

GW-028

2016

AGWMR

Part 5 of 8

2017

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery
Artesia, New Mexico

Well Inspection Information

Well: MW-102

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

Hydrologic Monitoring
for TRC
Houston, Texas

(4-in; stickup)

Initials: SCU

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	930	NP	12.50	0.0	26.45	21.3	Yes	Yes	Yes	Yes		Weather: clear, 70s
10/4/16	1530	NP	12.51									

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10/4/16	1540	12.54	0.5	6.79	27.1	2560	2.1	-303.8	4.0	colorless / clear	Low-flow groundwater sample;
	1542	12.54	1.0	6.78	26.8	2580	1.5	-302.5	4.1		A) peristaltic pump w/ ded tubing
	1545	12.54	1.5	6.79	26.4	2600	1.4	-312.9	4.1		B) ded bladder pump
	1547	12.54	2.0	6.79	26.3	2610	1.3	-315.6	4.0		C) non-ded bladder pump; or
	1550	12.54	2.5	6.79	26.2	2610	1.3	-316.9	4.0		Standard groundwater sample;
	1552	12.54	3.0	6.79	26.1	2616	1.2	-318.4	4.0		D) bailer due to limited column; or
	1555	12.54	3.5	6.78	26.0	2610	1.2	-319.1	3.9		E) recovery well cycling sample
	1557	12.54	4.0	6.78	25.9	2610	1.3	-319.3	3.9		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/4/16	1600	MW-102	12.54	6.78	25.9	2610	1.3	-319.3	3.9			Lab: ESC Lab Sciences, Mt. Juliet, TN
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As, Ba, Cr, Fe, Pb, Mn, Se) and/or Cations (Ca, K, Na)		HNO3 8010/8020
										Total Metals (Hg, Ni, V, B, Cu, Co, U)		HNO3 8010/8020 and/or 7470
										Anions (Chloride, Fluoride, Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Non-dedicated tubing

Active RW within covered doghouse

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: RW-4

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

Gauge/Sample through labeled guide-pipe

(Gauge only)

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: SCW

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/14	955	NP	10.88	0.0	34.62	31.6	Yes	Yes	Yes	Yes		Weather: clear, 70s

Well Purging Record

* sample via narrow-diam guide tube

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
			0.5								Low-flow groundwater sample:
			1.0								A) peristaltic pump w/ ded tubing
			1.5								B) ded bladder pump
			2.0								C) non-ded bladder pump; or
			2.5								Standard groundwater sample:
			3.0								D) bailer due to limited column; or
			3.5								E) recovery well cycling sample
			4.0								F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
												Lab: ESC Lab Sciences, Mt. Juliet, TN
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As, Ba, Cr, Fe, Pb, Mn, Se) and/or Cations (Ca, K, Na)		HNO3 6010/6020
										Total Metals (Hg, Ni, V, B, Cd, Co, U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride, Fluoride, Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Active RW within covered doghouse

Monitoring Well Purging and Sampling Record

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico

Well: RW-6
Event: Fall 2016 (Semiannual)

Hydrologic Monitoring
for TRC
Houston, Texas

Well Inspection Information

[Gauge/sample through labeled guide-pipe]

Initials: *SCW*

Date	Time	Depth to LNAPL (ft-TOC)	Depth to Water (ft-TOC)	LNAPL Thickness (ft)	Well Total Depth (ft-TOC)	Sample Intake (ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/14/16	9:40	NP	12.69	0.0	24.90	30.0	Yes	Yes	Yes	Yes		Weather: clear, 70s
									dog-house			

Well Purging Record

hinge/box needs repairing per Domingo.

[illegible]

Well Sampling Record

[illegible]

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1610	NP	14.01	0.0	27.80	22.8	YES	YES	YES	YES		Weather: clear, 70°
10/5/16	1245	NP	14.13	0.0								

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: MW-66

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

Hydrologic Monitoring

for TRC

Houston, Texas

(4-in; at-grade)

Initials: SCU

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1015	NP	12.82	0.0	29.80	24.6	Yes	Yes	Yes	Yes		Weather: clear, 70.5
10/5/16	1200	NP	12.94									

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10/5/16	1210	13.09	0.5	7.01	25.3	1695	2.7	-128.6	6.1	Colorless; clear	Low-flow groundwater sample;
	1212	13.15	1.0	6.94	24.8	1689	2.0	-140.3	3.0		A) peristaltic pump w/ ded tubing
	1215	13.17	1.5	6.92	24.5	1689	1.6	-150.5	2.9		B) ded bladder pump
	1217	13.19	2.0	6.91	24.3	1688	1.5	-153.7	2.7		C) non-ded bladder pump; or
	1220	13.20	2.5	6.91	24.2	1687	1.4	-158.6	2.5		Standard groundwater sample;
	1222	13.20	3.0	6.90	24.2	1687	1.4	-160.7	2.5		D) bailer due to limited column; or
	1225	13.20	3.5	6.91	24.2	1685	1.3	-163.1	2.4		E) recovery well cycling sample
	1227	13.20	4.0	6.91	24.2	1685	1.3	-163.7	2.4		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/5/16	1230	MW-66	13.20	6.91	24.2	1685	1.3	-163.7	2.4			Lab: ESC Lab Sciences, Mt. Juliet, TN
										DRO	HCL	8015M ✓
										GRO	HCL	8015M ✓
										VOC	HCL	8260 ✓
										Total Metals (As, Ba, Cr, Fe, Pb, Mn, Se) and/or Cations (Ca, K, Na)		HNO3 6010/6020 ✓
										Total Metals (Hg, Ni, V, B, Cd, Co, U)		HNO3 6010/6020 and/or 7470 ✓
										Anions (Chloride, Fluoride, Sulfate)		Neat 300 ✓
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences ✓
										TDS	Neat	2540C ✓
										Cyanide	NaOH	SM4500 ✓

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: MW-28

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

Hydrologic Monitoring

for TRC

Houston, Texas

(6-in stickup; PVC casing extends upward through a berm wall)

Initials: SCU

Date	Time	Depth to LNAPL (Fl-TOC)	Depth to Water (Fl-TOC)	LNAPL Thickness (Fl)	Well Total Depth (Fl-TOC)	Sample Intake (Fl-TOC)	Cap	Casing	Well Secured	Label	Other	Comments
10/4/16	1625	NP	18.33	0.0	34.55	30.2	YES	Issue	Issue	YES		Weather: clear, 70s
10/4/16	1715	NP	18.34	0.0								

Well Purging Record

No protective casing/pod; unable to lock

Date	Time	Depth to Water (Fl-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10/4/16	1725	18.34	0.5	6.64	26.4	3270	2.1	-308.1	4.9	colorless/clear/odor/gassy	Low-flow groundwater sample;
	1727	18.44	1.0	6.63	25.8	3370	1.7	-315.7	4.3		A) peristaltic pump w/ ded tubing
	1730	18.48	1.5	6.62	25.5	3400	1.5	-320.8	4.1		B) ded bladder pump
	1732	18.52	2.0	6.62	25.4	3420	1.5	-323.6	4.6		C) non-ded bladder pump; or
	1735	18.56	2.5	6.61	25.4	3430	1.4	-325.7	3.8		Standard groundwater sample;
	1737	18.59	3.0	6.61	25.5	3430	1.4	-326.6	3.8		D) bailer due to limited column; or
	1740	18.61	3.5	6.61	25.5	3440	1.4	-327.9	3.8		E) recovery well cycling sample
	1742	18.63	4.0	6.61	25.3	3440	1.3	-328.4	3.8		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Fl-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/4/16	1745	MW-28	18.63	6.61	25.3	3440	1.3	-328.4	3.8	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)	HNO3	6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,U)	HNO3	6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)	Neat	300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico

Well: **MW-59**
Event: Fall 2016 (Semiannual)
Area of Concern: **Rest**

(Gauge only)
(4-in; strokeup)

Hydrologic Monitoring
for TRC
Houston, Texas

Well Inspection Information

Initials: **SCU**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1035	N/P	6.06	0.0	32.72	25.3	Yes	Yes	Yes	Yes		Weather: clear, 70.5

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
			0.5								Low-flow groundwater sample:
			1.0								A) peristaltic pump w/ ded tubing
			1.5								B) ded bladder pump
			2.0								C) non-ded bladder pump; or
			2.5								Standard groundwater sample:
			3.0								D) bailer due to limited column; or
			3.5								E) recovery well cycling sample
			4.0								F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
												Lab: ESC Lab Sciences, Mt. Juliet, TN
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: **MW-60**

Event: Fall 2016 (Semiannual)

Area of Concern: **Rest**

(4-in; stickup)

+ EB-Rest-04

+ Dup-Rest-04

(both for same analysis)

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: **SCU**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1640	NP	7.39	0.0	37.78	26.7	Yes	Yes	Yes	Yes		Weather: clear, 70s
10/4/16	1615	NP	7.39									

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10/4/16	1620	7.56	0.5	6.76	29.6	3620	1.8	-288.1	4.6	colorless / clear	Low-flow groundwater sample:
	1622	7.62	1.0	6.76	29.1	3630	1.8	-290.1	3.5		A) peristaltic pump w/ ded tubing
	1625	7.67	1.5	6.75	28.6	3630	1.9	-291.6	3.6		B) ded bladder pump
	1627	7.68	2.0	6.75	28.4	3630	1.9	-292.7	2.9		C) non-ded bladder pump; or
	1630	7.69	2.5	6.75	28.1	3630	1.9	-293.2	2.7		Standard groundwater sample:
	1632	7.69	3.0	6.75	28.1	3630	1.9	-293.4	2.5		D) bailer due to limited column; or
	1635	7.69	3.5	6.75	27.6	3640	1.9	-293.8	2.2		E) recovery well cycling sample
	1637	7.69	4.0	6.75	27.5	3630	2.0	-293.8	2.2		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/4/16	1640	MW-60	7.69	6.75	27.5	3630	2.0	-293.8	2.2	DRO	HCL	8015M ✓
										GRO	HCL	8015M ✓
										VOC	HCL	8260 ✓
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020 ✓
										Total Metals (Hg,Ni,V,B,Cd,Co,U)		HNO3 6010/6020 and/or 7470 ✓
										Anions (Chloride,Fluoride,Sulfate)		Neat 300 ✓
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences ✓
										TDS	Neat	2540C ✓
										Cyanide	NaOH	SM4500 ✓
	1655	EB-Rest-04	NA							Same as above	Same	Same
✓	1700	DUP-Rest-04	7.69	6.75	27.5	3630	2.0	-293.8	2.2	Same as above	Same	Same

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: **MW-107**

Event: Fall 2016 (Semiannual)

Area of Concern: **Rest**

(4-in; at-grade)

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: **SCM**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1048	NP	8.95	0.0	19.05	17.1	Yes	Yes	Yes	Yes		Weather: clear, 70°
10/5/16	1110	NP	9.06	0.0								

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10/5/16	1120	9.23	0.5	6.95	25.3	2170	2.8	-220.2	7.2	colorless, clear	Low-flow groundwater sample:
	1122	9.31	1.0	6.91	25.1	2170	1.6	-252.7	5.5		A) peristaltic pump w/ ded tubing
	1125	9.34	1.5	6.91	25.1	2170	1.4	-261.1	5.1		B) ded bladder pump
	1127	9.37	2.0	6.90	25.1	2170	1.2	-267.5	4.7		C) non-ded bladder pump; or
	1130	9.39	2.5	6.90	25.1	2170	1.2	-269.8	4.3		Standard groundwater sample:
	1132	9.41	3.0	6.90	25.1	2170	1.1	-271.4	4.2		D) bailer due to limited column; or
	1135	9.43	3.5	6.90	25.1	2170	1.1	-272.9	4.1		E) recovery well cycling sample
	1137	9.45	4.0	6.90	25.1	2170	1.1	-273.1	4.0		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/5/16	1140	MW-107	9.45	6.90	25.1	2170	1.1	-273.1	4.0	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,Cd,Cr,U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Initials: SCM

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: MW-125

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: SCN

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1105	NP	6.86	0.0	28.31	23.5	Yes	Yes	Yes	Yes		Weather: clear, 70.5
10/5/16	800	NP	7.02									

(2-in) stickup

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10/5/16	810	7.08	0.5	6.91	20.7	4410	2.0	119.6	2.0	colorless / clear	Low-flow groundwater sample:
	812	7.08	1.0	6.91	20.7	4430	1.6	119.3	2.0		A) peristaltic pump w/ ded tubing
	815	7.08	1.5	6.91	20.8	4440	1.2	119.0	1.8		B) ded bladder pump
	817	7.08	2.0	6.92	20.8	4440	1.1	118.6	1.8		C) non-ded bladder pump; or
	820	7.08	2.5	6.92	20.9	4450	1.0	118.5	1.7		Standard groundwater sample:
	822	7.08	3.0	6.92	20.9	4450	0.9	118.3	1.7		D) bailer due to limited column; or
	825	7.08	3.5	6.92	20.8	4460	0.9	118.1	1.7		E) recovery well cycling sample
	827	7.08	4.0	6.92	20.9	4460	0.9	117.9	1.7		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/5/16	830	MW-125	7.08	6.92	20.9	4460	0.9	117.9	1.7	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Ce,U)		HNO3 6040/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: MW-116

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: SCW

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1210	NP	2.88	0.0	27.63	20.0	Yes	Yes	Yes	Yes		Weather: clear 80s
10/5/16	845	NP	2.97									

Well Purging Record

General area flooded w/ 2-8" water

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10/5/16	855	2.99	0.5	7.04	21.6	3040	2.7	88.1	45.0	v. sl. cloudy	Low-flow groundwater sample:
	857	2.99	1.0	6.98	21.8	3630	2.3	90.8	71.1	sl. cloudy	A) peristaltic pump w/ ded tubing
	900	2.99	1.5	6.93	22.2	3610	2.0	94.1	64.1		B) ded bladder pump
	902	2.99	2.0	6.91	22.3	3610	1.8	95.9	58.7		C) non-ded bladder pump; or
	905	2.99	2.5	6.90	22.4	3660	1.8	96.6	56.1		Standard groundwater sample:
	907	2.99	3.0	6.90	22.4	3660	1.8	97.2	4.7	clear; colorless; from	D) bailer due to limited column; or
	910	2.99	3.5	6.90	22.4	3590	1.9	97.5	3.1	↓ tube	E) recovery well cycling sample
✓	912	2.99	4.0	6.90	22.4	3590	1.9	97.7	2.8	↓ directly (not cell)	F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/5/16	915	MW-116	2.99	6.90	22.4	3590	1.9	97.7	2.8	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

[N. side of dirt road; in-line with westernmost row of pecan trees; position labeled on adjacent fence pole]

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: MW-46R

Event: Fall 2016 (Semiannual)

Area of Concern: TMD

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: SCU

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	120	NP	2.84	0.0	19.36	14.1	Yes	Yes	Yes	Yes		Weather: clear, 80s
10/5/16	430	NP	2.96	0.0								

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10/5/16	940	2.98	0.5	6.94	25.7	4060	3.2	80.3	10.9	colorless; clear	Low-flow groundwater sample:
	942	2.98	1.0	6.86	25.6	4110	2.1	83.9	8.5		A) peristaltic pump w/ ded tubing
	945	2.98	1.5	6.83	25.5	4150	1.8	86.5	7.7		B) ded bladder pump
	947	2.98	2.0	6.82	25.4	4170	1.5	89.1	7.0		C) non-ded bladder pump; or
	950	2.98	2.5	6.81	25.3	4180	1.4	92.4	6.5		Standard groundwater sample:
	952	2.98	3.0	6.81	25.2	4190	1.4	93.5	6.1		D) bailer due to limited column; or
	955	2.98	3.5	6.81	25.2	4190	1.3	93.9	5.4		E) recovery well cycling sample
✓	957	2.98	4.0	6.81	25.2	4190	1.3	94.1	5.0	✓	F) Irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/5/16	1000	MW-46R	2.98	6.81	25.2	4190	1.3	94.1	5.0	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As, Ba, Cr, Fe, Pb, Mn, Se) and/or Cations (Ca, K, Na)		HNO3 6010/6020
										Total Metals (Hg, Ni, V, B, Cd, Co, U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride, Fluoride, Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

[Tool company locks gate at/before 5:00 PM]

Monitoring Well Purging and Sampling Record

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico
Well Inspection Information

Well: **RW-#15C**
Event: Fall 2016 (Semiannual)
Area of Concern: **Rest**
(Gauge only)

Hydrologic Monitoring
for TRC
Houston, Texas

Initials: **SCU**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1145	NP	2.74	0.0	22.30	20.0	Yes	Yes	Yes	Yes		Weather: clear, 80s

Well Purging Record

* Recovery well (part of trench sys.); below-grade unit

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	
		0.5									Low-flow groundwater sample:
		1.0									A) peristaltic pump w/ ded tubing
		1.5									B) ded bladder pump
		2.0									C) non-ded bladder pump; or
		2.5									Standard groundwater sample:
		3.0									D) bailer due to limited column; or
		3.5									E) recovery well cycling sample
		4.0									F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
												Lab: ESC Lab Sciences, ML Juliet, TN
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)	HNO3	6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,Cu)	HNO3	6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)	Neat	300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Initials: *Sw*

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: MW-130

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

(2-in; at-grade)

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: SCV

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1200	NP	17.18	0.0	45.00	37.4	Yes	Yes	Yes	Yes		
10/5/16	1430	NP	17.25									Weather: clear, 80s

