

APPENDIX J – WELL DEVELOPMENT FORMS

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha, KS		Project Number: 80435		Well Number: MW-144					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 792.74						
Location: 37.41387798, -95.68925602			Top of Casing Elevation (TOC): 795.41						
Well Information			Borehole Volume Calculation						
Date Well Installed 10/21/2014			Water Column = 21.37 feet						
Total Depth of Well:		25.55 feet from TOC	1 Borehole Volume =		17.55 gallons				
Depth to Top of Screen:		7.61 feet from TOC	5 Borehole Volumes =		87.74 gallons				
Length of Casing Screened:		17.94 feet	1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened:		Alluvium	initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	910	4.18	NA						
10/30/14	0721	NA	NA	0	1	14.0	7.9	740	Clear
10/30/14	0723	NA	NA	5	5	13.9	7.6	740	Dark brown
10/30/14	0725	NA	NA	5	10	14.8	7.5	750	Dark Yellow Brown
10/30/14	0728	NA	NA	10	20	14.5	7.3	760	Dark Yellow Brown
10/30/14	0735	NA	NA	20	40	13.4	7.5	770	Light Yellow brown
10/30/14	0743	NA	NA	30	70	13.4	7.4	780	Light Yellow brown
10/30/14	0751	NA	NA	25	95	14.5	7.5	750	Light Cloudy Yellow

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-145					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 792.74						
Location: 37.40928521, -95.68890581 □			Top of Casing Elevation (TOC): 795.74						
Well Information			Borehole Volume Calculation						
Date Well Installed 10/16/2014			Water Column = 16.96 feet						
Total Depth of Well: 30.68 feet from TOC			1 Borehole Volume = 20.77 gallons						
Depth to Top of Screen: 7.72 feet from TOC			5 Borehole Volumes = 103.83 gallons						
Length of Casing Screened: 22.96 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Type of Formation Screened: Alluvium									
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	905	13.72	NA						
10/30/14	0923	NA	NA	0	1	15.0	7.4	1060	Dark Yellow Brown
10/30/14	0931	NA	NA	20	20	15.3	6.9	1140	Dark Yellow Brown
10/30/14	0936	NA	NA	20	40	15.1	6.9	1190	Grayish Brown
10/30/14	0944	NA	NA	20	60	14.9	7.0	1180	Grayish Brown
10/30/14	0951	NA	NA	20	80	14.6	7.1	1190	Light Cloudy Gray
WELL PURGED DRY									

*from TOC unless otherwise noted in Remarks 091294 Form WCI OP6-1

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-146					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 793.39						
Location: 37.40930310, -95.69117714			Top of Casing Elevation (TOC): 795.40						
Well Information			Borehole Volume Calculation						
Date Well Installed 10/16/2014			Water Column = 13.19 feet						
Total Depth of Well:		25.96 feet from TOC	1 Borehole Volume =		16.97 gallons				
Depth to Top of Screen:		7.06 feet from TOC	5 Borehole Volumes =		84.84 gallons				
Length of Casing Screened:		18.90 feet	1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened:		Alluvium	initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	902	12.77	NA						
10/30/14	0847	NA	NA	0	1	12.9	7.3	940	Dark Yellow Brown
10/30/14	0855	NA	NA	20	20	13.8	7.2	920	Yellow Brown
10/30/14	0902	NA	NA	20	40	14.2	7.3	910	Yellow Brown
10/30/14	0911	NA	NA	30	70	13.9	7.3	910	Light Cloudy White
WELL PURGED DRY									

