	0.695 J	285	**1,110**	**2,600**	0.631	
	MW-130	Apr-17		263 V	**266**	0.778	0.676 J	290 V	**1,020**	**2,510**	3.26	
	MW-130	Oct-17		252	218	0.533	0.625 J	281	**880**	**2,520**	2.75	
	MW-131	Apr-15		168	**271**	0.683	0.328 J	157	9.57	**1,980**	<0.0200	
	MW-131	Oct-15		197	**295**	0.787	0.622 J	161	16.1	**1,180**	0.0380 J	
	MW-131	Apr-16		158	**288**	0.774	0.238 J	167	9.49	**1,250**	<0.197	
	MW-131	Oct-16		158	**291**	0.868	0.250 J	158	9.61	**1,270**	0.0530 JB	
	MW-131	Apr-17		151	**285**	0.773	0.275 J	153	10.3	**1,230**	<0.197	
	MW-131	Oct-17		149	**284**	0.807	0.200 J	149	15.5	**1,290**	<0.0197	
	MW-133	Nov-14		200	170	1.10	0.460 J	140 V	140	**1,300**	<0.0200	
	MW-133	Apr-15		163	174	1.19	0.323 J	122	116	**1,190**	<0.200	
	MW-134	Apr-15		840	**767**	1.24	2.21 J	454	**3,470**	**5,520**	8.15	
	MW-134	Apr-15	FD	710	**752**	1.35	1.46	307	**3,380**	**6,400**	8.04	
	MW-134	Oct-15		532	**521**	1.31	1.60	302	**2,980**	**5,040**	3.33	
	MW-134	Oct-15	FD	529	**516**	1.32	1.58	301	**3,030**	**4,690**	2.98	
	MW-134	Apr-16		576 V	**498**	1.24	1.70 J	311 V	**2,800**	**4,560**	2.79	
	MW-134	Apr-16	FD	565	**497**	1.24	1.69 J	303	**2,780**	**4,910**	2.73	
	MW-134	Oct-16		518	**460**	1.23	1.60	288	**2,980**	**5,020**	2.10	
	MW-134	Oct-16	FD	512	**473**	1.18	1.58	286	**2,910**	**4,860**	2.28	
	MW-134	Apr-17		528	**499**	0.944	1.56	247	**2,880**	**4,140**	3.37	
	MW-134	Apr-17	FD	527	**470**	0.902	1.61	269	**3,170**	**4,120**	4.03	
	MW-134	Oct-17		502	**373**	0.730	1.50	246	**2,620**	**4,480**	3.80	
	MW-134	Oct-17	FD	525	**425**	1.02	1.58	249	**2,700**	**4,960**	3.59	
	MW-135	Apr-15		848	**1,100**	0.764	1.42 J	552	**2,170**	**5,040**	**67.8**	
	MW-135	Oct-15		677	**1,380**	1.17	1.32	544	**2,460**	**5,800**	**76.9**	
	MW-135	Apr-16		2780	**1,010**	0.993	5.74	2640	**2,470**	**5,320**	**34.7**	
	MW-135	Oct-16		590	**1,310**	1.18	0.993 J	624	**2,500**	**5,980**	**58.9**	
	MW-135	Apr-17		608	**1,200**	1.23	0.979 J	626	**2,900**	**5,050**	**63.3**	
	MW-135	Oct-17		569	**1,100**	0.644	0.923 J	633	**2,810**	**5,650**	**54.5**	
	RA-4196	Apr-15		391	144	0.410	2.07	93.4	**1,400**	**2,170**	<0.0200	
	RA-4196	Oct-15		417	145	0.324	2.26	104	**1,470**	**2,290**	0.269 J	
	RA-4196	Apr-16		422	122	0.344	2.36 J	103	**1,150**	**2,800**	0.0700 J	
	RA-4196	Oct-16		382	151	0.299	2.11	103	**1,310**	**2,410**	0.0490 JBJ6	
	RA-4196	Apr-17		378	142	0.309	2.19	91.1	**1,250**	**2,220**	<0.197	
	RA-4196	Oct-17		376	109	0.242	2.10	99.4	**1,100**	**2,360**	<0.0197	
	RA-4798	Apr-15		465	183	0.415	2.21	128	**1,740**	**2,740**	0.936	
	RA-4798	Oct-15		396	142	0.335	2.12	105	**1,520**	**2,230**	1.53	
	RA-4798	Apr-16		449	142	0.347	2.40 J	117	**1,290**	**2,290**	1.28	
	RA-4798	Oct-16		437	174	0.359	2.27	129	**1,560**	**2,880**	0.930	
	RA-4798	Apr-17		305	95.1	0.359	2.03	64.6	**1,010**	**1,820**	1.55	
	RA-4798	Oct-17		378	127	0.215	2.06	99.5	**1,300**	**2,220**	1.82	
	RW-12R	Apr-16		448	174	0.334	0.437 J	181	**1,610**	**3,130**	0.326 J	
	RW-12R	Apr-17		392	189	0.623	0.293 J	152	**1,740**	**2,420** J3	<0.197	
	RW-13R	Apr-16		202	222	0.691	0.346 J	167	341	**1,190**	0.0460 J	
	RW-18	Apr-14		545	**347**	**1.78**	0.984	218	**2,860**	**5,600**	3.33	
	RW-18	Apr-15		482	232	**2.46**	1.30	230	**3,670**	**4,440**	6.55	
	RW-18	Apr-16		542	193	**2.85**	1.13 J	186	**3,800**	**4,640**	2.79	<0.00120
	RW-18	Apr-17		504	176	**2.51**	1.09	141	**2,870**	**4,400**	1.90	
	RW-20	Apr-15		228	**256**	0.530	<0.180	228	125	**1,430**	<0.200	
	RW-22	Apr-15		184	**402**	0.860	0.319 J	274	78.4	**1,680**	<0.200	
North Refinery	MW-23	Apr-15		222	**864**	**1.63**	0.562 J	577	509	**3,030**	0.0259 J	
	MW-23	Oct-15		114	**480**	**1.72**	1.92	463	29.9	**2,190**	2.70 J	
	MW-23	Apr-16		110	**500**	**1.81**	2.14 J	561	1.84 J	**1,990**	<0.197	
	MW-23	Oct-16		259	**445**	1.58	2.16	430	0.536 J	**2,140**	<0.197	
	MW-23	Apr-17		102	**517**	**1.74**	1.59	446	5.27	**2,040**	<0.197	
	MW-23	Oct-17		106	**438**	**1.64**	1.70	460	6.35	**1,800**	<0.197	
	MW-29	Apr-15		427	**283**	0.795	1.52	207	**2,100**	1,000	<0.0200	
	MW-29	Oct-15		397	115	0.722	0.823 J	167	**2,080**	**3,330**	<0.197	
	MW-29	Apr-16		465	134	1.04	1.29 J	210	**2,620**	**3,830**	0.105 J6	
	MW-29	Oct-16		398	**282**	0.919	0.964 J	227	**1,660**	**3,210**	0.502 J	
	MW-29	Apr-17		412 V	**268**	0.642	0.745 J	178 V	**1,790**	**3,670**	<0.197	
	MW-29	Oct-17		407	**278**	0.949	1.14	261	**1,600**	**3,370**	<0.0985	
	MW-39	Apr-15		509	190	**3.09**	3.62 J	179	**1,380**	**2,640**	<0.200	
	MW-39	Oct-15		432	152	**2.48**	3.14	133	**1,660**	**2,960**	0.300 J	
	MW-39	Apr-16		113	**305**	**2.68**	0.459 J	1290	**951**	**4,010**	0.530 J	
	MW-39	Oct-16		189	**334**	**2.35**	0.546 J	1510	**2,360**	**5,950**	<0.197	
	MW-39	Apr-17		84.0	**271**	**2.60**	0.347 J	1260	**957**	**3,890**	<0.197	
	MW-39	Oct-17		73.3	148	**3.06**	0.303 J	989	**953**	**3,040**	<0.0197	
	MW-40	Apr-14		386	179	1.28	1.56	124	**1,340**	**2,700**	<0.150	
	MW-40	Apr-15		571	**298**	**1.66**	1.89 J	134	**1,380**	**2,640**	<0.200	
	MW-40	Apr-16		504	146	**1.70**	1.76 J	127	**1,680**	**2,670**	<0.197	
	MW-40	Apr-17		474	156	**1.76**	1.62	110	**1,550**	**3,190**	<0.197	
	MW-41	Apr-14		242	**275**	0.747	0.444	387	**1,450**	**3,760**	<0.150	
	MW-41	Apr-15		313	**290**	1.07	0.648 J	501	**1,410**	**2,710**	<0.0200	
	MW-41	Apr-16		258	**312**	1.04	0.393 J	453	**1,180**	**2,530**	<0.197	
	MW-41	Apr-17		224	**328**	0.936	0.415 J	379	**1,200**	**2,890**	<0.197	
	MW-42	Apr-14		248	**914**	0.545	0.560	508	**954**	**3,440**	<0.150	
	MW-42	Apr-15		309	**562**	0.962	0.579 J	611	**1,110**	**3,440**	<0.0200	
	MW-42	Apr-16		295	**457**	0.867	0.617 J	601	**1,090**	**3,010**	<0.197	
	MW-42	Apr-17		222	**406**	0.831	0.421 J	462	**1,100**	**3,410**	0.416 JP1	
	MW-43	Apr-15		186	**726**	0.709	<0.180	511	122	**2,290**	<0.0200	<0.00180
	MW-43	Oct-15		241	**984**	**2.19**	1.26	658	**677**	**4,160**	<0.197 J	0.0810
	MW-43	Apr-16		178	**1,010**	**2.27**	0.956 J	812	**747**	**4,820**	0.270 J	<0.00120
	MW-43	Oct-16		212	**855**	**2.00**	1.23	664	**619**	**4,470**	<0.197	<0.0180
	MW-43	Apr-17		180	**687**	**2.10**	0.905 J	559	450 J	**3,530**	<0.197	0.0802
	MW-43	Oct-17		184	**756**	**2.17**	1.01	585	472	**3,200**	<0.394	<0.00180
	MW-59	Apr-14		514	176	0.475	0.643	156	**1,890**	**3,420**	<0.150	
	MW-59	Apr-15		489 J	178	1.23	0.489 J	139	**1,760**	**3,300**	0.0241 J	
	MW-59	Apr-16		2370	126	1.28	2.61 J	711	**1,790**	**3,300**	0.374 J	
	MW-59	Apr-17		467	184	1.13	0.519 J	134	**1,870**	**3,160**	<0.197	
	MW-60	Apr-15		411 J	198	0.968	0.558 J	190	**1,810**	**3,530**	<0.200	<0.00180
	MW-60	Apr-15	FD	403 J	241	1.07	0.541 J	186	**1,910**	**3,710**	<0.200	<0.00180
	MW-60	Oct-15		395	209	0.964	0.565 J	185	**1,910**	**3,560**	<0.197	<0.00180
	MW-60	Oct-15	FD	416	210	0.996	0.569 J	191 J	**1,990**	**3,660**	0.276 J	<0.00180
	MW-60	Apr-16		446	212	0.568	0.624 J	227	**2,090**	**3,980**	0.0410 J	<0.00120
	MW-60	Apr-16	FD	447	190	1.00	0.588 J	226	**2,140**	**3,200**	0.0650 JJ6	<0.00120