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	
10/5/16	1440	17.31	0.5	6.80	26.6	3070	1.8	-135.1	13.2	colorless; clear	Low-flow groundwater sample:
	1442	17.31	1.0	6.79	26.5	3070	1.6	-127.6	9.9		A) peristaltic pump w/ ded tubing
	1445	17.31	1.5	6.79	26.5	3060	1.6	-124.9	9.6		B) ded bladder pump
	1447	17.31	2.0	6.79	26.5	3060	1.6	-122.6	9.4		C) non-ded bladder pump; or
	1450	17.31	2.5	6.79	26.4	3060	1.6	-116.5	8.4		Standard groundwater sample:
	1452	17.31	3.0	6.78	26.4	3060	1.6	-110.0	7.9		D) bailer due to limited column; or
	1455	17.31	3.5	6.78	26.4	3060	1.6	-104.6	7.8		E) recovery well cycling sample
	1457	17.31	4.0	6.77	26.5	3050	1.6	-102.1	7.7		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/5/16	1500	MW-130	17.31	6.77	26.5	3050	1.6	-102.1	7.7	DRO	HCL	Lab: ESC Lab Sciences, Mt. Juliet, TN
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Cr,U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	GM-500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: **KWB-4**

Event: Fall 2016 (Semiannual)

Area of Concern: **Rest**

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: **SCV**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1205	20.98	21.53	0.55	41.75	31.7	Yes	Yes	Yes	Yes		Weather: clear, 82°S

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	
			0.5								Low-flow groundwater sample:
			1.0								(A) peristaltic pump w/ ded tubing
			1.5								B) ded bladder pump
			2.0								C) non-ded bladder pump; or
			2.5								Standard groundwater sample:
			3.0								D) bailer due to limited column; or
			3.5								E) recovery well cycling sample
			4.0								F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
		KWB-4										Lab: ESC Lab Sciences, Mt. Juliet, TN
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8200
										Total Metals (As, Ba, Cr, Fe, Pb, Mn, Se) and/or Cations (Ca, K, Na)	HNO3	6010/6020
										Total Metals (Hg, Ni, V, B, Cd, Co, U)	HNO3	6010/6020 and/or 7470
										Anions (Chloride, Fluoride, Sulfate)	Neat	300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	GM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: MW-52

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: SCY / BZLH

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1230	NP	15.07	0.0	34.67	29.5	Yes	Yes	Yes	Yes		Weather: Clear, 80s
10-5-16	1500	NA	14.93	0.0								

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

If <0.03 feet of PSH present, remove PSH and sample groundwater

* East side of blue building

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: **MW-109**

Event: Fall 2016 (Semiannual)

Area of Concern: **Rest**

Hydrologic Monitoring

for TRC

Houston, Texas

(2-in; at-grade)

Initials: **SCY/BRH**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1240	N/P	13.50	0.0	29.48	25.5	Yes	Yes	Yes	Yes		
10-5-16	1330	NA	13.35	0.0								Weather: clear, 82s

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	
10-5-16	1335	13.51	0.5	7.14	25.4	3820	2.4	-333.1	19.6	clear w/ black tint.	Low-flow groundwater sample:
	1336	13.58	1.0	7.01	24.8	3610	1.2	-341.6	12.1	odor	A) peristaltic pump w/ ded tubing
	1340	13.63	1.5	6.94	24.4	3560	0.9	-348.5	8.6		B) ded bladder pump
	1343	13.65	2.0	6.92	24.2	3420	0.8	-352.7	7.5		C) non-ded bladder pump; or
	1345	13.67	2.5	6.91	24.1	3360	0.7	-358.4	6.1		Standard groundwater sample:
	1348	13.68	3.0	6.90	24.1	3320	0.6	-361.8	4.8		D) bailer due to limited column; or
	1350	13.68	3.5	6.89	24.0	3300	0.6	-364.2	4.3		E) recovery well cycling sample
	1353	13.69	4.0	6.88	24.0	3290	0.6	-366.5	3.9		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10-5-16	1355	MW-109	13.69	6.88	24.0	3290	0.6	-366.5	3.9	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As, Ba, Cr, Fe, Pb, Mn, Se) and/or Cations (Ca, K, Na)		HNO3 6010/6020
										Total Metals (Hg, Ni, V, B, Cd, Co, U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride, Fluoride, Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

* West-side driveway of blue bldg.

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: MW-110

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: SM/BRH

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1245	NP	11.93	0.0	29.75	24.7	YES	YES	YES	YES		
10-5-16	1415	NA	11.79	0.0								Weather: clear, 80s

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10-5-16	1420	11.93	0.5	7.62	24.7	1941	2.5	-249.7	19.7	clear, color	Low-flow groundwater sample:
	1423	11.99	1.0	7.46	23.8	1937	1.4	-251.9	12.6		A) peristaltic pump w/ ded tubing
	1425	12.04	1.5	7.41	23.5	1928	0.9	-252.5	10.8		B) ded bladder pump
	1428	12.07	2.0	7.36	23.2	1923	0.7	-254.8	9.7		C) non-ded bladder pump; or
	1430	12.10	2.5	7.31	23.2	1918	0.6	-256.1	9.1		Standard groundwater sample:
	1433	12.11	3.0	7.28	23.1	1915	0.5	-256.9	8.8		D) bailer due to limited column; or
	1435	12.12	3.5	7.26	23.1	1912	0.5	-257.8	8.3		E) recovery well cycling sample
	1438	12.13	4.0	7.24	23.0	1910	0.5	-259.0	8.0		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10-5-16	1440	MW-110	12.13	7.24	23.0	1910	0.5	-259.0	8.0	DRO	HCL	Lab: ESC Lab Sciences, Mt. Juliet, TN
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As, Ba, Cr, Fe, Pb, Mn, Se) and/or Cations (Ca, K, Na)		HNO3 6010/6020
										Total Metals (Hg, Ni, V, B, Cd, Co, U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride, Fluoride, Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

(E-W alley, immediately NW of Artesia Hotel)

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: UG-2

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

(upgradient)

No Activity, Fall 2016

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: SCU

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
					29.28	24.3						Weather:

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
			0.5								[NO ACTIVITY FALL 2016]
			1.0								
			1.5								
			2.0								
			2.5								
			3.0								
			3.5								Standard groundwater sample: D) bailer due to limited column; or E) recovery well cycling sample F) irrigation well grab sample
			4.0								

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
										DRO	HCL	Lab: ESC Lab Sciences, Mt. Juliet, TN 8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,Cd,Co,U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

[HMI - dedicated bladder pump]

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: UG-3R

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: SCU

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection				Comments
							Cap	Casing	Well Secured	Label	Other
					38.58	35.6					
											Weather:

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
			0.5								Low-flow groundwater sample:
			1.0								A) peristaltic pump w/ ded tubing
			1.5								B) ded bladder pump
			2.0								C) non-ded bladder pump; or
			2.5								Standard groundwater sample:
			3.0								D) bailer due to limited column; or
			3.5								E) recovery well cycling sample
			4.0								F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: UG-1

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: SCV

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
					<u>24.08</u>	<u>19.1</u>						Weather

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
			0.5								Low-flow groundwater sample: A) peristaltic pump w/ ded tubing B) ded bladder pump C) non-ded bladder pump; or Standard groundwater sample: D) bailer due to limited column; or E) recovery well cycling sample F) irrigation well grab sample
			1.0								
			1.5								
			2.0								
			2.5								
			3.0								
			3.5								
			4.0								

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
												Lab: ESC Lab Sciences, Mt. Juliet, TN
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present; remove PSH and sample groundwater

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico

Event: Fall 2016 (Semiannual)

Hydrologic Monitoring
for TRC
Houston, Texas

Well Inspection Information

Area of Concern: Rest

(2-in; at-grade)

Initials: *SW*

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Initials:	Comments
							Cap	Casing	Well Secured	Label	Other		
					39.24	39.5							Weather:

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	
			0.5								
			1.0								
			1.5								
			2.0								
			2.5								
			3.0								
			3.5								
			4.0								

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments Lab: ESC Lab Sciences, Mt. Juliet, TN
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)	HNO ₃	6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,U)	HNO ₃	6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)	Neat	300
										Nitrate-Nitrite	H ₂ SO ₄	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500
												If <0.03 feet of PSH present, remove PSH and sample groundwater.

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: MW-101

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

Hydrologic Monitoring

for TRC

Houston, Texas

(4-in; stickup)

Initials: TAB

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	9:15	NA	10.78	0.0	26.85	13.5	yes	yes	yes	yes		Weather: clear 80°
10/4/16	14:50	NA	10.78	0.0								

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10/4/16	14:55	10.80	0.5	6.92	25.1	2240	1.7	-97.6	12.4	Clear/colorless	Low-flow groundwater sample: A) peristaltic pump w/ ded tubing B) ded bladder pump C) non-ded bladder pump; or Standard groundwater sample: D) bailer due to limited column; or E) recovery well cycling sample F) irrigation well grab sample
	14:57	10.80	1.0	6.91	25.0	2110	1.5	-95.9	10.2		
	15:00	10.80	1.5	6.73	24.7	2060	1.3	-95.6	9.8		
	15:03	10.80	2.0	6.72	24.6	2040	1.2	-95.3	7.6		
	15:05	10.80	2.5	6.71	24.6	2040	1.1	-95.4	7.3		
	15:07	10.80	3.0	6.70	24.7	2030	1.0	-95.5	6.2		
	15:10	10.80	3.5	6.69	24.8	2020	0.9	-95.6	5.1		
	15:13	10.80	4.0	6.68	24.6	2010	0.9	-95.7	5.5		

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/4/16	15:15	MW-101	10.80	6.68	24.6	2010	0.9	-95.7	5.5	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,U)		HNO3 6040/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	3M4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Initials: TAB

If <0.03 feet of PSH present, remove PSH and sample groundwater

[Gauge & Sample when sampling is scheduled] through labeled 1-in guide-pipe inside doghouse

Monitoring Well Purging and Sampling Record

Navajo Refining Company [Non-dedicated tube]

Well: **RW-2**

Event: Fall 2016 (Semiannual)

Area of Concern: **Rest**

(Gauge only)

Hydrologic Monitoring
for TRC
Houston, Texas

Well Inspection Information

Initials: **TAB**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1120	NP	10.38	0.0	36.12	31.1	YES	YES	YES	YES		Weather: C/RA 70°

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
			0.5								Low-flow groundwater sample:
			1.0								(A) peristaltic pump w/ ded tubing
			1.5								B) ded bladder pump
			2.0								C) non-ded bladder pump; or
			2.5								Standard groundwater sample:
			3.0								D) bailer due to limited column; or
			3.5								E) recovery well cycling sample
			4.0								F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
		RW-2										Lab: ESC Lab Sciences, Mt. Juliet, TN
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As, Ba, Cr, Fe, Pb, Mn, Se) and/or Cations (Ca, K, Na)		HNO3 6010/6020
										Total Metals (Hg, Ni, V, B, Cd, Co, U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride, Fluoride, Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: MW-61

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

Hydrologic Monitoring

for TRC

Houston, Texas

(4-in; at-grade)

Initials: FAS

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1320	NR	7.88	0.0	29.30	24.30	Yes	Yes	Yes	Yes	Broken	Weather: Clear 80°
10/5/16	800	NR	8.11	0.0							PAV	

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	Water Color / Clarity	
10/5/16	805	8.29	0.5	7.82	22.4	3020	2.7	-321.8	4.7	Clear	Low-flow groundwater sample:
	807	8.46	1.0	7.71	22.8	2940	1.4	-338.7	3.0		A) peristaltic pump w/ ded tubing
	810	8.57	1.5	7.63	23.1	2910	1.2	-344.4	2.7		B) ded bladder pump
	813	8.68	2.0	7.40	23.3	2900	1.0	-353.6	2.0		C) non-ded bladder pump; or
	815	8.78	2.5	7.38	23.4	2890	0.9	-355.4	1.8	Reduced purge rate to 0.1 L/min	Standard groundwater sample:
	820	8.86	3.0	7.36	23.4	2890	0.8	-355.3	1.6		D) bailer due to limited column; or
	825	8.96	3.5	7.35	23.4	2890	0.7	-357.5	1.4		E) recovery well cycling sample
	830	8.97	4.0	7.35	23.3	2890	0.7	-358.3	1.2		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/5/16	835	MW-61	8.97	7.35	23.3	2890	0.7	-358.3	1.2	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)	HNO3	6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,U)	HNO3	6010/6020 and/or 7476
										Anions (Chloride,Fluoride,Sulfate)	Neat	300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	8M4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: **MW-62**

Event: Fall 2016 (Semiannual)

Area of Concern: **Rest**

Hydrologic Monitoring

for TRC

Houston, Texas

(4-in; at-grade)

Initials: **TAB / MDB**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1140	NR	10.65	0.0	29.50	21.3	YES	YES	YES	YES		Weather: clear, 60S
10-5-16	855	NA	10.56									

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10-5-16	900	10.74	0.5	7.30	20.8	3770	2.1	-347.7	7.9	Clear	Low-flow groundwater sample:
	902	10.85	1.0	6.74	21.3	3800	1.6	-355.2	7.1		A) peristaltic pump w/ ded tubing
	905	10.92	1.5	6.67	21.5	3850	1.4	-353.5	6.9		B) ded bladder pump
	907	10.99	2.0	6.59	21.7	3890	1.1	-361.6	5.7		C) non-ded bladder pump; or
	910	11.04	2.5	6.53	21.8	3930	1.0	-363.4	4.8		Standard groundwater sample:
	912	11.09	3.0	6.49	21.8	3930	0.9	-364.3	4.4		D) bailer due to limited column; or
	915	11.12	3.5	6.48	21.8	3920	0.8	-366.4	3.6		E) recovery well cycling sample
	917	11.17	4.0	6.46	21.8	3920	0.8	-367.1	2.1		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10-5-16	920	MW-62	11.17	6.46	21.8	3920	0.8	-367.1	2.1	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Cr,U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Initials: TAB / mpr

If <0.03 feet of PSH present, remove PSH and sample groundwater

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: MW-137

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: T A B/MDB

Date	Time	Depth to LNAPL (FL-TOC)	Depth to Water (FL-TOC)	LNAPL Thickness (Ft)	Well Total Depth (FL-TOC)	Sample Intake (FL-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1220	NP	5.10	0.0	29.60	24.6	YES	YES	YES	YES		
10-5-16	1130	NP	5.18	0.0								Weather Clear, 70°

Well Purging Record

Date	Time	Depth to Water (FL-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10-5-16	1135	5.18	0.5	7.25	24.7	5290	1.4	-320.0	43.7	Cloudy / yellow tint / odor	Low-flow groundwater sample:
	1137	5.18	1.0	6.92	25.1	5450	3.2	-343.6	23.7	Clear / odor / green	A) peristaltic pump w/ ded tubing
	1140	5.18	1.5	6.85	25.2	5440	3.5	-347.7	22.5		B) ded bladder pump
	1142	5.18	2.0	6.77	25.2	5450	3.5	-347.7	20.6		C) non-ded bladder pump; or
	1145	5.18	2.5	6.74	25.2	5460	3.6	-348.6	24.8		Standard groundwater sample:
	1147	5.18	3.0	6.71	25.2	5510	3.6	-400.6	26.7		D) bailer due to limited column; or
	1150	5.18	3.5	6.68	25.2	5520	3.6	-401.0	25.4		E) recovery well cycling sample
	1152	5.18	4.0	6.67	25.2	5530	3.6	-400.9	21.1		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (FL-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10-5-16	1155	MW-137	5.18	6.67	25.2	5530	3.6	-400.9	21.1	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)	HNO3	6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,U)	HNO3	6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)	Neat	300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Initials: T A R M D B

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico

Well: **MW-23**

Event: Fall 2016 (Semiannual)

Area of Concern: **Rest**

Hydrologic Monitoring
for TRC
Houston, Texas

Well Inspection Information

(6-in; stick-up)

Initials: **TAR**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10-5-16	11:50	NA	10.30	0.0	23.10	17.9	YES	YES	YES	YES		Weather: clear, 70S
10-5-16	10:40	NA	10.42	0.0								(No protective casing; but 6" expandable locking cap is locked)

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10-5-16	10:45	10.30	0.5	7.19	27.2	3220	1.6	-389.1	100	cloudy w/ black particles	Low-flow groundwater sample:
	10:47	10.55	1.0	6.92	27.4	3230	1.5	-326.9	115		A) peristaltic pump w/ ded tubing
	10:50	10.60	1.5	6.89	27.4	3240	1.5	-333.2	113		B) ded bladder pump
	10:51	10.64	2.0	6.81	27.5	3230	1.4	-339.8	109		C) non-ded bladder pump; or
	10:54	10.68	2.5	6.75	27.5	3220	1.4	-338.9	112		Standard groundwater sample:
	10:57	10.72	3.0	6.74	27.5	3220	1.4	-343.0	117		D) bailer due to limited column; or
	11:02	10.75	3.5	6.75	27.6	3220	1.4	-344.5	124		E) recovery well cycling sample
	11:05	10.79	4.0	6.73	27.5	3210	1.3	-344.8	119		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10-5-16	11:05	MW-23	10.79	6.73	27.5	3210	1.3	-344.8	119	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As, Ba, Cr, Fe, Pb, Mn, Se) and/or Cations (Ca, K, Na)		HNO3 6010/6020
										Total Metals (Hg, Ni, V, B, Cd, Co, U)		HNO3 6040/6020 and/or 7470
										Anions (Chloride, Fluoride, Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico

Well: TEL-4
Event: Fall 2016 (Semiannual)

Area of Concern: TEL

Hydrologic Monitoring
for TRC
Houston, Texas

+ Dup - TEL-01
(for same analysis)

(2-in; stickup)

Initials: TAB

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1310	NR	6.14	0.0	22.27	22.2	yes	yes	yes	yes		Weather: clear, 86°
10/5/16	1000	NR	6.28	0.0	22.27	22.2						

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10/5/16	1005	6.46	0.5	6.92	22.1	4600	9.2	-243.3	2.4	clear, dark	Low-flow groundwater sample:
	1007	6.46	1.0	6.92	22.1	4820	1.4	-347.4	1.6		A) peristaltic pump w/ ded tubing
	1010	6.46	1.5	6.91	22.1	4900	1.0	-349.0	1.8		B) ded bladder pump
	1013	6.46	2.0	6.89	22.1	4980	0.8	-350.6	1.4		C) non-ded bladder pump; or
	1015	6.46	2.5	6.88	22.1	5010	0.7	-351.2	1.2		Standard groundwater sample:
	1017	6.46	3.0	6.87	22.1	5010	0.7	-351.2	1.0		D) bailer due to limited column; or
	1020	6.46	3.5	6.86	22.1	5020	0.7	-351.3	0.9		E) recovery well cycling sample
	1023	6.46	4.0	6.85	22.1	5030	0.7	-351.3	0.8		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/5/16	1025	TEL-4	6.46	6.85	22.1	5030	0.7	-351.3	0.8	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,Se,Cd,Co,U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500
										Same as above		Same
										Same as above		Same