*from TOC unless otherwise noted in Remarks 091294 Form WCI OP6-1

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha			Project Number: 80435			Well Number: MW-147			
Project Information					Elevation of Monitoring Well				
Facility Name: Former Refinery/BP Remediation Building					Ground Surface Elevation (GS): 794.05				
Location: 37.40928060, -95.69265880					Top of Casing Elevation (TOC): 795.60				
Well Information					Borehole Volume Calculation				
Date Well Installed: 10/21/2014					Water Column = 16.60 feet				
Total Depth of Well:			29.06 feet from TOC		1 Borehole Volume =			18.39 gallons	
Depth to Top of Screen:			9.06 feet from TOC		5 Borehole Volumes =			91.93 gallons	
Length of Casing Screened:			20.00 feet		1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well				
Type of Formation Screened:			Alluvium		initial height of water column (ft) = total depth (ft) - initial depth to water (ft)				
Development Method									
Equipment:				Method Description: Well surged with pump. Well purged dry during development.					
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	858	12.46	NA						
10/30/14	0810	NA	NA	0	1	13.1	7.3	930	Dark Yellow Brown
10/30/14	0819	NA	NA	20	20	13.6	7.4	830	Dark Yellow Brown
10/30/14	0825	NA	NA	20	40	13.6	7.3	820	Light Yellow Brown
10/30/14	0831	NA	NA	20	60	13.7	7.3	810	Light Yellow Brown
10/30/14	0837	NA	NA	20	80	14.0	7.3	790	Cloudy White
WELL PURGED DRY									

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-148						
Project Information			Elevation of Monitoring Well							
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 828.80							
Location: 37.43227081 -95.69202900			Top of Casing Elevation (TOC): 832.09							
Well Information			Borehole Volume Calculation							
Date Well Installed: 10/21/2014			Water Column = 22.03 feet							
Total Depth of Well: 30.75 feet from TOC			1 Borehole Volume = 21.16 gallons							
Depth to Top of Screen: 8.34 feet from TOC			5 Borehole Volumes = 105.80 gallons							
Length of Casing Screened: 22.41 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well initial height of water column (ft) = total depth (ft) - initial depth to water (ft)							
Type of Formation Screened: Alluvium										
Development Method										
Equipment:			Method Description: Well surged with pump.							
Surge	X	Bail								
Airlift		Pump	X							
Observations During Development										
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (mS/cm)		Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total					
10/29/14	1102	8.72	NA							
10/29/14	1604	NA	NA	0	1	17.7	7.1	2.80		Dark Brown
10/29/14	1606	NA	NA	5	5	17.2	6.9	3.00		Dark Brown
10/29/14	1607	NA	NA	5	10	16.5	6.7	2.70		Dark Brown
10/29/14	1610	NA	NA	5	15	16.6	6.7	2.70		Dark Yellow Brown
10/29/14	1611	NA	NA	5	20	16.7	6.7	2.60		Dark Yellow Brown
10/29/14	1613	NA	NA	5	25	16.1	6.7	2.60		Dark Yellow Brown
10/29/14	1618	NA	NA	10	35	16.4	6.7	2.50		Dark Yellow Brown
10/29/14	1622	NA	NA	10	45	16.2	6.6	2.50		Light Yellow Brown
10/29/14	1626	NA	NA	10	55	16.5	6.6	2.50		Light Yellow Brown
10/29/14	1630	NA	NA	10	65	16.5	6.8	2.60		Light Yellow Brown
10/29/14	1634	NA	NA	10	75	16.5	6.7	2.50		Cloudy Yellow Brown
10/29/14	1643	NA	NA	25	100	17.1	6.7	2.50		Cloudy Yellow Brown
10/29/14	1646	NA	NA	10	110	16.5	6.8	2.50		Cloudy White

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-149					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 822.84						
Location: 37.43193417 -95.68596723 □			Top of Casing Elevation (TOC): 822.49						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/22/2014			Water Column = 3.13 feet						
Total Depth of Well: 28.46 feet from TOC			1 Borehole Volume = 12.24 gallons						
Depth to Top of Screen: 13.50 feet from TOC			5 Borehole Volumes = 61.19 gallons						
Length of Casing Screened: 14.96 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened: Alluvium			initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1125	25.33	NA						
10/29/14	1710	NA	NA	0	1	16.2	7.0	1030	Dark Brown Gray, Sheen
10/29/14	1711	NA	NA	3	3	17.3	6.9	1100	Dark Brown Gray, Sheen
10/29/14	1714	NA	NA	2	5	16.8	6.9	1140	Dark Brown Gray, Sheen
10/29/14	1718	NA	NA	5	10	16.9	7.0	1130	Dark Brown Gray, Sheen
10/29/14	1720	NA	NA	2	12	16.6	7.0	1140	Light Brown Gray
10/29/14	1722	NA	NA	3	15	16.6	7.0	1120	Light Gray
10/29/14	1725	NA	NA	5	20	16.2	6.9	1170	Light Gray
		WELL PURGED DRY							