Table 4C - Summary of Groundwater Analytical Data - Water Quality Parameters and Cyanide

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

		Analyte Group:		Water Quality Parameters								Cyanide
		Analyte:		Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite	Cyanide
		Units:		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		CGWSL:		---	250	1.60	---	---	600	1,000	10.0	0.200
		CGWSL Source:			WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL	USEPA MCL
Area	**Well ID**	**Date**	**Dup**									
North Refinery	MW-60	Oct-16		408	163	1.04	0.540 J	151	**2,020**	**3,610**	0.0710 JB	<0.00180
	MW-60	Oct-16	FD	410	162	1.05	0.509 J	149	**2,050**	**3,280**	0.0660 JBJ6	<0.00180
	MW-60	Apr-17		410	201	0.835	0.606 J	196	**2,060**	**3,470**	<0.197	<0.0900
	MW-60	Apr-17	FD	409	206	0.960	0.597 J	198	**1,850**	**3,650**	<0.197	<0.0900
	MW-60	Oct-17		422	222	1.07	0.717 J	233	**2,040**	**3,720**	<0.394	<0.00180
	MW-60	Oct-17	FD	412	212	0.885	0.707 J	230	**2,000**	**3,990**	<0.197	0.00553
	MW-61	Apr-15		457	**287**	1.30	1.10 J	349	**1,280**	**2,910**	<0.200	
	MW-61	Oct-15		375	179	**2.61**	2.28	286	**2,080**	**2,520**	<0.197	
	MW-61	Apr-16		439	240	**2.65**	2.82 J	278	**2,120**	**2,680**	0.552 J	
	MW-61	Oct-16		409	115	**3.14**	3.89	226	**1,400**	**2,430**	<0.197	
	MW-61	Apr-17		322	225	**2.08**	1.85	248	**1,100**	**2,600**	<0.197	
	MW-61	Oct-17		330	**303**	**1.93**	2.61	291	**933**	**3,110**	<0.394	
	MW-62	Apr-15		126	**485**	1.52	1.72	478	21.0	**1,930**	<0.0200	
	MW-62	Oct-15		425	**273**	**1.93**	1.31	399	**1,900**	**4,050**	<0.197	
	MW-62	Apr-16		481	**276**	**1.92**	1.42 J	456	**1,850**	**3,830**	0.322 J	
	MW-62	Oct-16		371	243	**1.79**	1.15	359	**1,390**	**3,460**	<0.197	
	MW-62	Apr-17		358	**275**	**1.78**	1.20	358	**1,180**	**3,210**	<0.197	
	MW-62	Oct-17		341	**265**	**2.23**	1.92	349	**1,030**	**2,480**	<0.394	
	MW-67	Apr-15		194	208	0.698	0.531 J	160	329	**1,510**	<0.200	<0.00180
	MW-67	Oct-15		192	225	0.589	0.533 J	177	311	**1,450**	<0.197	<0.00180
	MW-67	Apr-16		202	**312**	0.548	0.427 J	218	281	**1,790**	<0.197	0.0440 J
	MW-67	Oct-16		205	**310**	0.620	0.574 J	211	303	**1,880**	<0.0197 J6	<0.0180
	MW-67	Apr-17		199	**393**	0.570	0.565 J	229	275	**2,010**	<0.197	<0.0900
	MW-67	Oct-17		207	**305**	0.568	0.500 J	200	388	**1,740**	<0.0985	<0.00180
	MW-90	Apr-15		302	104	**2.73**	1.63	286	**2,230**	**3,800**	<0.200	
	MW-90	Oct-15		481	22.7	**6.77**	2.07	135	**4,530**	**5,130**	3.44	
	MW-90	Apr-16		411	85.9	**6.25**	1.69 J	246	**3,250**	**5,180**	0.377 J	
	MW-90	Oct-16		534	74.7	**8.22**	1.84	142	**3,610**	**5,730**	**14.7**	
	MW-90	Apr-17		363	161	**3.41**	1.61	189	**2,740**	**3,880**	<0.197	
	MW-90	Oct-17		322	116	**2.74**	1.34	182	**1,930**	**3,340**	<0.0985	
	MW-91	Apr-15		355	32.8	1.40	0.523 J	30.8	**643**	**1,980**	<0.200	
	MW-91	Oct-15		361	35.7	1.34	0.686 J	35.0	**854**	**2,280**	<1.97	
	MW-91	Apr-16		379	37.1	1.37	0.464 J	36.6	**776**	**2,270**	0.320 J	
	MW-91	Oct-16		366	37.4	1.45	0.525 J	35.1	**862**	**2,260**	<0.0197	
	MW-91	Apr-17		362	74.8	1.18	0.463 J	33.8	**790**	**2,120**	<0.197	
	MW-91	Oct-17		389	115	0.897	0.620 J	39.2	**944**	**2,520**	<0.394	
	MW-92	Apr-16		130 O1	**415**	1.30	1.73 J	450 O1V	24.1	**2,310**	0.602 J	
	MW-92	Oct-16		134	**539**	**1.63**	2.02	454	14.6	**2,150**	<0.985	
	MW-93	Apr-15		579	221	**2.23**	2.58 J	126	**2,050**	**3,080**	<0.0200	
	MW-93	Oct-15		516	**251**	**2.37**	5.23	133	**3,070**	**3,080**	2.92 J	
	MW-93	Apr-16		677	206	**3.06**	1.76 J	164	**2,130**	**3,270**	<0.197	
	MW-93	Oct-16		553 V	200	**2.78**	3.45 O1	167 V	**1,630**	**3,260**	<0.197	
	MW-93	Apr-17		489	192	**2.38**	2.97	167	**1,430**	**2,930**	<0.197	
	MW-94	Oct-15		109	245	1.01	0.224 J	355	75.8	**2,530**	<0.197	
	MW-94	Apr-16		124	217	1.02	0.189 J	532	199	**2,980**	<0.197	
	MW-94	Oct-16		137	172	1.04	0.467 J	319	175	**2,530**	<0.0197	
	MW-94	Apr-17		95.6	196	0.874	0.331 J	427	85.7	**2,660**	<0.197	
	MW-95	Apr-14		177	226	0.560	0.494	143	160	**1,440**	<0.150	
	MW-95	Apr-15		178	**275**	1.02	0.655 J	177	359	**1,680**	<0.200	
	MW-95	Apr-16		191	**280**	0.805	0.518 J	180	326	**1,670**	<0.197	
	MW-95	Apr-17		203 V	**349**	0.868	0.730 J	194 V	420	**1,710**	<0.197	
	MW-96	Apr-15		208	**884**	1.19	1.03	224	**1,730**	**1,680**	0.211 J	
	MW-96	Oct-15		230	190	1.23	1.21	244	583	**1,990**	0.202 J	
	MW-96	Apr-16		187	159	1.18	1.10 J	234	255	**1,590**	0.313 J	
	MW-96	Oct-16		210	169	1.19	1.03	225	456	**1,990**	0.0230 J	
	MW-96	Apr-17		179	191	1.08	1.10	208	298	**1,600**	<0.197	
	MW-96	Oct-17		173	159	0.785	0.907 J	199	535	**1,680**	<0.0985	
	MW-98	Apr-15		497	41.6	1.29	<0.180	91.5	**2,010**	**3,040**	<0.0200	
	MW-98	Oct-15		427	55.7	1.53	0.134 J	74.9	**1,790**	**3,340**	<0.197	
	MW-98	Apr-16		539	74.2	1.43	<0.185	89.6	**1,690**	**3,040**	<0.197	
	MW-98	Oct-16		450	88.0	1.52	0.241 J	72.7	**1,610**	**3,370**	<0.197	
	MW-98	Apr-17		516	93.5	**1.68**	0.180 J	79.2	**1,850**	**3,200**	<0.197	
	MW-98	Oct-17		541	105	1.30	0.176 J	87.1	**1,890**	**3,520**	<0.394	
	MW-137	Oct-15		142	**390**	**1.97**	1.90	1320	**1,090**	**3,880**	<0.197	0.144
	MW-137	Apr-16		178	**343**	**1.87**	2.43 J	1740	**2,160**	**3,950**	<0.197	**0.348** J
	MW-137	Oct-16		142	**445**	1.32	1.23	960	**1,040**	**3,550**	<0.197	<0.0450
	MW-137	Apr-17		139	**478**	1.54	1.53	1120	**1,050**	**4,230**	<0.197	0.116
	MW-137	Oct-17		141	**548**	1.11	0.979 J	759	**683**	**2,910**	<0.394	<0.00180
	MW-138	Oct-15		139	**490**	1.08	1.75	410	154	**1,920**	<0.197	<0.00180
	MW-138	Apr-16		160	**571**	1.13	2.03 J	568	164	**2,180**	<0.197	0.0290 J
	MW-138	Oct-16		138	**527**	0.927	1.84	426	122	**2,380**	<0.197	<0.0450
	MW-138	Apr-17		121	**571**	1.14	1.81	424	72.3	**1,930**	<0.197	<0.00180
	MW-138	Oct-17		124	**453**	1.06	1.50	401	27.9	**2,100**	<0.0985	<0.00180
	RW-1	Apr-15		358	224	1.33	3.57	210	**1,330**	**2,410**	<0.200	
	RW-1R	Apr-16		505	180	1.38	6.39	203	**1,500**	**2,990**	0.422 J	
	RW-1R	Apr-17		558	246	1.41	7.37	268	**1,860**	**3,690**	<0.197	
	RW-2	Apr-15		726	**365**	**1.75**	5.55 J	383	**3,510**	**5,310**	<0.200	
	RW-2R	Apr-16		875	**430**	**2.09**	5.80	396	**2,200**	**3,810**	0.281 J	
	RW-2R	Apr-17		519	**251**	**2.35**	2.86	261	**1,200**	**3,030**	<0.197	
	RW-7	Apr-15		252	237	1.15	1.88 J	192	19.0	**1,500**	<0.200	
	RW-7R	Apr-16		262	186	0.651	0.651 J	110	**624**	878	<0.197	
	RW-7R	Apr-17		266	204	0.513	0.922 J	105	**693**	**1,740**	<0.197	
	RW-8	Apr-15		227	115	0.801	0.353 J	209	473	**1,600**	<0.200	
	RW-8	Apr-17		218	163	0.731	0.360 J	161	**665**	**1,820**	<0.197	
	RW-9	Apr-14		291	**318**	1.10	1.57	306	**1,260**	**3,380**	<0.150	
	RW-9	Apr-15		315	**313**	**1.68**	1.69	318	**1,310**	**3,150**	<0.200	
	RW-9	Apr-16		336	**313**	**1.69**	1.96 J	356	**1,440**	**3,370**	1.73	
	RW-9	Apr-17		355	**369**	**1.90**	2.26	326	**1,370**	**3,370**	<0.197	
	RW-10	Apr-14		324	231	**2.17**	5.84	227	**2,060**	**3,420**	<0.150	
	RW-10	Apr-15		494	187	**3.34**	9.04	172	**2,010**	**3,290**	0.639	
	RW-10	Apr-16		638	159	**4.28**	13.2	176	**2,040**	**3,330**	1.21	
	RW-10	Apr-17		457	88.0	**3.53**	3.24	110	**1,500**	**2,660**	<0.197	
	RW-16	Apr-14		531	**452**	**3.74**	0.799	430	**2,680**	**5,130**	<0.150	
	RW-16	Apr-14	FD	556	**429**	**3.89**	0.767	455	**2,550**	**5,150**	<0.150	
	RW-16	Apr-15		641	**534**	**4.61**	1.69 J	594	**3,220**	**5,430**	2.87	
	RW-16	Apr-16		604	**416**	**3.01**	1.15 J	502	**3,360**	**5,610**	2.45	
	RW-16	Apr-17		499	**291**	**4.90**	0.832 J	372	**2,740**	**5,030**	2.20	
	RW-17	Apr-14		585	**524**	**1.84**	3.88	405	**3,280**	**6,100**	<0.150	
	RW-17	Apr-15		683	**494**	**2.58**	9.10	631	**4,180**	**5,840**	**31.6**	
	RW-17	Apr-16		2840	**377**	**2.22**	28.7	1800	**3,400**	**5,880**	4.77	
	RW-17	Apr-17		568	**398**	**2.61**	4.02	306	**2,950**	**4,820**	3.33	