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico

Well: TEL-3

Event: Fall 2016 (Semiannual)

Area of Concern: TEL

+ EB-TEL-01
(for same analysis)

Hydrologic Monitoring
for TRC
Houston, Texas

Well Inspection Information

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/5/16	1300	NP	4.89	0.0	27.19	22.2	yes	yes	yes	yes		Weather: clear, 80°
10/5/16	1255	NP	4.99	0.0								

(2-in; stickup)

Initials: F A B

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10/5/16	1300	5.14	0.5	6.81	25.1	2140	0.9	-349.9	3.5	clear, odorless	Low-flow groundwater sample:
	1303	5.14	1.0	6.76	24.4	2090	0.7	-351.2	2.6		A) peristaltic pump w/ ded tubing
	1305	5.14	1.5	6.76	24.1	2080	0.6	-350.9	2.0		B) ded bladder pump
	1307	5.14	2.0	6.77	23.7	2070	0.5	-350.0	1.6		C) non-ded bladder pump; or
	1310	5.14	2.5	6.77	23.6	2060	0.4	-348.6	1.3		Standard groundwater sample:
	1313	5.14	3.0	6.77	23.6	2060	0.4	-347.0	0.9		D) bailer due to limited column; or
	1315	5.14	3.5	6.78	23.6	2050	0.4	-346.8	0.8		E) recovery well cycling sample
	1317	5.14	4.0	6.78	23.6	2050	0.4	-346.8	0.8		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/5/16	1320	TEL-3	5.14	6.78	23.5	2050	0.4	-346.8	0.8	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,Br,Cd,Co,U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500
	1335	EB-TEL-01	NA							Same as above	Same	Same

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: TEL-2

Event: Fall 2016 (Semiannual)

Area of Concern: TEL

Hydrologic Monitoring

for TRC

Houston, Texas

(2-in; stickup)

Initials: TAB

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	19:50	NR	5.63	0.0	27.20	22.1	YES	YES	YES	YES		Weather Clear, 70°
10/5/16	12:10	NR	5.73	0.0	27.20	22.1						Clear, 70°

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	
10/5/16	12:15	5.80	0.5	6.85	24.3	3440	1.0	-350.2	2.7	Clear	Low-flow groundwater sample:
	12:17	5.80	1.0	6.76	23.7	3490	0.8	-351.9	2.0		A) peristaltic pump w/ ded tubing
	12:20	5.80	1.5	6.72	23.5	3520	0.6	-353.0	1.6		B) ded bladder pump
	12:23	5.80	2.0	6.71	23.5	3530	0.5	-353.1	1.3		C) non-ded bladder pump; or
	12:25	5.80	2.5	6.69	23.6	3540	0.5	-353.0	1.2		Standard groundwater sample:
	12:27	5.80	3.0	6.68	23.6	3540	0.6	-352.7	1.0		D) bailer due to limited column; or
	12:30	5.80	3.5	6.67	23.3	3550	0.5	-352.5	0.6		E) recovery well cycling sample
✓	12:33	5.80	4.0	6.67	23.4	3560	0.5	-352.3	0.5	✓	F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/5/16	12:35	TEL-2	5.80	6.67	23.4	3560	0.5	-352.3	0.5	DRO	HCL	Lab: ESC Lab Sciences, Mt. Juliet, TN
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,Cd,Cu,U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM-4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: TEL-1

Event: Fall 2016 (Semiannual)

Area of Concern: TEL

(2-in; stickup)

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: TAB

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	11:40	N/A	4.74	0.0	27.00	22.9	YES	YES	YES	YES		Weather: Clear 70°S
10/5/16	11:15	N/A	4.84	0.0								

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	
10/5/16	11:20	5.17	0.5	6.93	22.9	3930	1.5	-321.9	3.0	Clear / color	Low-flow groundwater sample:
	11:23	5.17	1.0	6.92	22.4	3490	1.0	-321.9	1.6		A) peristaltic pump w/ ded tubing
	11:25	5.17	1.5	6.92	22.3	3420	0.9	-322.0	1.4		B) ded bladder pump
	11:27	5.17	2.0	6.92	22.2	3390	0.8	-322.5	1.2		C) non-ded bladder pump; or
	11:30	5.17	2.5	6.91	22.1	3330	0.6	-322.6	1.0		Standard groundwater sample:
	11:33	5.17	3.0	6.91	22.1	3270	0.5	-322.9	0.7		D) bailer due to limited column; or
	11:35	5.17	3.5	6.90	22.1	3270	0.4	-322.8	0.6		E) recovery well cycling sample
	11:37	5.17	4.0	6.90	22.1	3260	0.4	-321.4	0.5	✓ ✓	F) Irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/5/16	11:40	TEL-1	5.17	6.90	22.1	3260	0.4	-321.4	0.5	DRO	HCL	Lab: ESC Lab Sciences, Mt. Juliet, TN
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,Cu)		HNO3 6040/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	314300

If <0.03 feet of PSH present, remove PSH and sample groundwater

If <0.03 feet of PSH present, remove PSH and sample groundwater

[Prior to 2/1/16, this well was a "stickup"; Area was backfilled with a couple of feet of soil, making this completion almost function as an at-grade completion.]

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: MW-98

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

Hydrologic Monitoring

for TRC

Houston, Texas

(4-in; stickup)

Initials: TAB

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1330	N/P	6.53	0.0	96.80	21.5	yes	yes	yes	yes		Weather: Clear 70°
10/5/16	900	N/P	6.74	0.0	96.80							Clear 60°

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	
10/5/16	905	6.80	0.5	7.09	19.4	3130	1.6	-348.5	3.1	Clear/00001	Low-flow groundwater sample:
	907	6.80	1.0	7.02	19.6	3130	1.2	-353.7	2.4		A) peristaltic pump w/ ded tubing
	910	6.80	1.5	7.01	19.6	3140	1.0	-354.4	2.0		B) ded bladder pump
	913	6.80	2.0	6.99	19.8	3140	0.9	-357.4	1.6		C) non-ded bladder pump; or
	915	6.80	2.5	6.97	19.8	3140	0.8	-358.9	1.4		Standard groundwater sample:
	917	6.80	3.0	6.96	19.8	3140	0.7	-360.1	1.2		D) bailer due to limited column; or
	920	6.80	3.5	6.94	20.1	3150	0.6	-361.9	0.8		E) recovery well cycling sample
✓	923	6.80	4.0	6.93	20.1	3150	0.6	-362.3	0.7	✓	F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/5/16	925	MW-98	6.80	6.93	20.1	3150	0.6	-362.3	0.7	DRO	HCL	Lab: ESC Lab Sciences, Mt. Juliet, TN
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As, Ba, Cr, Fe, Pb, Mn, Se) and/or Cations (Ca, K, Na)		HNO3 6010/6020
										Total Metals (Hg, Ni, V, B, Cd, Co, Li)		HNO3 6010/6020 and/or 7470
										Anions (Chloride, Fluoride, Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	GM4560

If <0.03 feet of PSH present, remove PSH and sample groundwater

[Corrugated metal, large-diameter stickup; gauged to top of corrugated pipe]

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: **RW-10**

Event: Fall 2016 (Semiannual)

Area of Concern: **Rest**

(Gauge only)

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: **TAB**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	950	NP	7.09	0.0	23-77	18.8	NO *	YES	Issue	YES		Weather: partly cloudy, 70°

Well Purging Record

* Large steel cover on well

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Pumped (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
			0.5								Low-flow groundwater sample:
			1.0								A) peristaltic pump w/ ded tubing
			1.5								B) ded bladder pump
			2.0								C) non-ded bladder pump; or
			2.5								Standard groundwater sample:
			3.0								D) bailer due to limited column; or
			3.5								E) recovery well cycling sample
			4.0								F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
												Lab: ESC Lab Sciences, Mt. Juliet, TN
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico

Well: **MW-40**
Event: Fall 2016 (Semiannual)
Area of Concern: **Rest**

Hydrologic Monitoring
for TRC
Houston, Texas

(Gauge only)

(2-in; stickup)

Initials: **T A Z**

Well Inspection Information

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1000	NP	3.32	0.0	24.75	21.8	YES	YES	YES	YES		Weather:

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
			0.5								Low-flow groundwater sample:
			1.0								A) peristaltic pump w/ ded tubing
			1.5								B) ded bladder pump
			2.0								C) non-ded bladder pump; or
			2.5								Standard groundwater sample:
			3.0								D) bailer due to limited column; or
			3.5								E) recovery well cycling sample
			4.0								F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Ce,U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H3SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

Hydrologic Monitoring
for TRC
Houston, Texas

Initials: TAR

Well Inspection Information

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/1/00	1020	NP	3.40	0.0	41.56	18.6	yes	yes	yes	yes		Weather: pt / cloudy 70°

Well Purging Record

[illegible]

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (°C)	SC ($\mu\text{mho/cm}$)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments Lab: ESC Lab Sciences, Mt. Juliet, TN
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
						Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Nd)				HNO ₃		6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,U)	HNO ₃	6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)	Neat	300
										Nitrate-Nitrite	H ₂ SO ₄	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500
												If < 0.02 feet of BSW present, note as "BSW"

If <0.03 feet of PSH present, remove PSH and sample groundwater

(Corrugated metal; large-diameter RW stickup)

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: RW-9

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

(Gauge only)

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: *TAB*

[illegible]

Well Purging Record

[illegible]

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (FL-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
												Lab: ESC Lab Sciences, Mt. Juliet, TN
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
						Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)				HNO3		6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,U)	HNO3	6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)	Neat	300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500
												If <0.03 feet of PSH present, remove PSH and sample groundwater

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: MW-42

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

(Gauge only)

(2-in; stickup)

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: TAB

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1040	NR	6.49	0.0	24.32	21.3	YES	YES	YES	YES		Weather: clear 70°

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
			0.5								Low-flow groundwater sample:
			1.0								A) peristaltic pump w/ ded tubing
			1.5								B) ded bladder pump
			2.0								C) non-ded bladder pump; or
			2.5								Standard groundwater sample:
			3.0								D) bailer due to limited column; or
			3.5								E) recovery well cycling sample
			4.0								F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 8010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,U)		HNO3 8010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: MW-29

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

Hydrologic Monitoring

for TRC

Houston, Texas

(6-in PVC; stickup) Initials: TAB

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1010	NIP	7.53	0.0	22.00	16.7	Internal	YES	Issue	YES	*	Weather: Clear To
10/5/16	1500	NIP	7.58	0.0	22.00	16.7	Threaded					

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10/5/16	1505	7.59	0.5	6.84	27.7	4810	1.4	-315.7	4.7	Clear	Low-flow groundwater sample:
	1507	7.60	1.0	6.79	27.4	4500	1.3	-311.5	4.0		A) peristaltic pump w/ ded tubing
	1510	7.60	1.5	6.74	27.2	4190	1.1	-306.1	2.6		B) ded bladder pump
	1513	7.60	2.0	6.73	26.9	4080	1.0	-303.3	2.4		C) non-ded bladder pump; or
	1515	7.60	2.5	6.71	26.9	3970	0.9	-301.4	1.5		Standard groundwater sample:
	1517	7.60	3.0	6.68	26.9	3960	0.8	-301.1	1.3		D) bailer due to limited column; or
	1520	7.60	3.5	6.67	26.9	3950	0.7	-301.2	1.0		E) recovery well cycling sample
	1523	7.60	4.0	6.68	26.7	3950	0.6	-301.0	0.7		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/5/16	1525	mw-29	7.60	6.68	26.7	3950	0.6	-301.0	0.7	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)	HNO3	6010/6020
										Total Metals (Hg,Ni,V,Cd,Cr,U)	HNO3	6040/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)	Neat	300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM1500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico

Well: **RW- #16B**

Event: Fall 2016 (Semiannual)

Area of Concern: **Rest**

(Gauge only)

Hydrologic Monitoring
for TRC
Houston, Texas

Well Inspection Information

(8 3/8" OD Bell-top stickup; PVC)

Initials: **TAB**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1050	NP	9.38	0.0	17.70	14.7	YES	YES	ISSUE	YES	No positive	Weather: Clear, 70s

Well Purging Record

(Capped, but unable to lock) casing present

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	Water Color / Clarity	
			0.5								Low-flow groundwater sample:
			1.0								(A) peristaltic pump w/ ded tubing
			1.5								B) ded bladder pump
			2.0								C) non-ded bladder pump; or
			2.5								Standard groundwater sample:
			3.0								D) bailer due to limited column; or
			3.5								E) recovery well cycling sample
			4.0								F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)	HNO3	6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,U)	HNO3	6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)	Neat	300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: MW-56

Event: Fall 2016 (Semiannual)

Area of Concern: NCL

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: TABS/MDP

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10-5-16	1106	NA	9.56	0.0	26.50	21.4	yes	yes	yes	yes		Weather Clear 70°S
10-5-16	1350	NA	9.32	0.8								

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10-5-16	1355	9.39	0.5	7.41	26.2	4290	1.9	-309.5	8.4	Clear	Low-flow groundwater sample:
	1357	9.39	1.0	7.18	25.1	4240	1.7	-300.0	7.9		A) peristaltic pump w/ ded tubing
	1400	9.39	1.5	7.03	24.6	4190	1.5	-294.0	7.4		B) ded bladder pump
	1402	9.39	2.0	6.91	24.4	4120	1.4	-287.8	6.8		C) non-ded bladder pump; or
	1405	9.39	2.5	6.84	24.1	4080	1.4	-285.3	6.1		Standard groundwater sample:
	1407	9.39	3.0	6.82	24.1	4060	1.4	-284.0	5.4		D) bailer due to limited column; or
	1410	9.39	3.5	6.80	24.1	4060	1.4	-283.6	4.8		E) recovery well cycling sample
	1412	9.39	4.0	6.79	24.1	4050	1.4	-282.5	4.4		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10-5-16	1415	MW-56	9.39	6.79	24.1	4050	1.4	-282.5	4.4	DRO	HCL	8015M
										CRD	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,P,Cd,Co,U)		HNO3 6010/6020 and/or 7476
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	3M4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

[Extremely-short protective casing stickup; only the section above hinge-line is above -grade]

Monitoring Well Purging and Sampling Record

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico

* Located under
Yellow Barricade

Well: MW-49
Event: Fall 2016 (Semiannual)

Area of Concern: TEL

Hydrologic Monitoring
for TRC
Houston, Texas

Well Inspection Information

Initials: TAB

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	925	NP	6.75	0.0	33.15	27.8	yes	Non-Standard	Issue	yes		Weather: Clear, 70°
10/4/16	1550	NP	6.75	0.0								Clear, 80°

Well Purging Record

very short stickup Broken Hinge

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10/4/16	1555	6.90	0.5	7.16	25.8	3110	1.3	-326.8	10.4	clear/10/31/255	Low-flow groundwater sample:
	1557	6.90	1.0	7.14	25.5	3140	1.1	-340.2	5.6		A) peristaltic pump w/ ded tubing
	1600	6.90	1.5	7.13	25.3	3140	0.9	-344.1	4.0		B) ded bladder pump
	1603	6.90	2.0	7.11	25.2	3150	0.8	-346.6	3.8		C) non-ded bladder pump; or
	1605	6.90	2.5	7.08	25.2	3150	0.9	-349.2	3.4		Standard groundwater sample:
	1607	6.90	3.0	7.06	25.2	3150	0.8	-349.4	2.3		D) bailer due to limited column; or
	1610	6.90	3.5	7.04	25.2	3150	0.7	-349.4	2.0		E) recovery well cycling sample
✓	1613	6.90	4.0	7.03	25.1	3160	0.6	-350.2	1.6	↓ ↓	F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/4/16	1615	MW-49	6.90	7.03	25.1	3160	0.6	-350.2	1.6	DRO	HCL	8015M ✓
										GRO	HCL	8015M ✓
										VOC	HCL	8260 ✓
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na):		HNO3 6010/6020 ✓
										Total Metals (Hg,Ni,V,B,Cd,Co,U):		HNO3 6010/6020 and/or 7470 ✓
										Anions (Chloride,Fluoride,Sulfate):		Neat 300 ✓
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences ✓
										TDS	Neat	2540C ✓
										Cyanide	NaOH	SM4500 ✓

If <0.03 feet of PSH present, remove PSH and sample groundwater.