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-150					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 818.78						
Location: 37.43139456 -95.68484338 □			Top of Casing Elevation (TOC): 818.41						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/22/2014			Water Column = 6.58 feet						
Total Depth of Well: 28.20 feet from TOC			1 Borehole Volume = 12.77 gallons						
Depth to Top of Screen: 13.28 feet from TOC			5 Borehole Volumes = 63.85 gallons						
Length of Casing Screened: 14.92 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened: Alluvium			initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1118	21.62	NA						
10/30/14	1707	NA	NA	0	1	17.3	7.4	1000	Yellow Brown
10/30/14	1710	NA	NA	5	5	15.6	7.2	990	Yellow Brown
10/30/14	1712	NA	NA	5	10	15.8	7.1	1020	Brown Gray
10/30/14	1714	NA	NA	5	15	16.1	7.0	1040	Brown Gray
10/30/14	1716	NA	NA	5	20	16.0	7.0	1030	Light Brown Gray
10/30/14	1718	NA	NA	5	25	15.8	7.0	1040	Cloudy Gray
10/30/14	1719	NA	NA	5	30	15.2	7.0	1040	Cloudy
10/30/14	1720	NA	NA	2	32	16.1	6.9	1040	Cloudy-Clear
				WELL PURGED DRY					

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-151					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 820.41						
Location: 37.43019929 -95.68598230			Top of Casing Elevation (TOC): 819.89						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/22/2014			Water Column = 6.04 feet						
Total Depth of Well: 29.10 feet from TOC			1 Borehole Volume = 12.63 gallons						
Depth to Top of Screen: 14.24 feet from TOC			5 Borehole Volumes = 63.17 gallons						
Length of Casing Screened: 14.86 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened: Alluvium			initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1108	23.06	NA						
10/30/14	1732	NA	NA		1	16.6	7.2	1030	Yellow Brown
10/30/14	1735	NA	NA		5.0	16.4	7.1	1070.00	Brown
10/30/14	1736	NA	NA		10.0	16.3	7.0	1060.00	Gray Brown
10/30/14	1738	NA	NA		15.0	16.3	6.9	1070.00	Cloudy Brown
10/30/14	1740	NA	NA		20	15.7	6.9	1080	Cloudy Brown
10/30/14	1742	NA	NA		25.0	15.9	6.9	1080.00	Cloudy Gray
10/30/14	1743	NA	NA		30.0	16.0	6.8	1070.00	Cloudy-Clear
		WELL PURGED DRY							

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-152					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 815.18						
Location: 37.42971790 -95.68794460 □			Top of Casing Elevation (TOC): 814.83						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/17/2014			Water Column = 8.42 feet						
Total Depth of Well: 22.78 feet from TOC			1 Borehole Volume = 11.47 gallons						
Depth to Top of Screen: 9.90 feet from TOC			5 Borehole Volumes = 57.35 gallons						
Length of Casing Screened: 12.88 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened: Alluvium			initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1245	14.36	NA						
10/31/14	1354	NA	NA	0	1	16.0	7.6	720	Brown, Turbid, Sheen
10/31/14	1357	NA	NA	5	5	16.2	7.2	780	Brown, Turbid, Sheen
10/31/14	1359	NA	NA	5	10	16.4	7.1	770	Brown, Turbid
10/31/14	1402	NA	NA	5	15	16.6	6.9	750	Brown, Turbid
10/31/14	1405	NA	NA	5	20	16.6	6.9	750	Brown, Turbid
10/31/14	1407	NA	NA	5	25	16.5	6.9	750	Cloudy
WELL PURGED DRY									

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-153					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 800.42						
Location: 37.42185135 -95.68207211 □			Top of Casing Elevation (TOC): 799.96						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/24/2014			Water Column = 9.44 feet						
Total Depth of Well: 18.01 feet from TOC			1 Borehole Volume = 10.87 gallons						
Depth to Top of Screen: 6.11 feet from TOC			5 Borehole Volumes = 54.34 gallons						
Length of Casing Screened: 11.90 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened: Alluvium			initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during developement.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1430	8.57	NA						
10/30/14	1253	NA	NA	0	1	20.8	7.5	940	Yellow Brown
10/30/14	1257	NA	NA	5	5	21.7	7.5	810	Yellow Brown
10/30/14	1303	NA	NA	3	8	21.6	7.4	810	Light Yellow Brown
10/30/14	1305	NA	NA	2	10	21.5	7.4	800	Light Cloudy Gray
				WELL PURGED DRY					