Table 4C - Summary of Groundwater Analytical Data - Water Quality Parameters and Cyanide

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	Water Quality Parameters								Cyanide
				Analyte:	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite	Cyanide
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	250	1.60	---	---	600	1,000	10.0	0.200
				CGWSL Source:		WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL	USEPA MCL
Area	**Well ID**	**Date**	**Dup**										
North RO Reject Field	MW-117	Apr-15		613	87.2	**3.79**	5.97		102	**2,220**	**3,670**	0.372 J	
	MW-117	Oct-15		478	55.4	**3.40**	6.44		109	**1,690**	**2,980**	0.779 J	
	MW-117	Apr-16		554	94.4	**3.45**	5.82		112	**2,060**	**3,390**	0.349	
	MW-117	Oct-16		592	**272**	**3.57**	6.90		115	**2,240**	**3,590**	0.137 BJ6	
	MW-117	Apr-17		548	245	**3.33**	6.50		96.7	**2,090**	**3,640**	0.266 J	
	MW-117	Oct-17		559	216	**2.05**	5.82		105	<0.0774	**3,450**	0.196	
	MW-118	Apr-15		601	**767**	**4.14**	5.30		153	**2,510**	**3,960**	1.7	
	MW-118	Oct-15		583	86.6	**5.13**	5.64		162	**2,690**	**3,960**	0.622 J	
	MW-118	Apr-16		573	189	**5.86**	4.80 J		152	**2,480**	**3,950**	1.57	
	MW-118	Oct-16		559	131	**6.47**	5.92		164	**2,640**	**4,450**	6.71	
	MW-118	Apr-17		544	175	**5.98**	5.06		139	**2,630**	**3,830**	8.51	
	MW-118	Oct-17		550	192	**4.20**	5.72		118	**2,890**	**3,780**	6.27	
	MW-119	Apr-15		590	48.2	**1.99**	0.232 J		54.5	**2,040**	**3,030**	0.292 J	
	MW-119	Oct-15		624	152	**2.65**	0.985 J		86.3	**2,290**	**3,500**	0.437 J	
	MW-119	Apr-16		595	191	**2.50**	0.614 J		101	**1,900**	**3,330**	0.518 J	
	MW-119	Oct-16		619	**280**	**2.91**	0.991 J		132	**2,010**	**3,690**	0.189 B	
	MW-119	Apr-17		587	**290**	**2.86**	0.965 J		123	**2,420**	**3,650**	<0.197	
	MW-119	Oct-17		612	**268**	**2.77**	1.27		172	**2,240**	**3,750**	<0.0197	
NCL	MW-18	Apr-14		507	159	0.954	2.89		83.2	**1,830**	**3,700**	**35.2**	<0.00500
	MW-18	Apr-15		407	185	1.45	7.18		66.7	**1,600**	**3,110** J	**36.1**	<0.00180
	MW-18	Apr-16		504	178	1.39	3.69 J		107	**1,600**	**2,920**	**42.6**	0.00200 J
	MW-18	Apr-17		486	77.5	**3.44**	13.9		65.0	**1,970**	**3,420**	**51.0**	<0.00180
	MW-45	Apr-15		605	**1,260**	1.44	4.47		346	**2,580**	**5,300** J	<0.0200	<0.00180
	MW-45	Oct-15		610	**454**	1.37	5.02		376	**2,910**	**4,660**	0.0290 J	<0.00180
	MW-45	Apr-16		689	**524**	1.51	6.33		429	**2,710**	**4,760**	<0.197	<0.00180
	MW-45	Oct-16		640	**546**	1.48 J6	5.30		392	**2,810**	**4,730**	0.377 B	0.00953
	MW-45	Apr-17		625	**545**	1.27	5.69		394	**2,840**	**5,410**	0.0270 J	<0.00180
	MW-45	Oct-17		596	**544**	1.59	4.79		369	**2,650**	**5,740**	<0.0197	<0.00180
	MW-53	Apr-14		290	95.4	0.827	0.935		87.6	**1,190**	**2,060**	<0.150	
	MW-53	Apr-15		348	**1,010**	0.922	1.16		104	**1,290**	**2,810** J	**34.5**	
	MW-53	Apr-16		459	**346**	1.06	1.42 J		161	**1,340**	**2,890**	**25.3**	
	MW-53	Apr-17		340	222	0.904	1.12		130	**1,330**	**2,290**	**15.6**	
	MW-54A	Apr-15		318	192	1.10	0.276 J		62.9	**712**	**2,080** J	0.450	
	MW-54A	Oct-15		356	210	1.10	0.330 J		70.2	**796**	**2,140**	4.32 J	
	MW-54A	Apr-16		381	176	1.12	0.303 J		69.4	**625**	**1,780**	<0.197 J6	
	MW-54A	Oct-16		331	175	0.997	0.254 J		61.5	**670**	**1,770**	0.134 J6B	
	MW-54A	Apr-17		330	193	0.987	0.289 J		59.8	**797**	**1,800**	0.0860 J	
	MW-54A	Oct-17		359	204	1.34	0.271 J		67.2	**819**	**2,060**	0.691	
	MW-54B	Apr-13		345	176	<0.500	1.16		48.8	**747**	**2,050**	<1.00	
	MW-54B	Apr-15		307	166	0.613	0.767 J		48.0	**752**	**1,890** J	0.0276 J	
	MW-54B	Apr-17		317	127	0.617	1.18		54.5	**1,040**	**1,840**	0.100 J	
	MW-55	Apr-15		627	**266**	**1.88**	0.692 J		167	**2,940**	**4,910** J	**15.5**	<0.00180
	MW-55	Oct-15		411	216	**1.85**	0.756 J		166	**2,300**	**4,000**	5.57	<0.00180
	MW-55	Apr-16		472	**442**	1.04	0.829 J		253	**2,080**	**4,200**	2.26	<0.00120
	MW-55	Oct-16		465	219	**2.09**	0.732 J		174	**2,190**	**3,810**	3.65	<0.00180