[Careful; may be covered by gravel; gravel lot area; re-located by surveyor 1H15]

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information (4-in; at-grade)

Well: MW-106

Event: Fall 2016 (Semiannual)

Area of Concern: Rest

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: TAB

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	935	NR	5.79	0.0	12.80	17.5	Yes	Yes	Yes	Yes		Weather: Clear, 80s
10/4/16	1650	NR	5.79	0.0								

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10/4/16	1635	5.83	0.5	6.98	25.5	3500	1.7	-352.8	2.6	Clear, odor	Low-flow groundwater sample:
	1657	5.84	1.0	6.87	25.4	3540	1.2	-361.8	2.0		(A) peristaltic pump w/ ded tubing
	1700	5.85	1.5	6.83	25.4	3550	1.0	-362.4	1.8		B) ded bladder pump
	1703	5.86	2.0	6.82	25.3	3550	0.8	-362.5	1.6		C) non-ded bladder pump; or
	1705	5.88	2.5	6.80	25.3	3560	0.8	-362.3	1.4		Standard groundwater sample:
	1707	5.90	3.0	6.78	25.3	3560	0.7	-361.1	1.3		D) bailer due to limited column; or
	1710	5.92	3.5	6.77	25.3	3560	0.6	-360.2	1.2		E) recovery well cycling sample
	1713	5.91	4.0	6.76	25.3	3560	0.6	-360.0	1.0		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/4/16	1715	MW-106	5.91	6.76	25.3	3560	0.6	-360.0	1.0	DRO	HCL	Lab: ESC Lab Sciences, Mt. Juliet, TN
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As, Ba, Cr, Fe, Pb, Mn, Se) and/or Cations (Ca, K, Na)		HNO3 6010/6020
										Total Metals (Hg, Ni, V, B, Cd, Co, U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride, Fluoride, Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: MW-45

Event: Fall 2016 (Semiannual)

Area of Concern: NCL

Hydrologic Monitoring

for TRC

Houston, Texas

(2-in) Aggrade

Initials: TAB

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1410	NP	3.83	0.0	15.05	12.3	yes	yes	yes	yes		Weather: Clear 80°

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	
10/4/16	1415	4.03	0.5	7.24	23.5	5150	1.2	31.6	1.2	clear/colorless	Low-flow groundwater sample:
	1417	4.04	1.0	7.66	23.3	5190	1.0	8.4	1.0		(A) peristaltic pump w/ ded tubing
	1420	4.04	1.5	7.60	23.4	5160	0.8	-27.9	0.9		B) ded bladder pump
	1423	4.04	2.0	6.96	23.3	5140	0.6	-33.8	0.9		C) non-ded bladder pump; or
	1425	4.04	2.5	6.95	23.2	5140	0.5	-61.1	0.7		Standard groundwater sample:
	1427	4.04	3.0	6.98	23.4	5120	0.5	-61.8	0.6		D) bailer due to limited column; or
	1430	4.04	3.5	6.92	22.8	5120	0.4	-63.7	0.6		E) recovery well cycling sample
	1433	4.04	4.0	6.91	22.8	5120	0.4	-65.7	0.5	↓	F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10/4/16	1435	MW-45	4.04	6.91	22.8	5120	0.4	-65.7	0.5	DRO	HCL	8015M ✓
										GRO	HCL	8015M ✓
										VOC	HCL	8260 ✓
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020 ✓
										Total Metals (Hg,Ni,V,B,Cd,Co,U)		HNO3 6010/6020 and/or 7470 ✓
										Anions (Chloride,Fluoride,Sulfate)		Neat 300 ✓
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences ✓
										TDS	Neat	2540C ✓
										Cyanide	NaOH	SM4500 ✓

If <0.03 feet of PSH present, remove PSH and sample groundwater

[* Located within the Artesia Wool laydown yard N. of the main warehouse]

Monitoring Well Purging and Sampling Record

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico

Well: **MW-50**
Event: Fall 2016 (Semiannual)
Area of Concern: **Rest**

Hydrologic Monitoring
for TRC
Houston, Texas

Well Inspection Information

(2-in; stickup) ✓

Initials: **CJH**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10.4.16	1035	NA	12.51	0.0	28.22	24.1	yes	yes	yes	yes		Weather: Clear, 70's
10.5.16	925	NA	12.73	0.0	28.22							

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	
10.5.16	930	12.74	0.5	6.77	22.4	7460	2.4	99.1	5.0	clear	Low-flow groundwater sample:
	932	12.74	1.0	6.84	22.5	7740	1.6	96.7	4.6		A) peristaltic pump w/ ded tubing
	935	12.74	1.5	6.88	22.5	8180	1.4	94.4	4.5		B) ded bladder pump
	937	12.74	2.0	6.90	22.6	8340	1.3	92.8	4.1		C) non-ded bladder pump; or
	940	12.74	2.5	6.91	22.6	8410	1.2	91.1	3.7		Standard groundwater sample:
	942	12.74	3.0	6.92	22.6	8440	1.1	90.0	3.5		D) bailer due to limited column; or
	945	12.74	3.5	6.93	22.7	8460	1.0	89.3	3.2		E) recovery well cycling sample
	947	12.74	4.0	6.93	22.6	8480	1.0	88.5	3.0		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10.5.16	950	MW-50	12.74	6.93	22.6	8480	1.0	88.5	3.0	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)	HNO3	8010/8020
										Total Metals (Hg,Ni,V,B,Cd,Ce,U)	HNO3	8010/8020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)	Neat	300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM1500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: **MW-97**

Event: Fall 2016 (Semiannual)

Area of Concern: **Rest**

Hydrologic Monitoring

for TRC

Houston, Texas

(4-in; at-grade)✓

Initials: **CSH**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10-4-16	1023	7.98	8.03	0.05	21.20	(NS) 5' off base as needed	yes	yes	yes	yes		Weather: clear, 70S

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	
			0.5								Low-flow groundwater sample:
			1.0								A) peristaltic pump w/ ded tubing
			1.5								B) ded bladder pump
			2.0								C) non-ded bladder pump; or
			2.5								Standard groundwater sample:
			3.0								D) bailer due to limited column; or
			3.5								E) recovery well cycling sample
			4.0								F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
		MW-97										Lab: ESC Lab Sciences, Mt. Juliet, TN
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,S,Cd,Cr,U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico

Well: **MW-92**

Event: Fall 2016 (Semiannual)

Area of Concern: **Rest**

"TorCSII" is doing construction in area. speak to "Jacob" if need be for future reference.

Hydrologic Monitoring
for TRC
Houston, Texas

Well Inspection Information

(4-in; stickup) ✓

Initials: **CJH**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10.4.16	1010	9.53	9.54	0.01	22.60	17.6	yes	yes	yes	yes		Weather: Clear, 70's
10.5.16	1055	*NA	9.34									

Well Purging Record *Trace LNAPL on gauging probe

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10.5.16	1100	9.46	0.5	6.96	25.6	3360	2.0	-332.1	6.1	Clear, light	Low-flow groundwater sample:
	1102	9.48	1.0	6.86	25.5	3390	1.4	-336.2	5.8	Yellow tint, odor	A) peristaltic pump w/ ded tubing
	1105	9.49	1.5	6.80	25.5	3420	1.2	-335.4	5.5		B) ded bladder pump
	1107	9.49	2.0	6.78	25.4	3430	1.1	-334.0	5.1		C) non-ded bladder pump; or
	1110	9.49	2.5	6.76	25.3	3440	1.0	-333.6	4.8		Standard groundwater sample:
	1112	9.49	3.0	6.75	25.3	3440	1.0	-332.4	4.4		D) bailer due to limited column; or
	1115	9.49	3.5	6.74	25.2	3450	0.9	-331.5	4.0		E) recovery well cycling sample
	1117	9.49	4.0	6.73	25.2	3450	0.9	-331.0	3.6		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10.5.16	1120	MW-92	9.49	6.73	25.2	3450	0.9	-331.0	3.6	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)	HNO3	6010/6020
										Total Metals (Hg,Mn,V,B,Cd,Co,U)	HNO3	6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)	Neat	300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										IDS	Neat	2540C
										Cyanide	NaOH	SM4506

If <0.03 feet of PSH present, remove PSH and sample groundwater.

[Gauge (& sample when scheduled) using 1-inch guide-pipe inside doghouse]
 Non-dedicated tubing

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: **RW-1**

Event: Fall 2016 (Semiannual)

Area of Concern: **Rest**

(Gauge only)

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: **CJH**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10-4-16	1048	NA	8.49	0.0	35.39	30.4	yes	yes	yes	yes		Weather:

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
			0.5								Low-flow groundwater sample:
			1.0								A) peristaltic pump w/ ded tubing
			1.5								B) ded bladder pump
			2.0								C) non-ded bladder pump; or
			2.5								Standard groundwater sample:
			3.0								D) bailer due to limited column; or
			3.5								E) recovery well cycling sample
			4.0								F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)	HNO3	6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,U)	HNO3	6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)	Neat	300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater.

Hydrologic Monitoring
for TRC
Houston, Texas

Initials: CJH

(4-11, 21-24) for												Initials: CWH	
Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments	
							Cap	Casing	Well Secured	Label	Other		
10-4-16	1101	NA	8.86	0.0	25.35	17.9	yes	yes	yes	yes		Weather: Clear, 70's	
10-5-16	1010	NA	8.93	0.0	25.35								

[illegible]

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (°C)	SC ($\mu\text{mho/cm}$)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments Lab: ESC Lab Sciences, Mt. Juliet, TN
10.5.16	1035	MW-91	9.24	6.54	23.3	2560	1.0	-382.5	9.4	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
						Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)					HNO ₃	6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Ce,U)	HNO ₃	6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)	Neat	300
										Nitrate-Nitrite	H ₂ SO ₄	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4360
												If <0.03 feet of BSH present, stopper SCN and record

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: **MW-90**

Event: Fall 2016 (Semiannual)

Area of Concern: **Rest**

Hydrologic Monitoring

for TRC

Houston, Texas

(4-in; stickup) ✓ Initials: **CJH**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10.4.16	1112	NA	9.24	0.0	22.80	21.5	yes	yes	yes	yes		Weather: Clear, 80's
10.5.16	1140	NA	9.29	0.0	22.80							

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10.5.16	1145	9.40	0.5	7.73	23.5	4860	1.8	-158.1	14.6	Clear, odor	Low-flow groundwater sample:
	1147	9.42	1.0	7.68	22.9	4920	1.6	-151.4	12.9		A) peristaltic pump w/ ded tubing
	1150	9.44	1.5	7.66	22.8	4940	1.5	-145.6	11.0		B) ded bladder pump
	1152	9.45	2.0	7.64	22.8	4950	1.4	-141.1	10.1		C) non-ded bladder pump; or
	1155	9.46	2.5	7.63	22.7	4950	1.3	-138.6	9.5		Standard groundwater sample:
	1157	9.47	3.0	7.61	22.6	4960	1.2	-134.5	9.6		D) bailer due to limited column; or
	1200	9.48	3.5	7.60	22.7	4960	1.1	-132.8	8.8		E) recovery well cycling sample
	1202	9.48	4.0	7.59	22.7	4960	1.1	-130.1	8.5		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10.5.16	1205	MW-90	9.48	7.59	22.7	4960	1.1	-130.1	8.5	DRO	HCL	Lab: ESC Lab Sciences, Mt. Juliet, TN
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Mn,V,S,Cd,Cr,U)		HNO3 6040/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico

Well: **MW-96**
Event: Fall 2016 (Semiannual)

Hydrologic Monitoring
for TRC
Houston, Texas

Well Inspection Information

Area of Concern: **Rest**

(4-in; stickup)✓

Initials: **CTH**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10.4.16	1122	NA	8.76	0.0	25.57	21.2	yes	* Issue	needs	yes	Has Cleared	Weather: Pad pad is good.
10.5.16	1220	NA	8.83					lock, but			Gravel from	

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10.5.16	1225	8.84	0.5	6.95	24.6	2770	2.1	-328.9	39.6	sl. cloudy, white	Low-flow groundwater sample: A) peristaltic pump w/ ded tubing B) ded bladder pump C) non-ded bladder pump; or D) bailer due to limited column; or E) recovery well cycling sample F) irrigation well grab sample
	1227	8.84	1.0	6.85	23.8	2740	1.7	-331.4	26.4	Particles, odor	
	1230	8.84	1.5	6.82	23.5	2710	1.6	-334.8	21.2	↓	
	1232	8.84	2.0	6.79	23.3	2680	1.5	-336.5	18.9	clear, white	
	1235	8.84	2.5	6.76	23.2	2660	1.4	-337.7	16.4	Particles, odor	
	1237	8.84	3.0	6.75	23.1	2640	1.3	-338.5	13.9	↓	
	1240	8.84	3.5	6.74	23.1	2630	1.3	-339.8	12.1	↓	
	1242	8.84	4.0	6.74	23.0	2620	1.2	-341.0	11.4	↓	

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10.5.16	1245	MW-96	8.84	6.74	23.0	2620	1.2	-341.0	11.4	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater.

Initials: C TU

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Houston, Texas

Well Sampling Record												
Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
										DRO	HCL	Lab: ESC Lab Sciences, Mt. Juliet, TN 8015M
										GRO	HCL	8015M
										VOC	HCL	8260
						Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)					HNO ₃	6010/6020
								Total Metals (Hg,Ni,V,B,Cd,Co,U)			HNO ₃	6010/6020 and/or 7470
								Anions (Chloride,Fluoride,Sulfate)			Neat	300
										Nitrate-Nitrite	H ₂ SO ₄	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500
												If <0.02 feet of BSW present, remove SCM

If <0.03 feet of PSH present, remove PSH and sample groundwater

If <0.03 feet of PSH present, remove PSH and sample groundwater

Initials: *CJH*

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Initials: *CJH*

If <0.03 feet of PSH present, remove PSH and sample groundwater

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico
Well Inspection Information

Event: Fall 2016 (Semiannual)

Area of Concern: **NCL**

Hydrologic Monitoring
for TRC
Houston, Texas

Initials: *CJH*

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10-4-16	1234	NA	8.36	0.0	19.31	16.9	Issue	yes	yes	yes		Weather: Clear, 80's
10-5-16	1430	NA	8.37	0.0	19.31							

Well Purging Record

* Cannot fit cap and close prot. casing lid simultaneously, PVC casing needs to be lowered or prot. casing raised. Left w/ no cap, well is secure

[illegible]

Well Sampling Record

[illegible]

If <0.03 feet of PSH present, remove PSH and sample groundwater.

Monitoring Well Purging and Sampling Record

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico

Well: **NCL-33**
Event: Fall 2016 (Semiannual)

Area of Concern: **NCL**

Hydrologic Monitoring
for TRC
Houston, Texas

(2-in; stickup)

Initials: **CJH/MPB**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10-4-16	1245	NA	6.37	0.0	19.60	17.7	yes	yes	yes	yes		Weather: Clear 70°
10-5-16	1440	NA	6.39	0.0								

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10-5-16	1445	6.50	0.5	7.02	24.3	3358	3.8	-203.4	16.2	Clear	Low-flow groundwater sample:
	1447	6.59	1.0	6.92	25.4	3310	2.2	-209.8	9.8		A) peristaltic pump w/ ded tubing
	1450	6.64	1.5	6.81	24.7	3270	1.6	-212.6	9.6		B) ded bladder pump
	1452	6.47	2.0	6.77	24.4	3238	1.4	-212.6	8.7		C) non-ded bladder pump; or
	1455	6.50	2.5	6.72	24.3	3216	1.2	-214.6	7.6		Standard groundwater sample:
	1457	6.53	3.0	6.70	24.3	3200	1.2	-215.9	6.4		D) bailer due to limited column; or
	1500	6.56	3.5	6.69	24.3	3190	1.2	-216.2	5.1		E) recovery well cycling sample
	1502	6.59	4.0	6.66	24.3	3180	1.2	-217.7	4.6	✓	F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10-5-16	1505	NCL-33	6.59	6.66	24.3	3180	1.2	-217.7	4.6	DRO	HCL	8015M
										CRD	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Cu,U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM-500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: **NCL-44**

Event: Fall 2016 (Semiannual)

Area of Concern: **NCL**

Hydrologic Monitoring

for TRC

Houston, Texas

(2-in; stickup)

Initials: **LJH**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10-4-16	1255	NA	6.39	0.0	21.57	17.4	* 25548	Yes	Yes	Yes	8 in of	Weather: Clear, 80's
10-4-16	1520	NA	6.39	0.0	21.57						Soil covering entire pad.	

Well Purging Record

* Cannot fit cap and close prot. casing
Simultaneously. Left w/ no cap, well is secured

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	
10-4-16	1525	6.44	0.5	7.28	25.3	2950	2.4	-211.4	21.6	Clear	Low-flow groundwater sample:
	1527	6.44	1.0	7.14	24.4	2930	1.9	-229.1	18.4		A) peristaltic pump w/ ded tubing
	1530	6.44	1.5	7.02	23.6	2920	1.7	-241.1	16.1		B) ded bladder pump
	1532	6.44	2.0	6.97	23.4	2910	1.6	-247.1	14.5		C) non-ded bladder pump; or
	1535	6.44	2.5	6.94	23.1	2910	1.5	-250.9	12.9		Standard groundwater sample:
	1537	6.44	3.0	6.91	22.9	2900	1.4	-253.6	11.5		D) bailer due to limited column; or
	1540	6.44	3.5	6.89	22.8	2890	1.3	-255.5	10.3		E) recovery well cycling sample
✓	1542	6.44	4.0	6.87	22.9	2880	1.3	-257.2	9.4	✓	F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10-4-16	1545	NCL-44	6.44	6.87	22.9	2880	1.3	-257.2	9.4	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As, Ba, Cr, Fe, Pb, Mn, Se) and/or Cations (Ca, K, Na)	HNO3	6010/6020
										Total Metals (Hg, Ni, V, B, Cd, Co, U)	HNO3	6010/6020 and/or 7470
										Anions (Chloride, Fluoride, Sulfate)	Neat	300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

+ EB-NCL-01
(for same analysis)

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico

Well Developed
10/4/16

Well: NCL-32
Event: Fall 2016 (Semiannual)

Hydrologic Monitoring
for TRC
Houston, Texas

Well Inspection Information

Area of Concern: NCL
* pre-development ** Post development

(2-in; at-grade) ✓

Initials: CJH

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10-4-16	830	NA	6.39	0.0	17.12	16.5	yes	yes	yes	yes		Weather: clear, 80's
10-5-16	1515	NA	6.39	0.0	**20.00	**18.1						

Well Purging Record

Screen reported: 17-22 ft-bgs
historical measured depth: 17.15 ft-TOC (soft) * Intake was lowered which removed ~3.0' of silt from base of well.