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-155					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 811.33						
Location: 37.42264383 -95.68628953 □			Top of Casing Elevation (TOC): 810.94						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/23/2014			Water Column = 5.95 feet						
Total Depth of Well: 24.40 feet from TOC			1 Borehole Volume = 12.31 gallons						
Depth to Top of Screen: 9.94 feet from TOC			5 Borehole Volumes = 61.53 gallons						
Length of Casing Screened: 14.46 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened: Alluvium			initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1420	18.45	NA						
10/30/14	1600	NA	NA	0	1	18.8	7.4	1180	Yellow Brown
10/30/14	1603	NA	NA	5	5	17.4	7.2	1240	Yellow Brown
10/30/14	1611	NA	NA	5	10	17.6	7.1	1180	Light Yellow Brown
10/30/14	1615	NA	NA	2	12	17.4	7.0	1190	Light Cloudy Brown
				WELL PURGED DRY					

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-156					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 809.09						
Location: 37.42111300 -95.68686319			Top of Casing Elevation (TOC): 808.49						
Well Information			Borhole Volume Calculation						
Date Well Installed: 10/23/2014			Water Column = 5.87 feet						
Total Depth of Well: 21.85 feet from TOC			1 Borehole Volume = 10.68 gallons						
Depth to Top of Screen: 9.45 feet from TOC			5 Borehole Volumes = 53.39 gallons						
Length of Casing Screened: 12.40 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened: Alluvium			initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1415	15.98	NA						
10/30/14	1639	NA	NA	0	1	18.1	7.1	2400	Brown, Sheen
10/30/14	1644	NA	NA	3	3	17.3	7.1	1380	Light Brown, Sheen
10/30/14	1646	NA	NA	2	5	17.4	6.9	1380	Cloudy Brown, Sheen
10/30/14	1649	NA	NA	2.5	7.5	17.3	7.0	1350	Cloudy Gray-Clear
WELL PURGED DRY									

*from TOC unless otherwise noted in Remarks 091294 Form WCI OP6-1

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-157					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 812.51						
Location: 37.42054442 -95.68503695			Top of Casing Elevation (TOC): 811.96						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/23/2014			Water Column = 4.63 feet						
Total Depth of Well:		24.33 feet from TOC	1 Borehole Volume =		12.45 gallons				
Depth to Top of Screen:		9.41 feet from TOC	5 Borehole Volumes =		62.26 gallons				
Length of Casing Screened:		14.92 feet	1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened:		Alluvium	initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1405	19.7	NA						
10/31/14	0933	NA	NA	0	1	14.6	7.3	1260	Brown, Very Turbid
10/31/14	0936	NA	NA	5	5	15.2	7.2	1480	Brown, Very Turbid
10/31/14	0940	NA	NA	5	10	15.7	7.2	1440	Cloudy
10/31/14	0943	NA	NA	5	15	15.8	7.3	1420	Cloudy
10/31/14	0947	NA	NA	5	20	15.9	7.2	1410	Clear
10/31/14	0949	NA	NA	3	23	15.9	7.1	1400	Clear
WELL PURGED DRY									

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-158					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 812.28						
Location: 37.41957448 -95.68478630			Top of Casing Elevation (TOC): 811.80						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/23/2014			Water Column = 6.52 feet						
Total Depth of Well: 26.06 feet from TOC			1 Borehole Volume = 12.74 gallons						
Depth to Top of Screen: 11.16 feet from TOC			5 Borehole Volumes = 63.72 gallons						
Length of Casing Screened: 14.90 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened: Alluvium			initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1405	19.54	NA						
10/31/14	0849	NA	NA	0	1	14.1	7.5	1570	Brown, Very Trubid
10/31/14	0851	NA	NA	5	5	15.1	7.2	1540.00	Brown, Very Trubid
10/31/14	0853	NA	NA	5	10	16.3	7.1	1520.00	Brown, Very Trubid
10/31/14	0855	NA	NA	5	15	15.9	7.1	1500.00	Light Brown, Turbid
10/31/14	0856	NA	NA	5	20	15.7	7.1	1510	Light Brown, Turbid
10/31/14	0858	NA	NA	5	25	15.7	7.1	1540.00	Light Brown, Turbid
10/31/14	0900	NA	NA	5	30	16.3	7.1	1520.00	Cloudy
10/31/14	0902	NA	NA	3	33	16.3	7.1	1520.00	Cloudy
WELL PURGED DRY									