	MW-55	Apr-17		378	**446**	1.44	0.745 J		206	**1,550**	**3,580**	3.14	<0.00180
	MW-55	Oct-17		444	**435**	**2.02**	0.675 J		228	**2,020**	**3,970**	3.45	<0.00180
	MW-56	Apr-15		485	**927**	1.11	1.90		272	**1,900**	**3,640** J	1.28	
	MW-56	Oct-15		514	**399**	1.12	2.05		342	**2,490**	**4,080**	4.34	
	MW-56	Apr-16		559 V	**403**	1.10	2.32 JO1		379 V	**1,970**	**3,790**	2.76	
	MW-56	Oct-16		446 V	**263**	1.19	1.97		317 V	**1,910**	**4,110**	0.151 B	
	MW-56	Apr-17		501 V	**453**	1.00	2.10		338 V	**2,070**	**4,100**	3.93	
	MW-108	Apr-15		289	78.8	**2.52**	1.50		76.8	**962**	**2,540** J	<0.390	
	MW-108	Oct-15		298	77.5	**2.30**	1.31		88.9	**1,090**	**2,530**	<0.197	
	MW-108	Apr-16		333	79.6	**2.04**	1.28 J		92.6	**981**	**2,120**	0.304 J	
	MW-108	Oct-16		343	112	**2.75**	3.88		116	**1,340**	**2,830**	0.0460 JB	
	MW-108	Apr-17		251	80.4	**1.90**	0.893 J		81.7	**717**	**1,980**	0.0310 JJ6	
	MW-108	Oct-17		339	92.9	**1.88**	4.67		135	**1,510**	**2,660**	<0.0985	
	NCL-31	Apr-15		266	89.5	1.25	0.220 J		100	**1,240**	**2,670** J	<0.200	
	NCL-31	Oct-15		392	129	1.20	0.418 J		125	**2,100**	**3,220**	<0.197	
	NCL-31	Apr-16		340	78.9	1.14	0.272 J		109	**1,420**	**3,020**	0.385 J	
	NCL-31	Oct-16		445	67.8	1.57	0.564 J		148	**2,400**	**3,820**	0.0840 JB	
	NCL-31	Apr-17		369	65.7	1.19	0.434 J		111	**1,890**	**3,150**	0.127	
	NCL-31	Oct-17		341	53.7	1.44	0.362 J		103	**2,020**	**3,000**	<0.0197	
	NCL-32	Apr-15		446	177	**1.92**	4.15 J		92.6	**1,050**	**2,250**	<0.200	
	NCL-32	Oct-15		540	**329**	1.57	4.98		97.0	**1,430**	**2,280**	<0.197	
	NCL-32	Apr-16		697	206	**2.05**	7.60		115	**1,340**	**2,740**	<0.197	
	NCL-32	Oct-16		390	128	1.48	3.26		102	**1,220**	**2,230**	1.77	
	NCL-32	Apr-17		387	155	1.54	3.19		102	**1,310**	**2,440**	4.90	
	NCL-32	Oct-17		398	117	1.31	2.94		109	**1,490**	**2,540**	6.14	
	NCL-33	Apr-15		431	**281**	**2.58**	4.31 J		111	**800**	**2,280**	<0.0200	
	NCL-33	Oct-15		419	**404**	**2.49**	4.86		119	**847**	**2,140**	<0.197	
	NCL-33	Apr-16		622	**280**	**2.82**	7.58		113	**1,370**	**3,200**	0.367 J	
	NCL-33	Oct-16		462	**400**	**2.65**	5.28		109	**900**	**2,790**	0.0750 JB	
	NCL-33	Apr-17		514	**412**	**2.62**	5.98		101	**1,220**	**2,750**	0.0320 J	
	NCL-33	Oct-17		509	**458**	**2.77**	6.09		114	**1,150**	**2,820**	<0.0197	
	NCL-34A	Apr-15		275	249	1.36	0.570 J		117	110	**1,490**	<0.200	
	NCL-34A	Oct-15		202	182	1.43	0.877 J		103	104 J	**1,250**	0.284 J	
	NCL-34A	Apr-16		347	**416**	1.31	2.20 J		140	82.2	**1,540**	0.265 J	
	NCL-34A	Oct-16		249	238	1.43	1.27		107	95.0	**1,370**	0.0470 JB	
	NCL-34A	Apr-17		270	**313**	1.27	1.36		108	76.1	**1,440**	0.0570 JJ6	
	NCL-34A	Oct-17		214	202	1.37	1.08		111	131	**1,400**	<0.0394	
	NCL-44	Apr-15		269	161	**1.78**	1.64 J		73.4	468	**2,510**	<0.200	
	NCL-44	Oct-15		276	182	**1.69**	2.07		71.4	**633**	**1,890**	<0.197	
	NCL-44	Apr-16		414	234	1.59	2.62 J		98.3	**965**	**2,120**	<0.197	
	NCL-44	Oct-16		373	222	**1.67**	2.29		94.9	**1,030**	**2,130**	0.0810 JB	
	NCL-44	Apr-17		360	198	**1.65**	2.31		99.7	**1,070**	**2,390**	0.0470 J	
	NCL-44	Oct-17		350	158	**1.69**	2.26		119	**1,260**	**2,480**	<0.0197	
	NCL-49	Apr-15		377	109	**1.64**	0.552 J		105	**1,400**	**2,840** J	4.53	
	NCL-49	Apr-15	FD	380	**395**	0.531	0.589 J		105	**1,650**	**2,850** J	4.50	
	NCL-49	Oct-15		406	112	0.593	0.607 J		115	**1,770**	**2,830**	5.79	
	NCL-49	Oct-15	FD	407	113	0.598	0.613 J		114	**1,800**	**2,860**	5.79	
	NCL-49	Apr-16		468	119	0.685	0.749 J		136	**1,570**	**2,820**	5.71	
	NCL-49	Apr-16	FD	470	119	0.685	0.792 J		137	**1,580**	**2,790**	5.63	
	NCL-49	Oct-16		425	128	0.600	0.590 J		120	**1,700**	**2,770**	6.08	
	NCL-49	Oct-16	FD	429	130	0.600	0.597 J		122	**1,670**	**3,290**	6.01	
	NCL-49	Apr-17		451	172	0.576	0.632 J		133	**2,010**	**3,070**	9.84	
	NCL-49	Apr-17	FD	452	159	0.575	0.633 J		133	**1,970**	**2,990**	9.78	
	NCL-49	Oct-17		481	173	0.698	0.594 J		132	**2,080**	**3,200**	8.41	
	NCL-49	Oct-17	FD	458	169	0.713	0.605 J		131	**2,050**	**3,140**	8.41	