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	
10-5-16	1520	6.50	0.5	7.38	23.6	2730	3.7	-146.0	24.5	clear, small	Low-flow groundwater sample:
	1522	6.51	1.0	7.33	23.4	2740	2.7	-139.1	23.6	white particles	A) peristaltic pump w/ ded tubing
	1525	6.51	1.5	7.21	23.2	2730	2.5	-121.4	23.1		B) ded bladder pump
	1527	6.51	2.0	7.16	23.1	2750	2.4	-109.7	22.9		C) non-ded bladder pump; or
	1530	6.51	2.5	7.11	23.1	2760	2.3	-104.6	23.4		Standard groundwater sample:
	1532	6.51	3.0	7.08	23.0	2760	2.2	-101.2	22.5		D) bailer due to limited column; or
	1535	6.51	3.5	7.04	23.0	2760	2.1	-98.6	21.9		E) recovery well cycling sample
	1537	6.51	4.0	7.04	22.9	2770	2.1	-95.4	21.4		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Continents
10-5-16	1540	NCL-32	6.51	7.04	22.9	2770	2.1	-95.4	21.4	DRO	HCL	Lab: ESC Lab Sciences, Mt. Juliet, TN
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As, Ba, Cr, Fe, Pb, Mn, Se) and/or Cations (Ca, K, Na)	HNO3	6010/6020
										Total Metals (Hg, Ni, V, B, Cd, Co, U)	HNO3	6010/6020 and/or 7470
										Anions (Chloride, Fluoride, Sulfate)	Neat	300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500
✓	1600	EB-NCL-01	NA							same analysis		

If <0.03 feet of PSH present, remove PSH and sample immediately

[* Access by foot]

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: MW-108

Event: Fall 2016 (Semiannual)

Area of Concern: NCL

Hydrologic Monitoring

for TRC

Houston, Texas

(4-in; stickup) ✓

Initials: CJH

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10.4.16	1355	NA	10.54	0.0	27.74	22.5	yes	yes	yes	yes		Weather: Clear, 80's

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	
10.4.16	1400	10.68	0.5	7.28	27.1	3140	1.8	-364.1	61.4	sl. cloudy, yellow	Low-flow groundwater sample:
	1402	10.76	1.0	7.14	26.3	3160	1.7	-369.2	52.8	Ant odor	A) peristaltic pump w/ ded tubing
	1405	10.81	1.5	7.05	25.7	3170	1.7	-358.4	45.6		B) ded bladder pump
	1407	10.84	2.0	7.01	25.3	3150	1.6	-349.8	39.1		C) non-ded bladder pump; or
	1410	10.87	2.5	6.99	25.2	3140	1.6	-346.7	36.1		Standard groundwater sample:
	1412	10.89	3.0	6.97	25.1	3140	1.5	-344.1	34.2		D) bailer due to limited column; or
	1415	10.91	3.5	6.95	25.0	3130	1.5	-343.5	32.1		E) recovery well cycling sample
	1417	10.93	4.0	6.94	24.9	3120	1.5	-342.1	31.6		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10.4.16	1420	MW-108	10.93	6.94	24.9	3120	1.5	-342.1	31.6	DRO	HCL	8015M
										GRO	HCL	6015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,U)		HNO3 6010/6020 and/or 7478
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

* SW of NCL field

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: **NCL-31**

Event: Fall 2016 (Semiannual)

Area of Concern: **NCL**

Hydrologic Monitoring

for TRC

Houston, Texas

(2-in; stickup) ✓

Initials: **CJM**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10-4-16	1305	NA	7.12	0.0	20.16	17.4	* Issue	yes	yes	yes		Weather Clear, 80's

Well Purging Record

* cannot fit cap and close prot. casing simultaneously. Left w/ no cap, well secure.

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10-4-16	1310	7.31	0.5	6.97	27.9	3110	1.9	-157.7	23.4	Clear, small white	Low-flow groundwater sample:
	1312	7.33	1.0	6.99	27.6	3060	1.7	-144.1	19.1	particles, light yellow	(A) peristaltic pump w/ ded tubing
	1315	7.33	1.5	7.01	27.2	3040	1.6	-138.6	16.5	hint, sl. odor	B) ded bladder pump
	1317	7.33	2.0	7.04	26.9	3020	1.5	-135.1	13.1		C) non-ded bladder pump; or
	1320	7.33	2.5	7.05	26.8	3010	1.4	-132.4	11.0		Standard groundwater sample:
	1322	7.33	3.0	7.06	26.7	3000	1.4	-130.8	9.8		D) bailer due to limited column; or
	1325	7.33	3.5	7.05	26.6	2990	1.3	-128.9	9.4		E) recovery well cycling sample
	1327	7.33	4.0	7.04	26.6	2990	1.3	-127.5	8.8		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10-4-16	1330	NCL-31	7.33	7.04	26.6	2990	1.3	-127.5	8.8	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As, Ba, Cr, Fe, Pb, Mn, Se) and/or Cations (Ca, K, Na)		HNO3 6010/6020
										Total Metals (Hg, Ni, V, B, Cd, Co, U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride, Fluoride, Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Not in sampling program

Monitoring Well Purging and Sampling Record

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico

Well: MW-19
Event: Fall 2016 (Semiannual)
Area of Concern: NCL

(Gauge only)
(bin) stickup

Hydrologic Monitoring
for TRC
Houston, Texas

Well Inspection Information

Initials: CJH

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10-4-16	1345	NA	7.52	0.0	22.08	Not sampled	yes	Issue	Issue	yes		Weather:

Well Purging Record

* NO Prot. Casing, just exposed PVC casing, well cannot be secured.

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
		0.5									Low-flow groundwater sample: A) peristaltic pump w/ ded tubing B) ded bladder pump C) non-ded bladder pump; or Standard groundwater sample: D) bailer due to limited column; or E) recovery well cycling sample F) irrigation well grab sample
		1.0									
		1.5									
		2.0									
		2.5									
		3.0									
		3.5									
		4.0									

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Cu,U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater.

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: MW-55

Event: Fall 2016 (Semiannual)

Area of Concern: NCL

(2-in; stickup) ✓

Hydrologic Monitoring

for TRC

Houston, Texas

Initials: CJH/MDM

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10-4-16	1632	NA	8.74	0.0	26.58	21.7	Yes	Yes	Yes	Yes		Weather: Clear, 70's
10-5-16	1530	NA	8.80	0.0								

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
10-5-16	1535	8.82	0.5	7.47	26.6	2870	4.0	-242.4	28.7	sl. cloudy	Low-flow groundwater sample:
	1537	8.82	1.0	7.47	26.2	2930	3.2	-232.1	14.7	clear	A) peristaltic pump w/ ded tubing
	1540	8.82	1.5	7.46	25.0	2960	2.6	-210.9	12.6		B) ded bladder pump
	1542	8.82	2.0	7.43	24.6	2970	2.0	-201.1	10.4		C) non-ded bladder pump; or
	1545	8.82	2.5	7.34	24.4	3010	1.8	-195.4	9.2		Standard groundwater sample:
	1547	8.82	3.0	7.30	24.3	3080	1.7	-194.6	8.7		D) bailer due to limited column; or
	1550	8.82	3.5	7.27	24.3	3100	1.7	-190.7	7.4		E) recovery well cycling sample
	1552	8.82	4.0	7.24	24.3	3110	1.7	-186.4	6.9		F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
10-5-16	1555	MW-55	8.82	7.24	24.3	3110	1.7	-186.4	6.9	DRO	HCL	8015M ✓
										GRO	HCL	8015M ✓
										VOC	HCL	8260 ✓
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020 ✓
										Total Metals (Hg,Ni,V,B,Cd,Co,U)		HNO3 6010/6020 and/or 7470 ✓
										Anions (Chloride,Fluoride,Sulfate)		Neat 300 ✓
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences ✓
										TDS	Neat	2540C ✓
										Cyanide	NaOH	SM4500 ✓

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company

Artesia Refinery

Artesia, New Mexico

Well Inspection Information

Well: **RW- #17A**

Event: Fall 2016 (Semiannual)

Area of Concern: **Rest**

Hydrologic Monitoring

for TRC

Houston, Texas

(Gauge only)

(bin; stick up, w/ 6.5" mouth)

Initials: **CJH**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10-4-16	1622	NA	8.25	0.0	15.97 (Soft)	14.0	Yes	*Issue	*Issue	Yes		Weather:

Well Purging Record

*NO Prot. Casing, just exposed PVC casing, well is unable to be secured.

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
		0.5									Low-flow groundwater sample:
		1.0									A) peristaltic pump w/ ded tubing
		1.5									B) ded bladder pump
		2.0									C) non-ded bladder pump; or
		2.5									Standard groundwater sample:
		3.0									D) bailer due to limited column; or
		3.5									E) recovery well cycling sample
		4.0									F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
												Lab: ESC Lab Sciences, Mt. Juliet, TN
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico

Well: **MW-18**
Event: Fall 2016 (Semiannual)
Area of Concern: **NCL**

(Gauge only)
(in stick up)

Hydrologic Monitoring
for TRC
Houston, Texas

Well Inspection Information

Initials: **CJH**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10-4-16	1610	NA	8.12	0.0	22.24	20.2	yes	yes	yes	yes		Weather:

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
			0.5								Low-flow groundwater sample:
			1.0								A) peristaltic pump w/ ded tubing
			1.5								B) ded bladder pump
			2.0								C) non-ded bladder pump; or
			2.5								Standard groundwater sample:
			3.0								D) bailer due to limited column; or
			3.5								E) recovery well cycling sample
			4.0								F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
										DRO	HCL	8015M
										GBD	HCL	6015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Cu,U)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico
Well Inspection Information

Event: Fall 2016 (Semiannual)

Area of Concern: NCI

Hydrologic Monitoring
for TRC
Houston, Texas

(2-in; stickup) ✓

Initials: CSM

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10-4-16	11:56	NA	8.83	0.0	31.30	23.6	yes	yes	yes	yes		Weather: Clear, 60's
10-5-16	840	NA	8.87	0.0	31.30							

Well Purging Record

[illegible]

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (FL-TOC)	pH (std units)	T (°C)	SC ($\mu\text{mho/cm}$)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments Lab: ESC Lab Sciences, Mt. Juliet, TN
10-5-16	905	mw-54A	8.91	6.65	21.6	2360	2.0	38.0	4.3	DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
						Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)				HNO3		6010/6020
										Total Metals (Hg,Mn,V,B,Cd,Cr,U) Anions (Chloride,Fluoride,Sulfate)	HNO3 Neat	6010/6020 and/or 7470 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500
												If <0.03 feet of PSH present, remove PSH and sample groundwater

If <0.03 feet of PSH present, remove PSH and sample groundwater

Monitoring Well Purging and Sampling Record

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico

Well: **MW-54B**
Event: Fall 2016 (Semiannual)
Area of Concern: **NCL**

Hydrologic Monitoring
for TRC
Houston, Texas

(Gauge only)
(2-in; pickup)

Initials: **CJH**

Well Inspection Information

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10/4/16	1705	NA	8.78	0.0	46.80	41.8	yes	yes	yes	yes		Weather:

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	Water Color / Clarity	Comments
			0.5								Low-flow groundwater sample:
			1.0								A) peristaltic pump w/ ded tubing
			1.5								B) ded bladder pump
			2.0								C) non-ded bladder pump; or
			2.5								Standard groundwater sample:
			3.0								D) bailer due to limited column; or
			3.5								E) recovery well cycling sample
			4.0								F) irrigation well grab sample

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
										DRO	HCL	8015M
										GRO	HCL	8015M
										VOC	HCL	8260
										Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)		HNO3 6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,Cu)		HNO3 6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)		Neat 300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM4500

If <0.03 feet of PSH present, remove PSH and sample groundwater

+ DUP - NCL - 01
(for same analysis)

Well: NCL-49

for TRC

Event: Fall 2016 (Semiannual)

Area of Concern: NCL

(2-in; stackup) ✓

Initials: C JH

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake (Ft-TOC)	Well Inspection					Comments
							Cap	Casing	Well Secured	Label	Other	
10-4-16	1717	N/A	12.13	0.0	32.18	27.2	yes	yes	yes	yes		Weather: Clear, 60° S
10-5-16	745	N/A	12.21	0.0	32.18							

[illegible]

Date	Time	Sample I.D.	Depth to Water (ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mv)	Turbidity (NTU)	Parameter	Preserv	Comments
10-5-16	810	NCL-49	12.25	6.82	20-1	3120	1.7	128.3	5.5	DRO	HCL	8015M
										ERO	HCL	8613M
										VOC	HCL	8260
						Total Metals (As,Ba,Cr,Fe,Pb,Mn,Se) and/or Cations (Ca,K,Na)					HNO3	6010/6020
										Total Metals (Hg,Ni,V,B,Cd,Co,U)	HNO3	6010/6020 and/or 7470
										Anions (Chloride,Fluoride,Sulfate)	Neat	300
										Nitrate-Nitrite	H2SO4	per historical, ESC Lab Sciences
										TDS	Neat	2540C
										Cyanide	NaOH	SM1600
↓	900	DUP-NCL-01	12.25	6.82	20-1	3120	1.7	128.3	5.5	Same as above	Same	Same

If <0.03 feet of PSH present, remove PSH and sample groundwater

If <0.03 feet of PSH present, remove PSH and sample groundwater

Instrument Calibration Log

Navajo Refining Company
Artesia Refinery
Artesia, New Mexico

Hydrologic Monitoring
for TRC
Houston, Texas

[illegible]

[illegible]

TRC Solutions - Austin, TX 505 E. Huntland Dr, Ste 250 Austin, TX 78752				Billing Information: Accounts Payable 21 Griffin Road North Windsor, CT 06095				Analysis / Container / Preservative			
Report to: Julie Speer				Email To: jspeer@trcsolutions.com							
Project Description: TEL Fall 2016				City/State Collected:							
Phone: 512-684-3170 Fax:		Client Project # 249545.0000.0000 000		Lab Project # TRCATX-TEL							
Collected by (print): Scott Ude		Site/Facility ID # TEL - NAVAJO-ARTESIA		P.O. # 94397							
Collected by (signature): 		Rush? (Lab MUST Be Notified) ☐ Same Day 100% ☐ Next Day 50% ☒ Two Day 50% ☐ Three Day 25%		Date Results Needed							
Immediately Packed on Ice ☒ Y ☐ N				Email? ☐ No ☒ Yes FAX? ☐ No ☒ Yes							
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Chtrs					
TEL-4		GW				10	X				
TEL-3		GW				10	X				
TEL-2		GW				10	X				
TEL-1		GW				10	X				
MW-49		GW		10/4/16	1615	11	X	X	X	X	X
DUP-TEL-01		GW				10	X				
EB-TEL-01		GW				10	X				
EXTRAS		GW				11	X				
TRIP BLANK-TEL-01		GW				1					
* Matrix: SS = Soil GW = Groundwater WW = Waste Water DW = Drinking Water OT = Other											
Remarks:											
Relinquished by: (Signature) 				Date: 10/4/16 Time: 1900		Received by: (Signature) 				Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐	
Relinquished by: (Signature) 				Date: Time:		Received by: (Signature) 				Temp 8 Relative Humidity 70 Date 10/6/16 Time 11:15	
Relinquished by: (Signature) 				Date: Time:		Received by: (Signature) 				Condition: (Lab use only) COC See Inert get Checked: NCF	

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Report to:
Julie Spear

Email To: jspear@trcsolutions.com

Project
Description: NCL

City/State
Collected:

Phone: 512-684-3170
Fax:

Client Project #
249545.0000.0000 000

Lab Project #
TRCATX-NCL

Collected by (print):
Scott Ude

Site/Facility ID #
NCL - NAVAJO-ARTESIA

P.O. #
94397

Collected by (signature):
Scott Ude

Rush? (Lab MUST Be Notified)
____ Same Day _____ 200%
____ Next Day _____ 100%
____ Two Day _____ 50%
____ Three Day _____ 25%

Data Results Needed

Email? ____ No ____ Yes
FAX? ____ No ____ Yes

Immediately
Packed on ice N ____ Y ____

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Chits	Ammonia 1250ml HDPF - NaOH	Cyanide 250ml HDPF - NaOH	U600 40ml Amb - HCl - RT	GBO 40ml Amb - HCl	NO2N03 250ml HDPF - H2SO4	TDS 250ml HDPF - NaOH	Total metals - 1250ml HDPF - HNO3	Total metals - short 250ml HDPF - HNO3	U6250 40ml Amb - HCl	Y8260 - Trip Blank 40ml Amb - HCl - BK
MW-36		GW				8	X		X		X	X		X	X	
MW-45		GW		10/4/16	1435	9	X	X	X		X	X	X		X	
NCL-34A		GW				8	X		X		X	X		X	X	
NCL-33		GW				8	X		X		X	X		X	X	
NCL-44		GW		10/4/16	1545	8	X		X		X	X		X	X	
NCL-32		GW				8	X		X		X	X		X	X	
NCL-108		GW		10/4/16	1420	8	X		X		X	X		X	X	
NCL-31		GW		10/4/16	1330	8	X		X		X	X		X	X	
NCL-55		GW				11	X	X	X	X	X	X	X		X	
NCL-54A		GW				8	X		X		X	X		X	X	

* Matrix: S - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

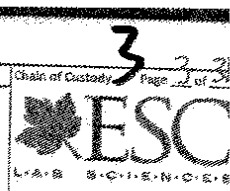
Relinquished by: (Signature) *Scott Ude* Date: 10/4/16 Time: 1900

Received by: (Signature) *[Signature]*

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ Other

Temp: 51 500mls received: 500mls

Date: 10/4/16 Time: 9:00



12065 Labson Rd
Morton, IL 61550
Phone: 815-756-6858
Phone: 815-756-6859
Fax: 815-756-6859

G233

Account: TRCATX
Phone: 512-684-3170
Fax: 512-684-3170
Email: jspear@trcsolutions.com

Shipped via FedEx Ground

Rem./Contaminant

Sample # (Lab only)

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Report to:
Julia Speer

Email To: jspeer@trcsolutions.com

Project
Description: NCL

City/State
Collected:

Phone: 512-684-3170
Fax:

Client Project #
249345.0000.0000.000

Lab Project #
TRCATX-NCL

Collected by (print):

Scott Ude

Site/Facility ID #
NCL - NAVAJO-ARTESIA

P.O. #
94887

Collected by (signature):

Scott Ude

Rush? (Lab MUST Be Notified)
Same Day _____ 200%
Next Day _____ 100%
Two Day _____ 30%
Three Day _____ 25%

Date Results Needed

Email? ☐ No ☒ Yes

FAX? ☐ No ☒ Yes

No. of
Extra

Immediately
Packed on Ice N ☐ Y ☒

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Extra	Analysis / Container / Preservative	Chain of Custody
NCL-49		GW				8	Ammonia 250mlHDPE NoPres	
DUP-NCL-01		GW				8	Cyanide 250mlHDPE+NaOH 7/12	
EB-NCL-01		GW				8	DrGV/40mlAmib-HCl-Bk	
EXTRAS		GW				8	CrO 40mlAmib-HCl	
TRIP BLANK-NCL-01		GW		10/4/16		9	NO2NO3 250mlHDPE-H2SO4 17	
						1	TDS 250mlHDPE NoPres	
							Total metal trip 250mlHDPE-HNO3 22	
							Total metal-short 250mlHDPE-HNO3	
							V8260 40mlAmib-HCl	
							V8260-Trip Blank 40mlAmib-HCl-Bk	

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water QT - Other

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature)

Date: 10/4/16

Time: 1400

Received by: (Signature)

Samples returned via: ☐ UPS

☒ FedEx ☐ Courier ☐

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Number of bottles received:

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Date:

4
of 2
ESC
L.A.B. S.C.I.E.N.C.E.S.