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435			Well Number: MW-159				
Project Information				Elevation of Monitoring Well					
Facility Name: Former Refinery/BP Remediation Building				Ground Surface Elevation (GS): 808.10					
Location: 37.41957704 -95.68626612				Top of Casing Elevation (TOC): 807.65					
Well Information				Borehole Volume Calculation					
Date Well Installed: 10/24/2014				Water Column = 4.57 feet					
Total Depth of Well:		19.65 feet from TOC		1 Borehole Volume =		8.58 gallons			
Depth to Top of Screen:		9.65 feet from TOC		5 Borehole Volumes =		42.92 gallons			
Length of Casing Screened:		10.00 feet		1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well					
Type of Formation Screened:		Alluvium		initial height of water column (ft) = total depth (ft) - initial depth to water (ft)					
Development Method									
Equipment:				Method Description: Well surged with pump. Well purged dry during development.					
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1400	15.08	NA						
10/31/14	0810	NA	NA	0	1	16.5	7.3	1810	Brown, Very Turbid, Sheen
10/31/14	0812	NA	NA	5	5	17.0	7.1	1710	Brown, Very Turbid, Sheen
10/31/14	0816	NA	NA	5	10	17.5	7.0	1630	Cloudy, Sheen
10/31/14	0819	NA	NA	5	15	16.9	7.0	1640	Cloudy, Sheen
10/31/14	0822	NA	NA	5	20	16.7	7.0	1650	Cloudy
10/31/14	0825	NA	NA	3	23	16.3	7.0	1630	Cloudy
				WELL PURGED DRY					

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-160					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 808.03						
Location: 37.41989675 -95.68843699 □			Top of Casing Elevation (TOC): 810.39						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/15/2014			Water Column = 8.69 feet						
Total Depth of Well: 23.38 feet from TOC			1 Borehole Volume = 13.08 gallons						
Depth to Top of Screen: 8.50 feet from TOC			5 Borehole Volumes = 65.41 gallons						
Length of Casing Screened: 14.88 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened: Alluvium			initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1350	14.69	NA						
10/31/14	1302	NA	NA	0	1	15.6	7.4	1120	Brown, Turbid, Sheen
10/31/14	1305	NA	NA	5.00	5.0	16.1	7.3	1080.00	Brown, Turbid, Sheen
10/31/14	1307	NA	NA	5.0	10.0	17.4	7.1	1160.00	Brown Gray, Turbid, Sheen
10/31/14	1310	NA	NA	5.0	15.0	17.2	7.1	1140.00	Brown Gray, Turbid
10/31/14	1312	NA	NA	5	20	17.4	7.1	1130	Brown Gray, Turbid
10/31/14	1318	NA	NA	5.00	25.0	17.2	7.1	1140.00	Brown, Cloudy
10/31/14	1320	NA	NA	5.0	30.0	17.2	7.1	1140.00	Brown, Cloudy
10/31/14	1322	NA	NA	5.0	35.0	17.2	7.1	1130.00	Brown, Cloudy
10/31/14	1323	NA	NA	5	40	17.1	7.1	1110	Cloudy
10/31/14	1325	NA	NA	5.00	45.0	17.3	7.0	1120.00	Cloudy
WELL PURGED DRY									