Table 4C - Summary of Groundwater Analytical Data - Water Quality Parameters and Cyanide

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

		Analyte Group:		Water Quality Parameters								Cyanide
		Analyte:		Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite	Cyanide
		Units:		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		CGWSL:		---	250	1.60	---	---	600	1,000	10.0	0.200
		CGWSL Source:			WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL	USEPA MCL
Area	**Well ID**	**Date**	**Dup**									
South Refinery	KWB-2R	Apr-15		233	**259**	0.879	0.777 J	267	**884**	**2,450**	<0.200	
	KWB-2R	Oct-15		168	228	1.21	1.23	296	418	**1,970**	<0.197	
	KWB-2R	Apr-16		322	207	0.485	0.456 J	325	**1,460**	**2,910**	0.0340 JJ6	
	KWB-2R	Oct-16		275	215	0.901	0.433 J	282	**1,150**	**2,850**	0.0740 JB	
	KWB-2R	Apr-17		280	**279**	0.904	0.460 J	286	**1,060**	**2,550**	0.0220 J	
	KWB-2R	Oct-17		139	240	1.09	1.33	283	259	**1,770**	<0.394	
	KWB-5	Apr-15		237	**518**	0.687	1.79	198	8.08	**1,500**	<0.0200	
	KWB-5	Oct-15		228	**575**	0.853	1.60	203	6.81	**1,540**	0.243 J	
	KWB-5	Apr-16		252	**5,800**	0.392	1.66 J	222	235 J	**1,760**	0.0400 J	
	KWB-5	Oct-16		228	**562**	0.910	1.34	220	6.46	**1,560**	0.0460 JBJ6	
	KWB-5	Apr-17		224	**575**	0.936	1.48	204	14.8	**1,580**	<0.197	
	KWB-5	Oct-17		220	**565**	0.877	1.41	208	21.9	**1,560**	0.0530 J	
	KWB-6	Apr-15		212	**305**	0.366	0.220 J	193	16.2	**1,460**	0.148	
	KWB-6	Oct-15		229	**265**	0.935	0.181 J	144	264	**1,410**	0.273 J	
	KWB-6	Apr-16		246	**313**	1.03	0.206 J	199	83.1	**1,410**	<0.197	
	KWB-6	Oct-16		232	**280**	0.977	0.219 JB	109	275	**1,590**	0.0770 JB	
	KWB-6	Apr-17		227	**260**	0.965	0.183 J	120	211	**1,630**	0.556 J	
	KWB-6	Oct-17		256	**290**	0.842	0.162 J	131	377	**1,890**	<0.394	
	MW-28	Apr-15		439 J	160	1.59	0.685 J	89.5	**1,080**	**2,760**	<0.390	0.0132
	MW-28	Oct-15		379	159	**1.67**	0.632 J	92.7	**1,060**	**3,000**	0.211 J	0.0108
	MW-28	Apr-16		1500	135	1.42	4.06 J	450	**672**	**3,040**	0.470 J	<0.00120
	MW-28	Oct-16		480	147	1.40	0.640 J	74.0	**1,320**	**1,900**	0.0460 JB	<0.0180
	MW-28	Apr-17		380	190	1.56	0.778 J	89.9	**1,170**	**2,420**	<0.197	<0.0900
	MW-28	Oct-17		376	146	1.51	1.37	90.3	**1,180**	**2,640**	<0.394	<0.00180
	MW-48	Apr-15		258 J	161	0.498	0.680 J	276	47.6	725	<0.200	
	MW-48	Oct-15		186	**391**	0.644	2.61	355	235	**1,940**	<0.197	
	MW-48	Apr-16		234	**1,110**	1.45	1.80 J	314	20.5	**2,950**	<0.197	
	MW-48	Oct-16		200	**580**	1.07	1.18	339	239	**2,270**	0.0300 JB	
	MW-48	Apr-17		190	**909**	1.47	1.13	255	18.2	**2,210**	0.202 J	
	MW-48	Oct-17		191	**820**	1.01	0.908 J	272	19.3	**2,280**	<0.0197	
	MW-50	Apr-15		450	**259**	0.966	2.18	178	**1,680**	**2,860**	<0.200	
	MW-50	Oct-15		403	226	0.899	2.29	175	**1,740**	**2,770**	2.61 J	
	MW-50	Apr-16		645	**491**	**3.96**	8.60	969	**4,280**	**4,580**	**150**	
	MW-50	Oct-16		546	**511**	**3.86** J6	12.4	912	**4,690**	**9,320**	0.594	
	MW-50	Apr-17		566	**463**	**2.21**	5.90	646	**3,710**	**6,840**	**155**	
	MW-50	Oct-17		572	**431**	**2.57**	5.57	620	**3,580**	**6,620**	**136**	
	MW-52	Apr-15		168 J	158	**1.88**	0.252 J	267	**832**	**3,740**	1.54	<0.00180
	MW-52	Oct-15		196	144	**1.76**	0.242 J	285	**998**	**2,040**	3.13	<0.00180
	MW-52	Apr-16		778	160	**1.79**	1.20 J	1350	**995**	**1,920**	1.73	<0.00120
	MW-52	Oct-16		194	144	**1.77**	0.262 J	278	**1,100**	**2,370**	1.04	0.00182 J
	MW-52	Apr-17		181	154	**1.65**	0.283 J	297	**1,060**	**2,260**	3.27	<0.00180
	MW-52	Oct-17		238	114	1.09	0.245 J	275	**1,270**	**2,550**	9.42	<0.00180
	MW-64	Apr-16		109	**379**	1.08	0.754 J	396	39.9	**1,510**	<0.197	
	MW-64	Oct-16		109	**356**	0.855	0.689 J	361	4.08 J	**1,650**	0.0790 JB	
	MW-64	Apr-17		99.7	**382**	1.03	0.774 J	367	3.93 J	**1,760**	0.0400 J	
	MW-64	Oct-17		96.6	**326**	0.984	0.656 J	351	7.90	**1,590**	<0.394	
	MW-65	Apr-15		147	**382**	1.21	0.783 J	257	<0.0770	**1,410**	0.0613 J	
	MW-65	Apr-16		155 V	**394**	1.28	0.691 J	311 V	0.323 J	**1,750**	0.0490 JJ6	
	MW-65	Oct-16		157	**356**	1.48	1.46	287	0.431 J	**1,380**	0.219 B	
	MW-65	Apr-17		134	**354**	1.38	1.01	279	0.822 J	**1,430**	0.0330 J	
	MW-65	Oct-17		132	**314**	1.44	1.03	267	0.470 J	**1,320**	<0.0197	
	MW-66	Apr-15		120	141	1.53	0.858 J	134	0.596 J	948	0.0292 J	<0.00180
	MW-66	Oct-15		134	201	1.34	0.742 J	163	0.110 J	**1,090**	<0.197	0.00180 J
	MW-66	Apr-16		600	134	1.36	4.83 J	740	0.591 J	942	0.363 J	<0.00120
	MW-66	Oct-16		131	174	1.42	0.770 J	155	0.327 J	**1,020**	0.0480 JB	<0.00180
	MW-66	Apr-17		115	184	1.55	0.830 J	143	0.360 J	976	0.0370 JP1	<0.00180
	MW-66	Oct-17		139	179	1.42	1.14	159	1.69 J	**1,080**	<0.0197	<0.00180
	MW-99	Apr-15		48.7	33.4	0.328	5.30	23.9	41.3	267	0.789	
	MW-99	Oct-15		176	249	0.706	0.955 J	215	127	**1,390**	<0.197	
	MW-99	Apr-16		805	208	0.866	6.37	1100	153	**1,410**	0.0330 JJ6	
	MW-99	Oct-16		137	192	0.656	3.60	168	39.0	**1,200**	0.0350 JB	
	MW-99	Apr-17		161	**284**	0.758	0.819 J	205	169	**1,370**	<0.197	
	MW-99	Oct-17		173	**256**	0.748	0.624 J	215	142	**1,430**	<0.394	
	MW-101	Apr-15		188	201	0.708	0.485 J	141	188	**1,340**	<0.200	
	MW-101	Oct-15		188	236	0.993	0.483 J	138	206	**1,470**	0.230 J	
	MW-101	Apr-16		220	239	0.940	0.522 J	169	168	**1,270**	0.197 J	
	MW-101	Oct-16		183	229	1.00	0.509 J	112	191	**1,400**	0.127 B	
	MW-101	Apr-17		197	234	0.926	0.587 J	139	160	**1,390**	<0.197	
	MW-101	Oct-17		197	229	0.998	0.853 J	142	171	**1,360**	<0.0197	
	MW-102	Apr-15		94.4	175	0.825	0.419 J	357	1.75 J	**1,470**	0.0642 J	
	MW-102	Oct-15		193	219	1.13	0.683 J	385	296	**1,750**	<0.197	
	MW-102	Apr-16		127	245	0.901	0.372 J	437	2.35 J	**1,530**	0.339 J	
	MW-102	Oct-16		176	**271**	1.28	0.772 J	418	217	**1,740**	0.0620 JBJ6	
	MW-102	Apr-17		120	**258**	1.09	0.504 J	379	11.3	**1,550**	<0.197	
	MW-102	Oct-17		124	**259**	1.16	0.507 J	373	7.70	**1,730**	<0.394	
	MW-103	Apr-14		24.5	**1,040**	**7.45**	0.831	1420	<10.0 B	**3,820**	<0.150	
	MW-103	Apr-15		192	**7,890**	**3.44**	2.46 J	6710	19.6	**12,500**	<0.0200	
	MW-103	Apr-16		193	**13,700**	**5.44**	3.73 J	7960	2.24 J	**21,100**	0.430 J	
	MW-103	Apr-17		306	**12,000**	1.39	3.12 J	10000	48.0	**22,300**	0.0530 J	
	MW-104	Apr-15		208	31.4	**1.67**	4.73	42.7	**856**	**1,070**	<0.0200	
	MW-104	Apr-15	FD	207	31.0	**2.12**	4.63	42.3	**679**	**1,130**	0.185	
	MW-104	Oct-15		169	21.0	**2.01**	4.92	38.6	510	912	<0.197	
	MW-104	Oct-15	FD	170	21.6	**2.07**	4.86	40.3	473	925	<0.197	
	MW-104	Apr-16		179 V	25.9	**2.49**	4.96 JJ5O1	43.6 V	408	819	0.455 JB	
	MW-104	Apr-16	FD	178	25.6	**2.51**	5.16	44.7	439	809	0.286 JB	
	MW-104	Oct-16		165	72.9	**1.94**	4.77	38.4	322	975	0.0640 JB	
	MW-104	Oct-16	FD	164	73.4	**1.90**	4.78	37.9	323	928	0.0820 JB	
	MW-104	Apr-17		203	209	**1.94**	5.56	50.9	217	986	0.0450 JJ6	
	MW-104	Apr-17	FD	197	230	**1.77**	5.20 O1	48.7 O1V	219	**1,010**	<0.197	
	MW-104	Oct-17		213	178	1.58	5.84	60.5	258	**1,070**	<0.394	
	MW-104	Oct-17	FD	213	201	1.19	5.73	59.2	281	**1,140**	<0.0985	
	MW-105	Apr-15		111	25.3	0.700 J	4.26	17.2	263	530	<0.200	
	MW-105	Oct-15		148	13.4	0.330	4.41	12.0	297	664	0.221 J	
	MW-105	Apr-16		257	42.0	1.48	4.55 J	52.6	278	**1,300**	0.414 J	
	MW-105	Oct-16		227	12.7	**2.06**	4.97	20.7	20.6	**1,050**	0.105 B	
	MW-105	Apr-17		212	48.2	1.60	4.45	38.3	9.54	982	<0.197	
	MW-105	Oct-17		245	101	**1.62**	6.49	89.2	132	**1,370**	<0.394	
	MW-106	Apr-15		197	**280**	**6.81**	10.4	162	559	**1,400**	**22.3**	
	MW-106	Oct-15		373	148	**1.76**	2.43	221	**1,790**	**3,420**	<0.197	
	MW-106	Apr-16		422	185	1.51	4.40 J	271	**1,380**	**3,120**	<0.197	
	MW-106	Oct-16		347	216	1.30	1.37	240	**1,410**	**3,080**	0.0530 JB	
	MW-106	Apr-17		313	**302**	1.28	2.44	236	**1,020**	**2,630**	<0.197	
	MW-106	Oct-17		313	217	0.930	1.78	265	**1,210**	**3,050**	<0.985	