12065 Leblanc Rd
Mount Juliet, TN 37122
Phone: 615-763-0853
Phone: 615-767-5958
Fax: 615-763-0859



Table #
Account: TRCATX
Card # 1115356
Project: PS68405
Lab: 526 - Chris McCard
Ship Via: FedEx Ground
Bottle/Container Sample # (Lab only)

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Report to:
Julie Speer

Email To: jspeer@trcsolutions.com

Project
Description: REST Fall 2016

City/State
Collected:

Phone: 512-684-3170
Fax:

Client Project #
249545.0000.0000.000

Lab Project #
TRCATX-REST

Collected by (print):
Scott Ude

Site/Facility ID #
REST - NAVAJO-ARTESIA

P.O. #
94397

Collected by (signature):
Scott Ude

Rush? (Lab MUST be Notified)

Date Results Needed

Immediately
Packed on Ice N ☐ Y ☒

____ Same Day _____ 200%
____ Next Day _____ 100%
____ Two Day _____ 50%
____ Three Day _____ 25%

Email? ☐ No ☒ Yes
FAX? ☐ No ☒ Yes

Sample ID	Camp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative	Chain of Custody
MW-64		GW		10/4/16	1435	10	X	
MW-65		GW		10/4/16	1515	10	X	
MW-102		GW		10/4/16	1600	10	X	
MW-99		GW				10	X	
MW-66		GW				11	X	
MW-28		GW		10/4/16	1745	11	X	
MW-60		GW		10/4/16	1640	11	X	
MW-107		GW				10	X	
MW-128		GW				10	X	
MW-125		GW				10	X	

* Matrix: SS - Soil GW - Groundwater WW - Waste Water DW - Drinking Water OT - Other

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature) <i>Scott Ude</i>	Date: 10/4/16	Time: 1900	Received by: (Signature) <i>[Signature]</i>	Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ Other	Hold #
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received by: (Signature) <i>[Signature]</i>	Lab #	Condition: (Lab use only)
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received by: (Signature) <i>[Signature]</i>	Lab #	Condition: (Lab use only)

5
Page 5 of 31

ESC
LAB SCIENCES

12065 Lubbock Rd
Mount Juliet, TN 37122
Phone: 615-758-5656
Fax: 615-758-5656

G234

Account: TRCATX
Phone: 1-815-563
Fax: P568346
Mr. 526 - Chris McGord
RE
Shipped via FedEx Ground

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Report to:
Julie Speer

Email To: jspeer@trcsolutions.com

Project
Description: REST Fall 2016

City/State
Collected:

Phone: 512-684-3170
Fax:

Client Project #
249545.0000.0000.000

Lab Project #
TRCATX-REST

Collected by (print):
Scott Ude

Site/Facility ID #
REST - NAVAJO-ARTESIA

P.O. #
94397

Collected by (signature):
Scott Ude

Push? (Lab MUST be notified)
Same Day 200%
Next Day 100%
Two Day 50%
Three Day 25%

Date Results Needed

Email? ___ No ___ Yes
FAX? ___ No ___ Yes

Immediately
Packed on Ice N ___ Y ☒

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
MW-64		GW		10/4/16	1435	10
MW-65		GW		10/4/16	1515	10
MW-102		GW		10/4/16	1600	10
MW-99		GW				10
MW-66		GW				11
MW-28		GW		10/4/16	1745	11
MW-60		GW		10/4/16	1640	11
MW-107		GW				10
MW-128		GW				10
MW-125		GW				10

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Samples returned via: ☐ UPS

☒ FedEx ☐ Courier ☐ _____

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp _____ # Bottles Received

Relinquished by: (Signature)

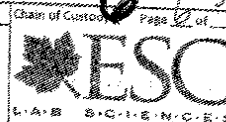
Date:

Time:

Received by: (Signature)

Date _____ Time _____

Field #	Condition	(Lab Use Only)



13045 Lufkin Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-2850



Table #

Account: TRCATX

Analyst: TL15563

Prelogin: PS68346

Lab: 526 - Chris McCard

Shipped Via: FedEx Ground

Reqs./Containers Sample # (Lab Only)

01	
02	
03	
04	
05	

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Report to:
Julie Speer

Email To: jspeer@trcsolutions.com

Project
Description: REST Fall 2016

City/State
Collected:

Phone: 512-684-3170
Fax:

Client Project #
249545.0000.0000 000

Lab Project #
TRCATX-REST

Collected by (print):
Scott Ude

Site/Facility ID #
REST - NAVAJO-ARTESIA

P.O. #
94397

Collected by (signature):
Scott Ude

Rush? (Lab MUST Be Notified)

Date Results Needed

Immediately
Packed on ice N Y ☒

Same Day 100%
Next Day 100%
Two Day 50%
Three Day 25%

Email? ☐ No ☒ Yes
FAX? ☐ No ☒ Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Aspirator	CN 250	Canons	Cyanide	BROVI	GRO 40	NO3NO3	TDS 250	Total m	Total n	Shipped Via	FedEX Ground
MW-113		GW				10	X				X	X	X	X		X	Rate/Container	Sample # (lab only)
KWB-8		GW				9	X	X			X		X	X	X			
MW-133		GW				10	X				X	X	X	X		X		
MW-134		GW		10/4/16	1435	10	X				X	X	X	X		X		
RA-4798		GW				6	X		X				X	X			-06	10/1/16
RA-4196		GW				6	X		X				X	X				
KWB-7		GW				9	X	X			X		X	X	X			
MW-135		GW				10	X				X	X	X	X		X		
KWB-11A		GW				11	X			X	X	X	X	X	X			
KWB-11B		GW				11	X			X	X	X	X	X	X			
Matrix: SS - Soil GW - Groundwater WWM - Wastewater DW - Drinking Water																		

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature) Scott Ude	Date: 10/4/16	Time: 1900	Received by: (Signature)	Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ Other	Condition: (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)		
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)		

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Report to:
Julie Speer

Email To: jspeer@trcsolutions.com

Project
Description: REST Fall 2016

City/State
Collected:

Phone: 512-654-3170
Fax:

Client Project #
249545.0000.0000.000

Lab Project #
TRCATX-REST

Collected by (print):
Scott Ude

Site/Facility ID #
REST - NAVAJO-ARTESIA

P.O. #
94397

Collected by (signature):
Scott Ude

Rush? (Lab MUST Be Notified)

Date Results Needed

Immediately
Packed on ice ☒ Y ☐ N

Some Day 20%
Next Day 100%
Two Day 50%
Three Day 25%

Email? ☐ No ☒ Yes
FAX? ☐ No ☐ Yes

No.
of
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
MW-113		GW				10
KWB-8		GW				9
MW-133		GW				10
MW-134		GW		10/4/16	1435	10
RA-4798		GW				6
RA-4196		GW				6
KWB-7		GW				9
MW-135		GW				10
KWB-11A		GW				11
KWB-11B		GW				11

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water QT - Other

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Samples returned via: ☐ UPS

Condition: (Lab use only)

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

☒ FedEx ☐ Courier ☐

Condition: (Lab use only)

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: _____

Condition: (Lab use only)

Date: _____

Condition: (Lab use only)

Time: _____

Condition: (Lab use only)

Date: _____

Condition: (Lab use only)

Time: _____

Condition: (Lab use only)

Chain of Custody

ESC
L.A.B. S.C.I.E.N.C.E.S.

22063 Lebanon Rd
Minnetonka, MN 55345
Phone: 612-754-5555
Fax: 612-754-5555



TRCATX
REST - NAVAJO-ARTESIA
P.O. # 94397
Packed on ice ☒ Y ☐ N
Packed by: Scott Ude
Date: 10/4/16
Time: 1435

Relinquished by: (Signature)

Date: _____

Time: _____

Received by: (Signature)

Date: _____

Time: _____

Condition: (Lab use only)

Condition: (Lab use only)

Condition: (Lab use only)

Condition: (Lab use only)

Condition: (Lab use only)

Condition: (Lab use only)

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Condition: (Lab use only)

Condition: (Lab use only)

TRC Solutions - Austin, TX 505 E. Huntland Dr, Ste 250 Austin, TX 78752				Billing Information: Accounts Payable 21 Griffin Road North Windsor, CT 06095				Analysis / Container / Preservative										Chain of Custody Page 1 of 3 12095 Leimert Rd Norwalk, CA 90651-1209 Phone: 615-759-5858 Fax: 615-759-5858					
Report To: Julie Speer				Email To: jspeer@trcsolutions.com																			
Project Description: REST Fall 2016						City/State Collected:																	
Phone: 512-684-3170				Client Project # 249545.0000.0000.000				Lab Project # TRCATX-REST															
Fax:																							
Collected by (print): Sue + Ude				Site/Facility ID # REST - NAVAJO-ARTESIA				P.O. # 94397															
Collected by (signature): 				Rush? (Lab MUST Be Notified) Same Day _____ 100% Next Day _____ 100% Two Day _____ 50% Three Day _____ 25%				Date Results Needed Email? No X Yes FAX? No Yes				No. of Cans											
Immediately Packed on ice N Y ✓																							
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cans																	
MW-112		GW				10	X						X	X	X	X							
MW-132		GW				10	X						X	X	X	X							
MW-57		GW				10	X						X	X	X	X							
KWB-12A		GW				11	X						X	X	X	X	X						
KWB-12B		GW				11	X						X	X	X	X	X						
KWB-2R		GW				8	X						X	X	X		X						
MW-58		GW				9	X						X	X	X	X							
DUP-REST-05		GW				11	X						X	X	X	X	X						
EB-REST-05		GW				11	X						X	X	X	X	X						
MW-104		GW		10/4/16	1345	10	X						X	X	X	X	X	-07					
* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other																							
Remarks:																							
Relinquished by: (Signature)				Date: 10/4/16		Time: 1900		Received by: (Signature)				Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ Other				Condition: (lab use only)							
Relinquished by: (Signature)				Date:		Time:		Received By: (Signature)				Temp: C F				LOC Seal Intact: Y N NA							
Relinquished by: (Signature)				Date:		Time:		Received for lab by: (Signature)				Date: 10/6/16 Time: 9:00				PH Checked: MCF							

TRC Solutions - Austin, TX 505 E. Huntland Dr, Ste 250 Austin, TX 78752				Billing Information: Accounts Payable 21 Griffin Road North Windsor, CT 06095				Analysis / Container / Preservative				Chain of Custody Page 10 of 31	
Report to: Julie Speer				Email To: jspeer@trcsolutions.com				V8260-Trip Blank 40ml/amb-HCl-BLK ESC L.A.B. S.C.I.E.N.C.E.S 11268 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-756-8558 Phone: 800-787-9459 Fax: 615-756-6950 Lab # _____ Account: TRCATX Sample # T115563 Project: P568346 TS: S25 Chris McCord PB: _____ Shipped via: FedEx Ground Date / Contamination: _____ Samples # (Lab only) _____					
Project Description: REST Fall 2016				City/State Collected: _____									
Phone: 512-684-3170 Fax: _____		Client Project # 249545.0000.0000.0000		Lab Project # TRCATX-REST									
Collected by (print): Scott Ude		Site/Facility ID # REST - NAVAJO-ARTESIA		P.O. # 94397									
Collected by (signature): 		Rush? (Lab MUST Be Notified) _____ Same Day _____ 700% _____ Next Day _____ 100% _____ Two Day _____ 50% _____ Three Day _____ 25%		Date Results Needed Email? _____ No _____ X _____ Yes FAX? _____ No _____ Yes									
Immediately Packed on Ice N _____ Y ☒													
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs						
MW-112			GW				10	X					
MW-132			GW				10	X					
MW-57			GW				10	X					
KWB-12A			GW				11	X					
KWB-12B			GW				11	X					
KWB-2R			GW				8	X					
MW-58			GW				9	X					
DUP-REST-05			GW				11	X					
EB-REST-05			GW				11	X					
MW-104			GW		10/4/16	1345	10	X					-07
* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____													
Remarks: _____													
Relinquished by: (Signature) 		Date: 10/4/16	Time: 1900	Received by: (Signature) 		Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____		Flow _____ Temp _____		Hold # _____			
Relinquished by: (Signature) 		Date:	Time:	Received by: (Signature) 		Temp _____ Bottles Received: _____		Condition: _____ (Lab use only)		_____			
Relinquished by: (Signature) 		Date:	Time:	Received by: (Signature) 		Date: 10/6/16 Time: 942		CUC Seal intact: ☒ _____		pH checked: 8.762			

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Report to:
Julie Speer

Email To: jspeer@trcsolutions.com

Project
Description: REST Fall 2016

City/State
Collected:

Phone: 512-684-3170
Fax:

Client Project #
249545.0000.0000 000

Lab Project #
TRCATX-REST

Collected by (print):
Scott Ude

Site/Facility ID #
REST - NAVAJO-ARTESIA

P.O. #
94397

Collected by (signature):
Scott Ude

Rush? (Lab MUST Be Notified)
____ Same Day200%
____ Next Day100%
____ Two Day50%
____ Three Day25%

Date Results Needed

Email? ____ No ____ Yes
FAX? ____ No ____ Yes

Immediately
Packed on Ice N ____ Y ☒

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnts	Analysis / Container / Preservative	Chain of Custody
MW-116		GW				10	X	
MW-48		GW				10	X	
MW-130		GW				10	X	
KWB-4		GW				8	X	
MW-52		GW				11	X	
MW-109		GW				10	X	
MW-110		GW				10	X	
DUP-REST-02		GW		10/4/16	1300	10	X	
EB-REST-02		GW		10/4/16	1400	10	X	
DUP-REST-04		GW		10/4/16	1200	11	X	

* Matrix: SS - Soil GW - Groundwater WW - Wastewater DW - Drinking Water OT - Other

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature) <i>Scott Ude</i>	Date: 10/4/16	Time: 1900	Received by: (Signature) <i>[Signature]</i>	Samples returned via: ☒ UPS ☒ FedEx ☐ Courier ☐ Other	Condition: (for use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: _____ Bottles received: _____	CDC Seal Intact: ☒ Y ☐ N ☐ NA
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: _____ Time: _____	Checked: <i>[Signature]</i> NCP



12005 Lybenton Rd
Mount Juliet, TN 37122
Phone: 615-752-8888
Fax: 615-752-8889

Lab #
Project #
Account: TRCATX
Template: T135563
Preprint: P568346
TSC: 426 - Chris McCord
Shipped Via: FedEx Ground

Run / Contaminant Sample # (Lab only)

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Report to:
Julie Speer

Email To: jspeer@trcsolutions.com

Project
Description: REST Fall 2016

City/State
Collected:

Phone: 512-684-3170
Fax:

Client Project #
249545.0000.0000 000

Lab Project #
TRCATX-REST

Collected by (print):
Scott Ude

Site/Facility ID #
REST - NAVAJO-ARTESIA

P.O. #
94397

Collected by (signature):
Scott Ude

Rush? (Lab MUST Be Notified)
____ Same Day 200%
____ Next Day 100%
____ Two Day 50%
____ Three Day 25%

Date Results Needed

Email? ____ No ____ Yes

FAX? ____ No ____ Yes

No.
of
Chtrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Chtrs	Analysis / Container / Preservative	Chain of Custody
MW-116		GW				10	X	
MW-48		GW				10	X	
MW-130		GW				10	X	
KWB-4		GW				8	X	
MW-52		GW				11	X	
MW-109		GW				10	X	
MW-110		GW				10	X	
DUP-REST-02		GW		10/4/16	1300	10	X	
EB-REST-02		GW		10/4/16	1400	10	X	08
DUP-REST-04		GW		10/4/16	1200	11	X	09
								10

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature) <i>Scott Ude</i>	Date: 10/4/16	Time: 1900	Received by: (Signature) <i>[Signature]</i>	Samples returned via: ☒ FedEx ☐ UPS	Condition: (Lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: _____ °C Bottles Received: _____	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: 10/6/16 Time: 9:10	CO: SeaHart: _____

12 12 31



12005 Lehigh Ad
Mount Airy, TN 37122
Phone: 615-758-6858
Phone: 800-767-5859
Fax: 615-758-6859



Accession: TRCATX

Sample ID: 1115563

Project: P568346

TSR: 526 Chris McCard

Ship via: FedEx Ground

Item/Contaminant

Sample # (lab only)

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

13

Page 13 of 31

Report to:
Julie Speer

Project Description: REST Fall 2016

Phone: 512-684-5170
Fax:

Collected by (print): Scott Ude
Collected by (signature): *Scott Ude*

Immediately Picked up on site: ☒ Yes ☐ No

Email To: jspeer@trcsolutions.com

City/State Collected:

Client Project # 249545.0000.0000.000
Lab Project # TRCATX-REST

Site/Facility ID # REST - NAVAJO-ARTESIA
P.O. # 94397

Rush? (Lab MUST Be Notified)
 Same Day 200%
 Next Day 100%
 Two Day 50%
 Three Day 25%

Date Results Needed

Email? ☐ No ☒ Yes
FAX? ☐ No ☒ Yes

Analysis / Container / Preservative

Analysis	Container	Preservative
Ammonia 1250mHDPE-NO3	2	
Cations 250mHDPE-HNO3	2	
Cyanide 250mHDPE-Amb-NaOH	712	
DRO/VI 40mAmb-HCl		
GRO 40mAmb-HCl		
NO3-NO3 250mHDPE-HNO3	2	
TDS 250mHDPE-H2O		
Total metals-long 250mHDPE-HNO3	2	
Total metals-short 250mHDPE-HNO3	2	

Chem of Custody Page 13 of 31

ESC
L.A.B. S.C.I.E.N.C.E.S.