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-161					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 807.80						
Location: 37.41983831 -95.68953042			Top of Casing Elevation (TOC): 809.83						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/15/2014			Water Column = 8.24 feet						
Total Depth of Well: 22.01 feet from TOC			1 Borehole Volume = 13.02 gallons						
Depth to Top of Screen: 7.11 feet from TOC			5 Borehole Volumes = 65.12 gallons						
Length of Casing Screened: 14.90 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened: Alluvium			initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1335	13.77	NA						
10/31/14	1216	NA	NA	0	1	15.1	7.2	1230	Dark Gray, Turbid, Sheen
10/31/14	1218	NA	NA	5	5	15.6	7.1	1230	Dark Gray, Turbid, Sheen
10/31/14	1220	NA	NA	5	10	15.5	7.1	1220	Dark Gray, Turbid, Sheen
10/31/14	1222	NA	NA	5	15	15.6	7.1	1200	Dark Gray, Turbid
10/31/14	1226	NA	NA	5	20	15.8	7.1	1190	Brown Gray, Turbid
10/31/14	1228	NA	NA	5	25	15.6	7.1	1200	Brown Gray, Turbid
10/31/14	1230	NA	NA	5	30	15.6	7.1	1180	Brown Gray, Turbid
10/31/14	1233	NA	NA	5	35	15.7	7.2	1200	Brown Gray, Turbid
10/31/14	1235	NA	NA	5	40	15.6	7.1	1210	Gray, Cloudy
10/31/14	1237	NA	NA	5	45	15.5	7.1	1180	Gray, Cloudy
WELL PURGED DRY									

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-162					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 805.48						
Location: 37.41945229 -95.69101483 □			Top of Casing Elevation (TOC): 805.09						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/21/2014			Water Column = 6.45 feet						
Total Depth of Well: 15.78 feet from TOC			1 Borehole Volume = 9.99 gallons						
Depth to Top of Screen: 4.38 feet from TOC			5 Borehole Volumes = 49.94 gallons						
Length of Casing Screened: 11.40 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened: Alluvium			initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1440	9.33	NA						
10/30/14	1222	NA	NA	0.0	1	19.4	7.7	860	Dark Yellow Brown
10/30/14	1225	NA	NA	2.5	2.5	21.0	7.4	850	Yellow Brown
10/30/14	1231	NA	NA	2.5	5.0	20.2	7.5	770	Light Yellow Brown
10/30/14	1236	NA	NA	2.0	7.0	20.8	7.5	750	Light Yellow Brown
				WELL PURGED DRY					

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-163					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 805.19						
Location: 37.42090572 -95.69144425			Top of Casing Elevation (TOC): 804.96						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/21/2014			Water Column = 6.97 feet						
Total Depth of Well: 16.21 feet from TOC			1 Borehole Volume = 9.60 gallons						
Depth to Top of Screen: 5.41 feet from TOC			5 Borehole Volumes = 48.02 gallons						
Length of Casing Screened: 10.80 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened: Alluvium			initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	917	9.24	NA						
10/31/14	1031	NA	NA	0	1	12.9	7.6	900	Brown Gray, Product
10/31/14	1035	NA	NA	5	5	16.2	7.4	1210	Dark Gray, Sheen
10/31/14	1037	NA	NA	5	10	17.3	7.3	1200	Dark Gray, Sheen
10/31/14	1040	NA	NA	5	15	16.6	7.3	1250	Gray, Turbid
10/31/14	1042	NA	NA	5	20	17.5	7.2	1210	Gray, Turbid
10/31/14	1043	NA	NA	5	25	16.9	7.2	1210	Gray, Cloudy
10/31/14	1048	NA	NA	5	30	16.5	7.2	1220	Cloudy
10/31/14	1051	NA	NA	5	35	16.5	7.2	1180	Cloudy
WELL PURGED DRY									

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-164					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 807.54						
Location: 37.42130431 -95.69096108			Top of Casing Elevation (TOC): 809.91						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/15/2014			Water Column = 6.60 feet						
Total Depth of Well: 20.61 feet from TOC			1 Borehole Volume = 11.19 gallons						
Depth to Top of Screen: 7.71 feet from TOC			5 Borehole Volumes = 55.95 gallons						
Length of Casing Screened: 12.90 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened: Alluvium			initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1330	14.01	NA						
10/31/14	1126	NA	NA	0	1	14.5	7.4	1360	Brown, Turbid, Sheen
10/31/14	1128	NA	NA	5	5	15.6	7.2	1090	Brown, Turbid, Sheen
10/31/14	1130	NA	NA	5	10	15.7	7.2	1130	Brown, Turbid, Sheen
10/31/14	1132	NA	NA	5	15	15.7	7.1	1160	Brown, Turbid
10/31/14	1133	NA	NA	5	20	16.2	7.1	1160	Brown, Turbid
10/31/14	1136	NA	NA	5	25	15.5	7.1	1180	Brown, Turbid
10/31/14	1138	NA	NA	5	30	16.0	7.1	1160	Brown, Turbid
10/31/14	1140	NA	NA	5	35	15.6	7.1	1150	Cloudy
WELL PURGED DRY									