Table 4C - Summary of Groundwater Analytical Data - Water Quality Parameters and Cyanide

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	Water Quality Parameters								Cyanide
				Analyte:	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite	Cyanide
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	250	1.60	---	---	600	1,000	10.0	0.200
				CGWSL Source:		WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL	USEPA MCL
Area	**Well ID**	**Date**	**Dup**										
South Refinery	MW-107	Apr-15		160 J	**291**	1.54	0.583 J	73.1	27.1	**1,220**	<0.0200		
	MW-107	Oct-15		176	**297**	**1.67**	0.880 J	76.9	102	**1,390**	<0.197		
	MW-107	Apr-16		727	**277**	**1.67**	3.22 J	381	6.07	**1,850**	0.376 J		
	MW-107	Oct-16		186	**271**	**1.82**	0.965 J	80.1	72.4	**1,480**	0.170 B		
	MW-107	Apr-17		140	**313**	**1.76**	0.655 J	75.4	<0.0774	**1,260**	<0.197		
	MW-109	Apr-15		192 J	**261**	**2.04**	0.929 J	406	**931**	**2,910**	<0.390		
	MW-109	Oct-15		181	232	**1.81**	0.862 J	438	**950**	**2,170**	<0.197		
	MW-109	Apr-16		707	204	**1.90**	4.01 J	2200	**848**	**2,190**	0.384 J		
	MW-109	Oct-16		153	226	**2.06**	0.802 J	431	**751**	**2,590**	0.0360 JB		
	MW-109	Apr-17		200	195	**1.99**	1.03	394	**1,040**	**2,700**	<0.197		
	MW-109	Oct-17		193	166	1.41	0.913 J	374	**814**	**2,710**	<0.394		
	MW-110	Apr-15		107 J	93.8	**1.64**	0.244 J	244	283	**1,420**	<0.0200		
	MW-110	Oct-15		174	136	**1.62**	0.268 J	294	**787**	**1,680**	<0.197		
	MW-110	Apr-16		555	99.0	1.53	1.19 J	1380	**2,100**	**1,360**	0.765 J		
	MW-110	Oct-16		115	97.6	1.50	0.150 J	276	555	**1,430**	0.0620 JB		
	MW-110	Apr-17		120	135	1.45	0.207 J	265	387	**1,330**	<0.197		
	MW-110	Oct-17		106	97.3	0.903	0.0756 J	267	419	**1,430**	<0.0197		
	RA-313	Apr-14		171	17.2	1.01	0.935		450	868	<0.150		
	RA-313	Apr-15		150	19.1	0.914	1.04	17.8	**605**	808	<0.0200		
	RA-313	Apr-16		175	17.6	0.893	1.02 J	17.3	501	881	0.680 J		
	RA-313	Apr-17		167	15.0	0.893	1.26	16.4	455	937	0.447 J		
	RW-4	Apr-15		202	**258**	0.845	1.67	144	468	**1,710** J	<0.0200		
	RW-4R	Apr-16		207	**351**	1.06	2.00 J	290	470	**1,810**	0.346 J		
	RW-4R	Apr-17		151	**280**	0.977	1.50	177	318	**1,510**	<0.197		
	RW-5R	Apr-15		4.82	**260**	0.965	0.461 J	189	0.376 J	565	<0.0200		
	RW-5R	Apr-16		4.61 J	**262**	0.564	0.364 J	203	0.655 J	399	0.495 J		
	RW-6	Apr-15		168	**414**	0.628	0.686 J	205	129	**1,650**	0.0335 J		
	RW-6R	Apr-16		191	**405**	0.747	0.356 J	226	104	**1,470**	0.485 J		
	RW-15C	Apr-17		160	**409**	0.774	1.59	269	19.4	**1,610**	0.442 J		
South RO Reject Field	MW-114	Apr-15		570 J	80.3	**1.95**	2.29	114	**2,140**	**3,640**	0.0752 J		
	MW-114	Oct-15		579	111	**1.89**	2.46	104	**2,250**	**2,990**	<0.197		
	MW-114	Apr-16		681	88.6	**1.87**	2.59 J	126	**1,170**	**3,710**	0.416 J		
	MW-114	Oct-16		569	231	**2.03**	2.49	89.3	**2,100**	**4,050**	4.69		
	MW-114	Apr-17		599	**266**	**1.78**	2.83	131	**2,350**	**3,480**	0.260 JJ5		
	MW-114	Oct-17		582	157	1.35	2.83	132	**1,950**	**3,700**	2.80		
	MW-115	Apr-15		546 J	**464**	**2.42**	0.425 J	385	**3,510**	**6,200**	0.0333 J		
	MW-115	Oct-15		532	**326**	**2.8**	0.578 J	320	**3,640**	**4,640**	<0.197		
	MW-115	Apr-16		2410	153	**1.93** J6	2.64 J	1290	**2,020**	**5,390**	0.375 J		
	MW-115	Oct-16		541	**382**	**2.69**	0.395 JB	144	**2,750**	**4,990**	0.113 B		
	MW-115	Apr-17		394	**304**	1.51	0.514 J	183	**2,770**	**4,190**	<0.197		
	MW-115	Oct-17		450	249	1.01	0.558 J	213	**2,910**	**4,480**	0.0420 J		
	MW-116	Apr-15		534 J	131	**2.28**	3.57	92.1	**1,800**	**3,300**	0.0753 J		
	MW-116	Oct-15		644	223	**2.80**	5.67	145	**2,280**	**3,800**	<0.197		
	MW-116	Apr-16		719	**500**	1.33	1.63 J	259	**3,300**	**4,580**	0.473 J		
	MW-116	Oct-16		569	196	**2.91**	4.26	114	**2,040**	**3,500**	0.0480 JB		
	MW-116	Apr-17		501	**270**	**2.00**	2.22	154	**2,060**	**3,450**	0.258 J		
	MW-116	Oct-17		614	233	**2.72**	4.47	147	**2,080**	**3,160**	1.4		
TEL	MW-49	Apr-15		197	**423**	1.18	2.04	309	**665**	**2,340**	<0.200		<0.00180
	MW-49	Oct-15		192	**381**	1.45	2.48	326	**621**	**2,260**	<0.197		0.00280 J
	MW-49	Apr-16		203	**368**	1.38	2.19 J	347	584	**2,270**	0.0580 J		<0.00180 J3J6