12065 Lebanon Rd
Houston, TX 77022
Phone: 832-756-4558
Phone: 832-757-4558
Fax: 832-756-5889

Table 1

Acronym: TRCATX
Sample ID: T115563
Project: P568346
File: 325 - Chemicals
PS

Shipped via: FedEx Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Ammonia 1250mHDPE-NO3	Cations 250mHDPE-HNO3	Cyanide 250mHDPE-Amb-NaOH	DRO/VI 40mAmb-HCl	GRO 40mAmb-HCl	NO3-NO3 250mHDPE-HNO3	TDS 250mHDPE-H2O	Total metals-long 250mHDPE-HNO3	Total metals-short 250mHDPE-HNO3
EB-REST-04		GW		10/4/16	1655	11	X		X	X	X	X	X	X	X
MW-101		GW		10/4/16	1515	10	X			X	X	X	X	X	X
MW-105		GW				10	X			X	X	X	X	X	X
MW-61		GW				10	X			X	X	X	X	X	X
MW-62		GW				10	X			X	X	X	X	X	X
MW-93		GW				10	X			X	X	X	X	X	X
MW-43		GW				11	X		X	X	X	X	X	X	X
MW-137		GW				11	X		X	X	X	X	X	X	X
MW-138		GW				11	X		X	X	X	X	X	X	X
MW-23		GW				10	X			X	X	X	X	X	X

* Matrix: S - Soil GW - Groundwater WW - Waste Water DW - Drinking Water OT - Other

Remarks:

Relinquished by: (Signature) *Scott Ude* **Date:** 10/4/16 **Time:** 1400

Relinquished by: (Signature) *[Signature]* **Date:** **Time:**

Relinquished by: (Signature) *[Signature]* **Date:** **Time:**

Received by: (Signature) *[Signature]* **Date:** **Time:**

Received by: (Signature) *[Signature]* **Date:** **Time:**

Received by: (Signature) *[Signature]* **Date:** **Time:**

pH _____ **Temp** _____

Flow _____ **Other** _____

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Condition: (Lab Use Only) _____

DOO Test/Intact: ☒ Yes ☐ No **PH checked:** ☒ Yes ☐ No

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Report to:
Julie Sager

Email To: bugger@resolutions.com

Project
Description: REST Fall 2016

City/State	
Collected:	
Lab Project #	
TRCATX-BEST	

Phone: 512-684-3170

Client Project #
249545.0000.0000 000

P.O. #
#397

Collected by (print):

Site/Facility ID #
BEST - NAVAJO-ARTESIA

Collected by Signature

Quota? 0ab 44157 Re Modified

Date Results Needed

5000

Time	Percentage
Next Day	20.3%
Two Day	100%
Three Day	50%
Four Day	75%

Unfall? No ☒ Yes

Immediately
Packed on ice ☒ ☐ ☐

Small? No X Yes
FAX? No Yes

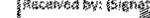
[illegible]

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Comments:

021 1000

Flow _____ Other _____

Relinquished by: (Signature)  <i>Swiss Ude</i>	Date: <i>10/4/16</i>	Time: <i>1900</i>	Received by: (Signature) 	Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____	Condition: <i>OK</i> (lab use only) <i>OK</i>
Relinquished by: (Signature) 	Date:	Time:	Received by: (Signature) 	Temp: _____ °C Battery Received: _____	COC sealed: <i>OK</i> <i>NA</i>
Relinquished by: (Signature) 	Date:	Time:	Received by: (Signature) <i>Michael Kelly</i>	Date: <i>10/6/16</i> Time: <i>9:00</i>	QC Checked: <i>CC712</i> <i>OK</i>

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Report to:
Julia Speer

Email To: jspeer@trcsolutions.com

Project Description: REST Fall 2016

City/State
Collected:

Phone: 512-684-3170
Fax:

Client Project #
249545.0000.0000.000

Lab Project #
TRCATX-REST

Collected by (print):

Site/Facility ID #
REST - NAVAJO-ARTESIA

P.O. #
12345

Collected by (signature):

2025年12月15日

Das Results-Kapitel

Immediately
Packed on Ice N ☐ Y ☒

Same Day	200%
Next Day	100%
Two Day	50%
Three Day	25%

Email? ☐ No ☒ Yes

FAX? No YesNo.
of

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Ents	And	CN2	Calc	Cyan	DOC	GRO	NO3	TDS	Total	Total	Subsp/Vol/Fe/EX/Grain/In	Item/Contaminant	Sample # (lab only)
MW-126A		GW				10	X				X	X	X	X		X			
MW-126B		GW				10	X				X	X	X	X		X			
MW-127		GW				10	X				X	X	X	X		X			
MW-129		GW				10	X				X	X	X	X		X			
KWB-1A		GW		10/4/16	1345	9	X			X	X		X	X	X				
KWB-10R		GW		10/4/16	1305	8	X				X		X	X		X			
MW-131		GW				10	X				X	X	X	X		X			
KWB-5		GW				8	X				X		X	X		X			
MW-111		GW		10/4/16	1640	10	X				X	X	X	X		X			
KWB-6		GW		10/4/16	1550	8	X				X		X	X		X			

* Matrix: SS - Soil GW - Groundwater WW - Wastewater DW - Drinking Water OT - Other

Remarks:

pH Temp.....

Flow _____ Other _____

Relinquished by : (Signature)

Date: _____

Time:

Received by: (Signature)

Somnifer tuberosus L. 1108

☒ Fox ☐ Courier ☐

Relinquished by: (signature)

Date: _____

Time:

Received by: (Signature)

4. Bottles Recalled

Relinquished by: (Signature)

Date:

Time:

Received for publication 10/15/01

Def: _____

1990

2000

Condition:	(lab use only)
<i>OK</i>	<i>a</i>
CBC Seal Intact:	Y N NA
pH Checked:	Not
<i>279</i>	

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Report to:
Julie Speer

Email To: jspeer@trcsolutions.com

Project
Description: REST Fall 2016

City/State
Collected:

Phone: 512-684-3170
Fax:

Client Project #
249545.0000.0000.000

Lab Project #
TRCATX-REST

Collected by (print):
Scott Ude

Site/Facility ID #
REST - NAVAJO-ARTESIA

P.O. #
94397

Collected by (signature):
Scott Ude

Rush? (Lab MUST be notified)

Date Results Needed

Immediately
Packed on ice N ☒ Y ☒

____ Same Day 200%
____ Next Day 100%
____ Two Day 50%
____ Three Day 25%

Email? ☐ No ☒ Yes
FAX? ☐ No ☒ Yes

No.
of
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative	Chain of Custody
MW-126A		GW				10	X	
MW-126B		GW				10	X	
MW-127		GW				10	X	
MW-129		GW				10	X	
KWB-1A		GW		10/4/16	1345	9	X	
KWB-10R		GW		10/4/16	1305	8	X	
MW-131		GW				10	X	
KWB-5		GW				8	X	
MW-111		GW		10/4/16	1640	10	X	
KWB-6		GW		10/4/16	1550	8	X	

* Matrix: SS - Soil GW - Groundwater WW - Wastewater DW - Drinking Water OT - Other

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Relinquished by: (Signature) Scott Ude	Date: 10/4/16	Time: 1900	Received by: (Signature) [Signature]	Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____	Condition: _____ (Lab use only)
Relinquished by: (Signature) [Signature]	Date:	Time:	Received by: (Signature) [Signature]	Temp: _____ C _____ F _____	Condition: _____ (Lab use only)
Relinquished by: (Signature) [Signature]	Date:	Time:	Received by: (Signature) [Signature]	Date: _____ Time: _____	Condition: _____ (Lab use only)

16 31

ESC
LAB SERVICES

27005 Lebanon Rd.
Houston, TX 77057
Phone: 281-258-8888
Phone: 281-258-8889
Fax: 281-258-8889

Table #
Amount: TRCATX
Amount: 113563
Total: P568346
USR: 516 - Chris McCord
CR
Shipped Via: FedEx Ground
Item/Container Sample # (Lab only)

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Report to:
Julie Speer

Project
Description: REST Fall 2016

Phone: 512-684-3170
Fax:

Collected by (print):
Scott Ude

Collected by (signature):
Scott Ude

Immediately
Packed on ice N ☐ Y ☒

Billing information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Email To: jspeer@trcsolutions.com

City/State
Collected:

Client Project #
249545.0000.0000.000

Lab Project #
TRCATX-REST

Site/Facility ID #
REST - NAVAJO-ARTESIA

P.O. #
94397

Rush? (Lab MUST Be Notified)
 Same Day ☐ 200%
 Next Day ☐ 100%
 Two Day ☐ 50%
 Three Day ☐ 25%

Date Results Needed

Email? ☐ No ☒ Yes
 FAX? ☐ No ☒ Yes

Analysis / Container / Preservative

Analysis	Container	Preservative
ON 250mHDPE-Amb-NaOH	72	
Cation 250mHDPE-HNO3		
Anionide 250mHDPE-Amb-NaOH	72	
PRO 40mAmb-HCl		
PRO 250mHDPE-H2SO4		
TDS 250mHDPE-NoPres		
Total metals - long 250mHDPE-HNO3	72	
Total metals - short 250mHDPE-HNO3	72	

Chain of Custody Page 1 of 3

ESC
L.A. S. S.C.I.E.N.C.E.S.

12066 Lebanon Rd
Mooresville, TN 37132
Phone: 615-758-3456
Phone: 800-767-5088
Fax: 615-758-5819

Accumulator: TRCATX
 Estimate: T115563
 Protocol: P568346
 TSK: 326 - Chris McCord
 PB

Shipped Via: FedEx Ground

Item / Container / Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ON 250mHDPE-Amb-NaOH	Cation 250mHDPE-HNO3	Anionide 250mHDPE-Amb-NaOH	PRO 40mAmb-HCl	PRO 250mHDPE-H2SO4	TDS 250mHDPE-NoPres	Total metals - long 250mHDPE-HNO3	Total metals - short 250mHDPE-HNO3
MW-115		GW		10/4/16	1610	10	X			X	X	X	X	
MW-114		GW		10/4/16	1705	10	X			X	X	X	X	
DUP-REST-01		GW				10	X			X	X	X	X	
EB-REST-01		GW				10	X			X	X	X	X	
DUP-REST-03		GW		10/4/16	1500	10	X			X	X	X	X	
EB-REST-03		GW		10/4/16	1450	10	X			X	X	X	X	
MW-117		GW				10	X			X	X	X	X	
MW-118		GW				10	X			X	X	X	X	
MW-119		GW				10	X			X	X	X	X	
MW-136		GW		10/4/16	1455	11	X		X	X	X	X	X	

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

pH _____ Temp _____
 Flow _____ Other _____

Relinquished by: (Signature) <i>Scott Ude</i>	Date: 10/4/16	Time: 1900	Received by: (Signature) <i>[Signature]</i>	Samples returned via: ☒ UPS ☒ FedEx ☐ Courier ☐ Other	Condition: (lab use only)
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received by: (Signature) <i>[Signature]</i>	Antler Received:	LOC Seal intact
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received by: (Signature) <i>[Signature]</i>	Check:	NG

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Report to:
Julie Speer

Email To: jspeer@trcsolutions.com

Project
Description: REST Fall 2016

City/State
Collected:

Phone: 512-684-3170
Fax:

Client Project #
249545.0000.0000 000

Lab Project #
TRCATX-REST

Collected by (print):
Scott Ude

Site/Facility ID #
REST - NAVAJO-ARTESIA

P.O. #
94397

Collected by (signature):
Scott Ude

Rush? (Lab MUST Be Notified)

Same Day 200%
Next Day 100%
Two Day 50%
Three Day 25%

Date Results Needed

Email? ___ No ___ Yes

FAX? ___ No ___ Yes

No.
of
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
MW-115		GW		10/4/16	1810	10
MW-114		GW		10/4/16	1705	10
DUP-REST-01		GW				10
EB-REST-01		GW				10
DUP-REST-03		GW		10/4/16	1500	10
EB-REST-03		GW		10/4/16	1450	10
MW-117		GW				10
MW-118		GW				10
MW-119		GW				10
MW-136		GW		10/4/16	1455	11

* Matrix: SS - Soil GW - Groundwater WW - Waste Water DW - Drinking Water OT - Other

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature)

Scott Ude

Date: 10/4/16

Time: 1900

Received by: (Signature)

[Signature]

Samples returned via: ☐ UPS

☒ FedEx ☐ Courier ☐ _____

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

[Signature]

Temp: _____ C _____ Soil Temp: _____

Date: _____ Time: _____

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

[Signature]

Date: 10/4/16

Time: 1422

Field #

Condition: _____ (lab use only)

COB: Soil Intact: _____

PH checked: _____

Chain of Custody

Page 1 of 3

ESC
LAB SCIENCES

2206a Lebanon Rd
Mckinney, TX 75752
Phone: 972-248-8852
Fax: 972-248-8850



Account: TRCATX

Invoice: T115563

Invoice: R568346

TSR: E26 Chris McCord

PO:

Shipped Via: FedEx Ground

Item/Concentration Sample # (Sub only)

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Report to:
Julie Speer

Project:
Description: **REST Fall 2016**

Phone: **512-684-3170**
Fax:

Collected by (print):
Scott Ude

Collected by (signature):
Scott Ude

Immediately
Packed on ice **N** **Y** ☒

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Email To: jspeer@trcsolutions.com

City/State
Collected:

Client Project #
249545.0000.0000.000

Lab Project #
TRCATX-REST

Site/Facility ID #
REST - NAVAJO-ARTESIA

P.O. #
94397

Rush? (Lab MUST Be Notified)
 Same Day 100%
 Next Day 100%
 Two Day 50%
 Three Day 25%

Data Results Needed
 Email? ☐ No ☒ Yes
 FAX? ☐ No ☐ Yes

Analysis / Container / Preservative

Analysis / Container / Preservative	175ml HDPE-Metres	CN 250mlHDPEAmb-MeOH	Cellon 250mlHDPE-HNO3	Cyanide 250mlHDPEAmb-MeOH	ORGLV 40mlAmb HCl	GRO 40mlAmb HCl	NORH3 250mlHDPE-H2SO4	TDS 250mlHDPE-NoPres	Total metals-long 250mlHDPE-HNO3	Total metals-short 250mlHDPE-HNO3
MW-39	X				X	X	X	X	X	
MW-98	X				X	X	X	X	X	
MW-29	X				X	X	X	X	X	
MW-106	X				X	X	X	X	X	
MW-50	X				X		X	X	X	
MW-97	X				X	X	X	X	X	
MW-92	X				X	X	X	X	X	
MW-91	X				X	X	X	X	X	
MW-90	X				X	X	X	X	X	
MW-96	X				X	X	X	X	X	

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

Relinquished by: (Signature) *Scott Ude* Date: **10/4/16** Time: **1900**

Relinquished by: (Signature) _____ Date: _____ Time: _____

Relinquished by: (Signature) _____ Date: _____ Time: _____

Received by: (Signature) *[Signature]*

Received by: (Signature) _____

Received by: (Signature) _____

PH _____ Temp _____

Flow _____ Other _____

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Condition: (Lab Use Only) _____

Lab # _____

Lab Name: _____

Lab Address: _____

Lab Phone: _____

Lab Fax: _____

Lab Email: _____

19

19 31



ESC
L.A. S.C.I.E.N.C.E.S.