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-165					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 810.26						
Location: 37.42160192 -95.68987970			Top of Casing Elevation (TOC): 812.42						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/15/2014			Water Column = 9.27 feet						
Total Depth of Well:		24.37 feet from TOC	1 Borehole Volume =		13.21 gallons				
Depth to Top of Screen:		9.45 feet from TOC	5 Borehole Volumes =		66.04 gallons				
Length of Casing Screened:		14.92 feet	1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened:		Alluvium	initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1340	15.10	NA						
10/30/14	1420	NA	NA	0	1	18.3	7.3	970	Gray Brown
10/30/14	1421	NA	NA	5	5	18.4	7.0	960	Gray Brown
10/30/14	1424	NA	NA	5	10	18.2	7.1	1060	Brown Gray
10/30/14	1429	NA	NA	5	15	18.6	7.1	1070	Cloudy-Clear
10/30/14	1433	NA	NA	2.5	17.5	18.2	7.1	1080	Clear
WELL PURGED DRY									

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-166					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 809.17						
Location: 37.42244290 -95.68841207 □			Top of Casing Elevation (TOC): 808.69						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/20/2014			Water Column = 7.77 feet						
Total Depth of Well:		18.60 feet from TOC	1 Borehole Volume =		12.20 gallons				
Depth to Top of Screen:		4.66 feet from TOC	5 Borehole Volumes =		60.98 gallons				
Length of Casing Screened:		13.94 feet	1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened:		Alluvium	initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1250	10.83	NA						
10/30/14	1353	NA	NA	0	1	19.2	7.8	980	Cloudy Gray, Sheen
10/30/14	1356	NA	NA	5	5	19.1	7.6	1110	Brown Gray, Sheen
10/30/14	1358	NA	NA	5	10	20.2	7.8	1010	Gray, Sheen
10/30/14	1404	NA	NA	5	15	19.5	7.8	1010	Cloudy Gray, Sheen
10/30/14	1409	NA	NA	2	17	19.3	7.8	990	Cloudy Light Gray, Sheen
WELL PURGED DRY									

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-167					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 804.28						
Location: 37.42329858 -95.68964069 □			Top of Casing Elevation (TOC): 806.80						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/16/2014			Water Column = 9.85 feet						
Total Depth of Well: 16.85 feet from TOC			1 Borehole Volume = 8.58 gallons						
Depth to Top of Screen: 7.95 feet from TOC			5 Borehole Volumes = 42.92 gallons						
Length of Casing Screened: 8.90 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened: Alluvium			initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1355	7.00	NA						
10/30/14	118	NA	NA	0	1	18.6	6.7	1060	Clear
10/30/14	1151	NA	NA	6	6	18.7	6.7	1040	Gray Brown
10/30/14	1157	NA	NA	2	8	19.7	6.7	1000	Light Gray Brown
		WELL PURGED DRY							

*from TOC unless otherwise noted in Remarks 091294 Form WCI OP6-1

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-168					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 806.08						
Location: 37.42409752 -95.68842566 □			Top of Casing Elevation (TOC): 805.74						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/14/2014			Water Column = 8.99 feet						
Total Depth of Well: 16.18 feet from TOC			1 Borehole Volume = 9.31 gallons						
Depth to Top of Screen: 6.18 feet from TOC			5 Borehole Volumes = 46.53 gallons						
Length of Casing Screened: 10.00 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened: Alluvium			initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1255	7.19	NA						
10/30/14	1322	NA	NA	0	1	21.2	7.3	880	Cloudy Gray Brown, Sheen
10/30/14	1324	NA	NA	5	5	20.4	7.1	820	Dark Gray Brown
10/30/14	1327	NA	NA	3	8	19.9	7.2	780	Gray Brown
10/30/14	1329	NA	NA	2	10	20.8	7.1	770	Gray Brown
10/30/14	1333	NA	NA	3	13	19.9	7.1	740	Light Gray Brown
10/30/14	1335	NA	NA	2	15	20.1	7.0	740	Light Gray Brown
10/30/14	1340	NA	NA	5	20	19.5	7.1	750	Light Cloudy Gray
		WELL PURGED DRY							