	MW-49	Oct-16		206	**364**	1.50	2.45	329	**602**	**1,860**	0.179 BJ6		<0.00900
	MW-49	Apr-17		194	**373**	1.35	2.19	328	531	**2,390**	<0.197		<0.0900
	MW-49	Oct-17		192	**373**	1.31	2.83	331	535	**2,140**	<0.0197		<0.00180
	TEL-1	Apr-15		209	**269**	**2.26**	0.962 J	434	**1,230**	**2,480**	<0.200		
	TEL-1	Oct-15		479	195	**2.54**	1.92	374	**2,060**	**3,390**	<0.197		
	TEL-1	Apr-16		389	113	**3.00**	1.72 J	373	**1,510**	**2,570**	0.0380 J		
	TEL-1	Oct-16		477	51.4	**3.39**	2.22	155	**1,710**	**3,090**	0.0730 JB		
	TEL-1	Apr-17		284	195	**2.73**	1.32	370	**1,320**	**2,940**	<0.197		
	TEL-1	Oct-17		208	243	**2.12**	0.896 J	480	**986**	**2,350**	<0.394		
	TEL-2	Apr-15		164	**949**	0.914	0.945 J	372	498 J	**2,390**	<0.200		
	TEL-2	Oct-15		188	**371**	1.18	1.10	404	**680**	**2,460**	<0.197		
	TEL-2	Apr-16		224	**344**	1.08	0.954 J	419	**825**	**2,720**	0.0460 J		
	TEL-2	Oct-16		228	**294**	1.04	1.14	406	**764**	**2,830**	0.0390 JB		
	TEL-2	Apr-17		224	**302**	1.11	1.04	411	**865**	**2,730**	<0.197		
	TEL-2	Oct-17		246	226	0.911	1.09	442	**1,160**	**3,000**	<0.0197		
	TEL-3	Apr-15		485	**829**	**2.52**	6.12	184	**1,330**	**2,750**	0.224 J		
	TEL-3	Oct-15		550	66.4	**2.95**	6.85	74.7	**1,520**	**2,960**	<0.197		
	TEL-3	Apr-16		473	**585**	**2.71**	7.31	364	**622**	**2,900**	0.0420 J		
	TEL-3	Oct-16		427	25.1	**3.43**	5.27	20.6	**1,020**	**1,850**	0.0450 JB		
	TEL-3	Apr-17		463	55.1	**3.04**	5.21	39.8	**1,070**	**1,980**	0.269 J		
	TEL-4	Apr-15		301	**1190**	0.678	0.455 J	294	**947**	**3,200**	<0.200		
	TEL-4	Apr-15	FD	289	**535**	0.690	0.411 J	281	**1,140**	**3,300**	<0.200		
	TEL-4	Oct-15		412	**347**	**2.55**	0.934 J	657	**4,000**	**7,150**	0.385 J		
	TEL-4	Oct-15	FD	417	**353**	**3.14**	0.950 J	693	**4,040**	**6,590**	<0.197		
	TEL-4	Apr-16		410	**524**	1.53	0.666 J	509	**2,070**	**4,260**	0.0440 J		
	TEL-4	Apr-16	FD	408	**519**	1.53	0.618 J	515	**1,980**	**4,040**	0.0400 JJ6		
	TEL-4	Oct-16		370	**336**	**1.69**	0.613 J	465	**2,290**	**5,350**	0.0340 JB		
	TEL-4	Oct-16	FD	370	**347**	1.58	0.608 J	454	**2,240**	**5,370**	0.0360 JB		
	TEL-4	Apr-17		432	**442**	1.36	0.587 J	542	**2,680**	**6,520**	0.404 J		
	TEL-4	Apr-17	FD	427	**436**	1.22	0.588 J	546	**2,630**	**5,570**	<0.197		
	TEL-4	Oct-17		343	**511**	0.862	0.512 J	468	**1,660**	**4,240**	<0.0985		
	TEL-4	Oct-17	FD	342	**501**	0.868	0.510 J	465	**1,520**	**3,600**	<0.0197		
TMD	MW-8	Apr-14		486	**383**	**1.78**	2.05	388	**2,710**	**5,060**	5.20		
	MW-8	Apr-15		390	**321**	1.51	1.59	328	**2,940**	**4,210**	1.1		
	MW-8	Apr-16		377	**275**	**2.02**	1.69 J	295	**2,380**	**3,690**	0.503 J		
	MW-8	Apr-17		346	**334**	**2.20**	1.44	262	**2,100**	**3,900**	1.04		
	MW-16	Apr-14		531	**422**	**2.79**	8.99	388	**2,170**	**4,020**	0.269 J		
	MW-16	Apr-15		666	**660**	**2.32**	10.2	545	**2,670**	**4,890**	0.461		
	MW-16	Apr-17		558	**936**	**2.36** J6	9.27	689	**2,900**	**4,150**	1.75		
	MW-20	Apr-14		505	**457**	**2.11**	0.416	249	**2,580**	**4,900**	6.74		
	MW-20	Apr-14	FD	487	**440**	**1.72**	0.419	247	**2,700**	**4,840**	6.50		
	MW-20	Apr-15		510	**429**	1.51	0.398 J	232	**3,490**	**4,790**	5.08		
	MW-20	Apr-16		594	**515**	**2.18**	0.370 J	274	**2,790**	**4,850**	8.09		
	MW-20	Apr-17		525	**588**	**2.27**	0.425 J	274	**2,800**	**5,650**	8.74		
	MW-21	Apr-15		542	**481**	**1.90**	1.81 J	468	**3,210**	**5,210**	**17.0**		
	MW-21	Oct-15		530	**550**	**1.75**	2.00	436	**3,520**	**5,190**	**16.5**		
	MW-21	Apr-16		590	**516**	**1.69**	2.31 J	440	**3,150**	**5,720**	**15.0**		
	MW-21	Oct-16		543	**474**	**1.74**	1.91	429	**3,150**	**4,240**	**12.0**		
	MW-21	Apr-17		507	**599**	**1.95**	1.88	423	**2,860**	**6,630**	**20.4**		
	MW-21	Oct-17		562	**574**	**1.81**	1.86	416	**3,350**	**5,000**	**17.1**		
	MW-25	Apr-14		985	**4,440**	0.635	6.80	1220	**2,060**	**11,700**	<0.150		
	MW-25	Apr-15		896	**6,780**	1.03	8.34	3710	**5,740**	**17,000**	0.0974 J		
	MW-25	Apr-16		647	**4,130**	1.13	6.61	2670	**4,100**	**11,800**	0.125		
	MW-25	Apr-17		484 V	**2,330**	1.17	5.11	1540	**2,800**	**6,240**	0.152		

Table 4C - Summary of Groundwater Analytical Data - Water Quality Parameters and Cyanide