Chain of Custody Page 1 of 1

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-788-5858
Phone: 800-767-1809
Fax: 615-788-0859



TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Report to:
Julie Spear

Email To: jspear@trcsolutions.com

Project
Description: REST Fall 2016

City/State
Collected:

Phone: 512-684-3170
Fax:

Client Project #
249545.0000.0000.000

Lab Project #
TRCATX-REST

Collected by (print):
Scott Ude

Site/Facility ID #
REST - NAVAJO-ARTESIA

P.O. #
94397

Collected by (signature):
Scott Ude

Rush? (Lab MUST Be Notified)
____ Same Day 200%
____ Next Day 100%
____ Two Day 50%
____ Three Day 25%

Date Results Needed

Email? ____ No ____ Yes

FAX? ____ No ____ Yes

No.
of
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative	Chain of Custody
MW-39		GW				10	X	
MW-98		GW				10	X	
MW-29		GW				10	X	
MW-106		GW		10/4/16	1715	10	X	
MW-50		GW				8	X	
MW-97		GW				10	X	
MW-92		GW				10	X	
MW-91		GW				10	X	
MW-90		GW				10	X	
MW-96		GW				10	X	

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature)

Scott Ude

Date:

10/4/16

Time:

1900

Received by: (Signature)

[Signature]

Samples returned via: ☐ UPS

☒ FedEx ☐ Courier ☐ _____

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

[Signature]

Samples returned via: ☐ UPS

☒ FedEx ☐ Courier ☐ _____

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

[Signature]

Samples returned via: ☐ UPS

☒ FedEx ☐ Courier ☐ _____

20 2031

ESC
L.A.B. S.C.I.E.N.C.E.S

13065 Leblond Rd
Houston, TX 77122
Phone: 281-756-9856
Fax: 281-756-9859

Account: TRCATX
Terminal: T115563
Program: P568346
TSP: 526 - Chris McCord

Shipped via: FedEx Ground

Item/Container Sample # (Lab only)

Lab #
Location:
CDC Seal Agent
pH checked

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Report to:
Julie Speer

Email To: jspeer@trcsolutions.com

Project
Description: REST Fall 2016

City/State
Collected:

Phone: 512-684-3170
Fax:

Client Project #
249545.0000.0000.000

Lab Project #
TRCATX-REST

Collected by (print):
Scott Ude

Site/Facility ID #
REST - NAVAJO-ARTESIA

P.O. #
94397

Collected by (signature):
Scott Ude

Rush? (Lab MUST Be Notified)

Date Results Needed

Immediately
Packed on Ice N ☐ Y ☒

Same Day 200%
Next Day 100%
Two Day 50%
Three Day 25%

Email? ☐ No ☒ Yes
FAX? ☐ No ☐ Yes

No.
of
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative	Other
MW-94		GW				10	X	
MW-57		GW				11	X	
EXTRAS		GW				11	X	
EXTRAS		GW				11	X	
EXTRAS		GW				11	X	
TRIP BLANK-REST-01		GW		10/4/16		1	X	
TRIP BLANK-REST-02		GW		10/4/16		1	X	
TRIP BLANK-REST-03		GW				1	X	
TRIP BLANK-REST-04		GW				1	X	

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature)

Scott Ude

Date:

10/4/16

Time:

1900

Received by: (Signature)

Samples returned via: ☐ UPS

☒ FedEx ☐ Courier ☐ Other

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: ☐ bottles received

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Date:

Time:

all checked

Chain of Custody Page 21 of 31

ESC
LAB SCIENCE

12005 Lebanon Rd
Mesquite, TX 75149
Phone: 972-758-5858
Fax: 972-758-5859

Table #

Archives: TRCATX

Sample ID: 1115583

Lab ID: P568346

Lab ID: 151126 - Chris McLeod

Shipped via: FedEx Ground

Item/Container

Sample # (job only)

TRC Solutions - Austin, TX 505 E. Huntland Dr, Ste 250 Austin, TX 78752				Billing Information: Accounts Payable 21 Griffin Road North Windsor, CT 06095				Analysis / Container / Preservative												Chain of Custody Page 22 of 23	
																				 11055 Leisenow Rd Mount Juliet, TN 37122 Phone: 615-796-0388 Fax: 615-796-0389	
Report to: Julie Speer				Email To: jspeer@trcsolutions.com																	
Project Description: EP Fall 2016								City/State Collected:													
Phone: 512-684-3170				Client Project # 249545.0000.0000.000				Lab Project # TRCATX-EP													
Fax:				Site/Facility ID # EP NAVAJO-ARTESIA				P.O. # 94397													
Collected by (print): Scott Ude				Rush? (Lab MUST Be Notified) ☐ Same Day 200% ☐ Next Day 100% ☐ Two Day 50% ☐ Three Day 25%				Date Results Needed													
Collected by (signature): <i>Scott Ude</i>								Email? ☐ No ☒ Yes													
Immediately Packed on Ice ☒								FAX? ☐ No ☒ Yes													
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs															
MW-10		GW		10/4/16	1100	10	X	X			X	X	X	X			X				
MW-123		GW		10/4/16	1145	10	X	X			X	X	X	X			X				
MW-4A		GW		10/7/16	1235	10	X	X			X	X	X	X			X				
MW-5A		GW		10/4/16	1325	10	X	X			X	X	X	X			X				
MW-7A		GW		10/4/16	1430	10	X	X			X	X	X	X			X				
OCD-8A		GW		10/4/16	1530	11	X	X	X		X	X	X	X			X				
DUP-EP-01		GW		10/4/16	1100	10	X	X			X	X	X	X			X				
DUP-EP-02		GW				10	X				X	X	X	X			X				
DUP-EP-03		GW		10/4/16	1200	10	X	X			X	X	X	X			X				
EB-EP-03		GW		10/4/16	1340	10	X	X			X	X	X	X			X				
* Matrix: SS = Soil GW = Groundwater WW = Waste Water DW = Drinking Water OT = Other																					
Remarks:							pH _____ Temp _____ Flow _____ Other _____														
Relinquished by: (Signature) <i>Scott Ude</i>		Date: 10/4/16		Time: 1900		Received by: (Signature)		Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____										Hold#			
Relinquished by: (Signature)		Date:		Time:		Received by: (Signature)		Temp: _____ Boxes received: _____										Condition (Lab use only)			
Relinquished by: (Signature)		Date:		Time:		Received by: (Signature)		Date: _____ Time: _____										COC Seal (read initialed) _____			

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Report to:
Julie Speer

Email To: jspeer@trcsolutions.com

Project
Description: EP Fall 2016

City/State
Collected:

Phone: 512-684-8170
Fax:

Client Project #
249545.0000.0000 000

Lab Project #
TRCATX-EP

Collected by (print):
Scott Ude

Site/Facility ID #
EP NAVAJO-ARTESIA

P.O. #
94957

Collected by (signature):
Scott Ude

Rush? (Lab MUST Be Notified)

Date Results Needed

Immediately
Packed on Ice ☒ Y ☐ N

Same Day 200%
Next Day 100%
Two Day 50%
Three Day 25%

Email? ☐ No ☒ Yes
FAX? ☐ No ☐ Yes

No. of
Cnts

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnts
MW-10		GW		10/4/16	1100	10
MW-123		GW		10/4/16	1145	10
MW-4A		GW		10/4/16	1235	10
MW-5A		GW		10/4/16	1325	10
MW-7A		GW		10/4/16	1430	10
OCD-8A		GW		10/4/16	1530	11
DUP-EP-01		GW		10/4/16	1100	10
DUP-EP-02		GW				10
DUP-EP-03		GW		10/4/16	1200	10
EB-EP-03		GW		10/4/16	1340	10

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Relinquished by: (Signature)

Scott Ude

Date:

10/4/16

Time:

1900

Received by: (Signature)

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Samples returned via: ☐ UPS

☒ FedEx ☐ Courier ☐ Other

emr: ☐ Bottles Recycled

31 11 43 11

Date: 10/6/16

Time: 12:12

Hold:

Condition:

(all free only)

Signature:

Date:

Time:

Signature:

Date:

Time:

23 23.31

ESC
L.A.B. S.C.I.E.N.C.E.S.

12025 Lebanon Rd
Austin, TX 78712
Phone: 512-752-5858
Phone: 800-267-5858
Fax: 512-752-5850

Table #
Airborne: TRCATX
Lab # 1115930
Project # P568138
PSN: 526-CHN, McCord
PB

Ship to via FedEx Ground

Refr/Contaminant Sample # (for only)

21
26
27
28
29

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Report to:
Julie Speer

Email To: jspeer@trcsolutions.com

Project
Description: EP Fall 2016

City/State
Collected:

Phone: 512-684-3170
Fax:

Client Project #
249545.0000.0000 000

Lab Project #
TRCATX-EP

Collected by (print):
Scott Ude

Site/Facility ID #
EP NAVAJO-ARTESIA

P.O. #
54397

Collected by (signature):
Scott Ude

Rush? (Lab MUST Be Notified)
____ Same Day _____ 200%
____ Next Day _____ 100%
____ Two Day _____ 50%
____ Three Day _____ 25%

Date Results Needed

Email? ____ No ____ Yes
FAX? ____ No ____ Yes

No.
of
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
OCD-7AR		GW		10/4/16	1235	10
ES-EP-01		GW				10
EB-EP-04		GW				10
MW-76		GW				10
MW-77		GW				10
MW-75		GW				10
MW-83		GW		10/4/16	1700	10
MW-3		GW		10/4/16	1620	10
MW-88		GW				7
MW-22A		GW				10

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Relinquished by: (Signature)

Date: 10/4/16 Time: 1900

Received by: (Signature)

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ Other

Relinquished by: (Signature)

Date: Time:

Received by: (Signature)

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ Other

Relinquished by: (Signature)

Date: Time:

Received by: (Signature)

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ Other

25

Page 25 of 31



12005 Loboson Rd
Magna, UT 84120
Phone: 801-759-2858
Fax: 801-759-5859

Account: TRCATX
Template: 115530
Protocol: P568138
Site: 526 - Chris McCord

Shipped via: FedEx Ground

Item/Container(s) Sample # (Ref only)

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Report to:
Julie Speer

Email To: jspear@trcsolutions.com

Project
Description: EP Fall 2016

Collected:

Phone: 512-684-3170
Fax:

Client Project #
249545.0000.0000 000

Lab Project #
TRCATX.EP

Collected by (print):
Scott Wade

Site/Facility ID #: EP NAVAJO-ARTESIA

0.05 0.05 0.05

Collected by (signature):

Rush? Lab MUST be notified

Date Results Needed _____

Immediately
Packed on Ice ☐ ☒

Next Day	100%
Two Day	50%
Three Day	25%

Email? ☐ No ☒ Yes

FAX? ☐ No ☐ Yes

No.

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Of Concs	Aluminum	Cadmium	Chromium	DRAGON	GHG	MOZNA	PHOS	Total N	Total P	Total S	Shipped Via: FedEx Ground	
																	Non-Contaminant	Sample # (lab only)
OCD-1R		GW				10	X			X	X	X	X					
OCD-2A		GW				7				X	X			X				
OCD-3		GW				7				X	X			X				
OCD-4		GW				7				X	X			X				
MW-11A		GW				4	X	X				X	X					
OCD-5		GW				10	X			X	X	X	X	X				
MW-87		GW		10/4/16	1400	7				X	X			X				
MW-18A		GW		10/4/16	1455	9	X	X	X	X		X	X		X			
MW-70		GW		10/4/16	1550	7				X	X						X	
MW-124		GW		10/4/16	1640	10	X	X		X	X	X	X				X	
Matrix: SS - Soil, GW - Groundwater, ERM - Water/Water Run, Gels - Gels																		

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

pH _____ Temp _____

Flow ☐ Other? ☐

Relinquished by : (Signature)

Date:

Date: 10/4/16

Three:

Time: 1900

Received by: (Signature)

Samples returned via: ☐ UPS

☒ FedEx ☐ Courier ☐ _____

Relinquished by: (Signature)

Date:

Time:

Revised by (Signature)

Temp. 60° Drifts received

Relinquished by: (Signature)

DATA:

Time

DATE 7/9/68

CDC Sent by: Y N NA

200-2001	100
----------	-----

100

27

2731

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Report to:
Julie Speer

Project
Description: **EP Fall 2016**

Phone: **512-684-8170**
Fax:

Collected by (print):
Scott Ude

Collected by (signature):
Scott Ude

Immediately
Packed on ice ☐ N ☒ Y

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Email To: **jpspeer@trcsolutions.com**

City/State
Collected:

Client Project #
249545.0000.0000 000

Lab Project #
TRCATX-EP

Site/Facility ID #
EP NAVAJO-ARTESIA

P.D. #
94397

Rush? (Lab MUST Be Notified)
☐ Same Day 300%
☐ Next Day 100%
☐ Two Day 50%
☐ Three Day 25%

Date Results Needed

Email? ☐ No ☒ Yes
 FAX? ☐ No ☒ Yes

Analysis / Container / Preservative

V3260 - Trip Blank 40ml Amb-HCl-BLK

Chain of Custody Page **2** of **3**

ESC
L.A.B. S.C.I.E.N.C.E.S

12055 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5858
Fax: 615-758-5859

Address: **TRCATX**
 Account: **TL15530**
 Freight: **P568136**
 Ship To: **Cheryl McCord**
 Ship Via: **FedEx Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnvs	Analysis / Container / Preservative	Chain of Custody
OCD-1R		GW				10	X	
OCD-2A		GW				7	X	
OCD-3		GW				7	X	
OCD-4		GW				7	X	
MW-11A		GW				4		
OCD-5		GW				10	X	
MW-87		GW		10/4/16	1400	7	X	
MW-18A		GW		10/4/16	1455	9	X	
MW-70		GW		10/4/16	1550	7	X	
MW-124		GW		10/4/16	1640	10	X	

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

Relinquished by: (Signature) *Scott Ude* Date: **10/4/16** Time: **1900**

Relinquished by: (Signature) Date: Time:

Relinquished by: (Signature) Date: Time:

Received by: (Signature) *[Signature]*

Received by: (Signature)

Received by: (Signature)

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: ☒ UPS ☐ FedEx ☐ Courier ☐ Other

Condition: (Lab Use Only)

COE Seal/Label

PH Checked

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Report to:
Julie Speer

Email To: jspeer@trcsolutions.com

Project
Description: EP Fall 2016

City/State
Collected:

Phone: 512-684-3170
Fax:

Client Project #
249545.0000.0000.000

Lab Project #
TRCATX-EP

Collected by (print):
Scott Ude

Site/Facility ID #
EP NAVAJO-ARTESIA

P.O. #
94397

Collected by (signature):
Scott Ude

Rush? (Lab MUST Be Notified)

Same Day 200%
Next Day 100%
Two Day 50%
Three Day 15%

Data Results Needed

Email? ___ No ___ Yes
FAX? ___ No ___ Yes

Immediately
Packed on Ice N ___ Y ___

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative	Chain of Custody
MW-85		GW				10	X	
MW-86		GW				11	X	
MW-120		GW	10/4/16	1720	10	X	X	
MW-121		GW	10/4/16	1625	10	X	X	
MW-84		GW			10	X	X	
MW-122		GW	10/4/16	1510	10	X	X	
MW-79		GW			10	X	X	
MW-74		GW			10	X	X	
MW-2A		GW	10/4/16	1405	10	X	X	
OCD-6		GW	10/4/16	1135	10	X	X	

* Matrix: SS - Soil GW - Groundwater WW - Waste Water DW - Drinking Water OT - Other

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Relinquished by: (Signature) Scott Ude	Date: 10/4/16	Time: 1900	Received by: (Signature) [Signature]	Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ Other
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Condition: (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Condition: (lab use only)

28 28.31



10065 Lebanon Rd
Nashville, TN 37122
Phone: 615-753-5854
Phone: 615-753-5855
Fax: 615-753-5859

Table #
Account: TRCATX
Phone: 615-553-15530
Phone: 615-553-15530
Phone: 615-553-15530

Shipped Via: FedEx Ground
Item/Container: Sample # (lab only)

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Report to:
Julie Speer

Email To: jspeer@trcsolutions.com

Project
Description: EP Fall 2016

City/State
Collected:

Phone: 512-684-3170
Fax:

Client Project #
249545.0000.0000.000

Lab Project #
TRCATX-EP

Collected by (print):
Scott Ude

Site/Facility ID #
EP NAVAJO-ARTESIA

P.O. #
94397

Collected by (signature):
Scott Ude

Rush? (Lab MUST Be Notified)

Date Results Needed

Immediatly
Packed on ice N Y ☒

Same Day 200%
Next Day 100%
Two Day 50%
Three Day 25%

Email? ☐ No ☒ Yes
FAX? ☐ No ☐ Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
MW-85		GW				10
MW-86		GW				11
MW-120		GW		10/4/16	1730	10
MW-121		GW		10/4/16	1625	10
MW-84		GW				10
MW-122		GW		10/4/16	1510	10
MW-79		GW				10
MW-74		GW				10
MW-2A		GW		10/4/16	1405	10
OCD-6		GW		10/4/16	1135	10

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature)

Scott Ude

Date:

10/4/16

Time:

1900

Received by: (Signature)

[Signature]

Samples returned via: ☐ UPS

☒ FedEx ☐ Courier ☐ _____

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

[Signature]

Samples returned via: ☐ UPS

☒ FedEx ☐ Courier ☐ _____

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

[Signature]

Samples returned via: ☐ UPS

☒ FedEx ☐ Courier ☐ _____

Analysis / Container / Preservative

Chain of Custody



12065 Lebanon Rd
Houston, TX 77032
Phone: 281-753-5855
Phone: 281-787-8888
Fax: 281-753-5859

Lab # 154785
Table #
Account: TRCATX
Template: 115530
Project: P568138
Lab # 525 Chris McCord
PI:
Shipped Via: FedEx Ground
Item/Consumable sample # (lab only)

29 29 31

TRC Solutions - Austin, TX

505 E. Huntland Dr, Ste 250
Austin, TX 78752

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21 Griffin Road North
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P.O. #
94397

Collected by (signature):
Scott Ude

Rush? (Lab MUST Be Notified)

Same Day 200%
Next Day 100%
Two Day 50%
Three Day 25%

Date Results Needed

Email? ☐ No ☒ Yes

FAX? ☐ No ☐ Yes

Immediately
Packed on ice N ☐ Y ☒

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative	Chain of Custody
EB-EP-02		GW		10/4/16	1655	10	Acid Digest 250ml HDPE-HNO3 Cations 250ml HDPE-HNO3 Cyanide 250ml HDPE-NaOH DrOLVI 40ml Amb-HCl-BT GPO 40ml Amb-HCl NO3NO3 250ml HDPE-H2SO4 TDS 250ml HDPE-H2O Pres Total Metals-Short 250ml HDPE-HNO3 Total Metals-Long 250ml HDPE-HNO3 Total Metals-Short 250ml HDPE-HNO3	ESC L.A.B. S.C.I.E.N.C.E.S. 12065 Lebanon Rd Houston, TX 77033 Phone: 832-758-9832 Phone: 832-757-5458 Fax: 832-758-0888
EXTRAS		GW				11		
EXTRAS		GW				11		
TRIP BLANK-EP-01		GW				1		
TRIP BLANK-EP-02		GW				1		
TRIP BLANK-EP-03		GW				1		

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature) Scott Ude	Date: 10/4/16	Time: 1900	Received by: (Signature) [Signature]	Samples returned via: ☒ UPS ☐ FedEx ☐ Courier ☐ Other	Condition (Lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Tono: 35 Bottles Received: 44214	COO Seal Intact: [Signature]
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: 10/6/16 Time: 1200	PH Checked: [Signature]