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-169					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 803.95						
Location: 37.42423519 -95.69294219			Top of Casing Elevation (TOC): 803.60						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/20/2014			Water Column = 11.06 feet						
Total Depth of Well: 14.35 feet from TOC			1 Borehole Volume = 9.25 gallons						
Depth to Top of Screen: 4.85 feet from TOC			5 Borehole Volumes = 46.25 gallons						
Length of Casing Screened: 9.50 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened: Alluvium			initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1320	3.29	NA						
10/30/14	1120	NA	NA	0	1	19.6	7.3	1360	Dark Gray Brown, Sheen
10/30/14	1122	NA	NA	7	7	20.0	7.0	1140	Gray Brown, Sheen
10/30/14	1125	NA	NA	4	11	19.8	7.0	1070	Gray Brown, Sheen
10/30/14	1129	NA	NA	4	15	19.5	7.0	1060	Gray Brown, Sheen
10/30/14	1135	NA	NA	10	25	18.9	7.1	1060	Light Cloudy Gray, Sheen
WELL PURGED DRY									

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-170					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 805.06						
Location: 37.42507256 -95.69376966 □			Top of Casing Elevation (TOC): 807.63						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/20/2014			Water Column = 11.88 feet						
Total Depth of Well: 17.28 feet from TOC			1 Borehole Volume = 9.35 gallons						
Depth to Top of Screen: 7.83 feet from TOC			5 Borehole Volumes = 46.73 gallons						
Length of Casing Screened: 9.45 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened: Alluvium			initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1314	5.40	NA						
10/30/14	1033	NA	NA	0	1	18.3	7.0	1220	Black, Sheen
10/30/14	1038	NA	NA	6	6	18.7	6.9	1430	Dark Gray
10/30/14	1045	NA	NA	14	20	19.5	7.0	1450	Light Gray Cloudy
10/30/14	1051	NA	NA	5	25	19.4	7.0	1460	Light Gray Cloudy
				WELL PURGED DRY					

*from TOC unless otherwise noted in Remarks

WELL DEVELOPMENT RECORD

Project Name: KDHE Neodesha		Project Number: 80435		Well Number: MW-173					
Project Information			Elevation of Monitoring Well						
Facility Name: Former Refinery/BP Remediation Building			Ground Surface Elevation (GS): 806.60						
Location: 37.41916860 -95.68892032			Top of Casing Elevation (TOC): 809.06						
Well Information			Borehole Volume Calculation						
Date Well Installed: 10/16/2014			Water Column = 8.81 feet						
Total Depth of Well: 22.00 feet from TOC			1 Borehole Volume = 11.43 gallons						
Depth to Top of Screen: 9.25 feet from TOC			5 Borehole Volumes = 57.16 gallons						
Length of Casing Screened: 12.75 feet			1 borehole volume (gallons) = water level thickness (ft) x .163 + (0.748 x saturated filter pack thickness); for 2-inch well						
Type of Formation Screened: Alluvium			initial height of water column (ft) = total depth (ft) - initial depth to water (ft)						
Development Method									
Equipment:			Method Description: Well surged with pump. Well purged dry during development.						
Surge	X	Bail							
Airlift		Pump	X						
Observations During Development									
Date	Time	Depth to Water* (ft)	Total Depth* (ft)	Fluid Removed		Temp. (°C)	pH (units)	S.C. (µS/cm)	Fluid Appearance and Remarks (turbidity, color, odor, etc.)
				Gallons	Total				
10/29/14	1340	13.19	NA						
10/30/14	1444	NA	NA	0	1	18.2	7.3	2200	Light Gray
10/30/14	1446	NA	NA	5	5	17.3	7.1	1830	Brown Gray
10/30/14	1452	NA	NA	3	8	17.3	7.2	1750	Brown Gray
10/30/14	1456	NA	NA	3	10	17.7	7.2	1710	Brown Gray
10/30/14	1503	NA	NA	3	13	17.5	7.1	1710	Brown Gray
WELL PURGED DRY									

*from TOC unless otherwise noted in Remarks