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

				Analyte Group:	Water Quality Parameters								Cyanide
				Analyte:	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite	Cyanide
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	250	1.60	---	---	600	1,000	10.0	0.200
				CGWSL Source:		WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL	USEPA MCL
Area	**Well ID**	**Date**	**Dup**										
TMD	MW-26	Apr-14		718	**953**	**2.16**	6.01	662	**4,330**	**8,280**	0.252 J	
	MW-26	Apr-15		698	**1,130**	1.15	5.42	704	**5,950**	**8,660**	0.268	
	MW-26	Apr-16		725	**1,260**	**1.86**	5.75	695	**4,520**	**8,730**	0.301	
	MW-26	Apr-17		707	**1,580**	**1.75**	5.90	760	**5,120**	**8,730**	0.580	
	MW-27	Apr-14		431	148	0.983	9.89	159	**1,600**	**2,600**	0.632 J	
	MW-27	Apr-15		607	246	0.928	11.2	128	**2,320**	**3,640**	0.703	
	MW-27	Apr-16		470	234	1.19	9.36	156	**3,950**	**3,150**	0.687	
	MW-27	Apr-17		410	138	1.29	8.43	136	**1,550**	**2,150**	1.22	
	MW-46R	Nov-14		650	**290**	**1.90**	2.30	170	**2,300**	**3,800**	<0.0200	
	MW-46R	Apr-15		599	**288**	1.24	1.82	152	**2,590**	**3,980**	0.169	
	MW-46R	Apr-16		645	**290**	1.47	1.26 J	168	**2,470**	**3,980**	0.0520 JJ6	
	MW-46R	Oct-16		605 V	**339**	**1.97**	1.83	161	**2,170**	**4,010**	0.368	
	MW-46R	Apr-17		588	**315**	**1.70**	1.30	182	**2,420**	**3,930**	0.206	
	MW-46R	Oct-17		627	**275**	**1.63**	1.27	183	**2,590**	**4,040**	0.0920 J	
	MW-68	Apr-14		375	**299**	**1.79**	4.84	207	**1,330**	**2,920**	5.10	
	MW-68	Apr-15		552	**397**	1.15	4.65	242	**2,610**	**4,460**	4.52	
	MW-68	Apr-16		489	**263**	**1.75**	5.58	206	**1,840**	**2,980**	0.510	
	MW-68	Apr-17		381	237	**1.88**	4.60	165	**1,620**	**2,890**	0.381	
	MW-71	Apr-14		558	**887**	1.39	4.15	399	**2,740**	**6,280**	**53.6**	<0.00500
	MW-71	Apr-15		642	**906**	1.09	3.59	447	**3,150**	**6,110**	**50.6**	<0.00180
	MW-71	Apr-16		669	**907**	**1.62**	3.72 J	502	**2,890**	**5,450**	**45.6**	<0.00180
	MW-71	Apr-17		601	**848**	**1.63**	3.62	491	**2,940**	**5,300**	**54.0**	<0.00180
	MW-89	Apr-14		542	248	**2.40**	10.5	188	**2,030**	**3,360**	1.34	
	MW-89	Apr-15		528	**324**	**3.61**	13.5	302	**2,200**	**3,720**	2.34	
	MW-89	Apr-16		556	**399**	**3.58**	12.0	299	**1,490**	**3,640**	3.64	
	MW-89	Apr-17		550	**394**	**3.97**	12.2	289	**2,170**	**3,600**	4.77	
	NP-1	Apr-15		473	**436**	**2.06**	3.53 J	451	**2,930**	**4,450**	8.41	
	NP-1	Oct-15										
	NP-1	Apr-16		470	**391**	**1.96**	3.12 J	403	**2,620**	**4,460**	0.494 J	
	NP-1	Oct-16										
	NP-1	Apr-17		421	**422**	**2.08**	2.73	340	**2,440**	**4,060**	9.95	
	NP-1	Oct-17										
	NP-2	Apr-13		517	**379**	**1.70**	1.63	258	**2,660**	**5,160**	1.74	
	NP-6	Apr-13										
	NP-6	Apr-15										
	NP-6	Apr-17										
Up-Gradient	UG-1	Apr-14		474	126	0.580	1.59	79.6	**1,720**	**2,960**	**10.1**	<0.00500
	UG-1	Apr-15		455 J	133	0.865	1.11	84.6	**1,880**	**2,920**	**14.4**	<0.00180
	UG-1	Apr-16		512	102	0.926	1.07 J	99.7	**1,920**	**4,050**	**17.0**	0.00432 J
	UG-1	Apr-17		471	178	0.928	1.14	99.1	**1,830**	**3,390**	**15.0**	<0.00180
	UG-2	Apr-14		403	97.1	1.14	1.75	104	**1,530**	**2,660**	3.77	<0.00500
	UG-2	Apr-15		337 J	72.2	**1.65**	1.73	82.6	**1,080**	**1,170**	4.62	<0.00180
	UG-2	Apr-16		402	86.5	**1.75**	2.04 J	103	**1,210**	**2,240**	5.46	0.00511
	UG-2	Apr-17		342	78.9	**1.67**	1.60	94.0	**1,060**	**2,270**	**16.3**	<0.00180
	UG-3R	Apr-14		422	46.8	0.492	1.65	56.9	**1,480**	**2,340**	2.26	<0.00500
	UG-3R	Apr-14	FD	389	46.8	0.496	1.53	53.6	**1,500**	**2,400**	2.20	<0.00500
	UG-3R	Apr-15		420 J	27.5	0.716	2.36	59.1	**1,450**	**1,420**	1.03	<0.00180
	UG-3R	Apr-16		440	47.7	0.690	1.86	75.8	**1,350**	**2,340**	1.73	<0.00180
	UG-3R	Apr-17		393	61.1	0.707	1.74	70.7	**1,310**	**2,140**	2.60	<0.00180 J5
	UG-4	Apr-16		590	49.2	0.668	1.99 J	224	**2,480**	**4,140**	0.407	<0.00180
	UG-4	Apr-17		594 V	154	0.666	1.87	202 V	**2,750**	**4,350**	0.547 J	<0.00180

Definitions

X	Reported concentration, X, exceeds the CGWSL.
X	Analyte detected above the detection limit at a concentration equal to X.
<x	Analyte not detected at detection limit equal to x.
<x	Analyte not detected at detection limit equal to x, but x exceeds the CGWSL.
	Blank cell indicates a sample was collected from the well during the indicated sampling event, but the analyte was not analyzed.
---	No applicable CGWSL.

Abbreviations

CGWSL	Critical Groundwater Screening Level (see Table 3)
CGWSL Source	Source for CGWSL value (see Table 3)
Dup	Duplicate sample
FD	Field duplicate sample
mg/L	Milligrams per Liter
USEPA MCL	United States Environmental Protection Agency Maximum Contaminant Level, "Regional Screening Levels (RSL) Summary Table", November 2017
WQCC Dom	NMED Groundwater standard for domestic exposure, 20.6.2.3103.B NMAC
WQCC HH	NMED Groundwater standard for human health exposure, 20.6.2.3103.A NMAC

Lab Footnote

B	Analyte was also detected in the associated method blank.
H	The reported result is from a sample analyzed outside of Holding Time.
J	Indicates an estimated value.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
P1	Relative percent difference value not applicable for sample concentrations less than 5 times the reporting limit.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Table 5 - Summary of Production from Recovery Trenches and Wells

2017 Annual Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC, Artesia Refinery, Artesia, New Mexico

Recovery Well	Recovery Method	Volume of Water Recovered[1] (gallons)					Volume of PSH Recovered[1] (gallons)				
		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total 2017	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total 2017
RW-1R	Automated Pump	0	76,624	46,128	0	122,752	0	0	0	0	0
RW-2R	Automated Pump	35	71,287	88,420	0	159,742	0	0	2	0	2
RW-4R	Automated Pump	18	10	0	0	28	0	0	0	0	0
RW-5R	Automated Pump	0	15	0	0	15	0	0	0	0	0
RW-6R	Automated Pump	30	45	0	0	75					0
RW-7R	Automated Pump	568,121	1,260,610	311,314	0	2,140,045	0	0	0	0	0
RW-8R	Automated Pump	266,799	211,080	135,694	160,471	774,044	0	0	0	0	0
RW-12R	Automated Pump	0	0	0	0	0					0
RW-13R	Automated Pump	22,006	58,996	131,580	0	212,582	0	1,105	0	1	1,106
RW-14R	Automated Pump	0	132,076	181,600	4	313,680	0	141	17	489	647
RW-15	Automated Pump	0	0	0	0	0	0	0	0	0	0
RW-19	Automated Pump	2	41,876	44,509	0	86,387	1	0	2	0	3
RW-20	Automated Pump	5	0	136,567	527,316	663,888	0	10	0	1	11
RW-22	Automated Pump	169,068	543,347	3,731	0	716,146	222	1,643	20,661	197	22,723
TOTAL VOLUME RECOVERED:		1,026,084	2,395,966	1,079,543	687,791	**5,189,384**	223	2,899	20,682	688	**24,492**

[1] Volumes of recovered water and PSH are based on automated system readings, rounded to the nearest gallon