SURFACE SOIL LOGS

SS1 THROUGH SS16

TOEROEK ASSOCIATES, INC.

Project No.: Gregg County 6609	Boring		Sheet
Client/Project: EPA Region 6	Well ID		
Name of Geo/Eng.: PK	Location Map: See Figure		
SS1 - 0-6 Inches			

Location:	Date/Time (start): 4/9/2014 @ 9:30
	Date/Time (finish):
SS1	Depth (bore): (Well):
	Depth to Water: (1st) (Static)
	Screen Interval: NA Top of Casing: NA

X: Y: Elev:

Well Const	COLOR		PID	OVA (ppm)	Blow Cnt	% Rec	Smpl Run	Depth	Graphic	Class	Description
	brown		RZ	0				X			central site along south fence
	light		S	0				1			
	brown										no odor, no stain, silt fine
						%		2			
								3			
											VOCs
											SVOCs
								4			TAL Metals
											HG
								5			
						%		6			
								7			
								8			
								9			
						%		10			
								11			
								12			
								13			
						%		14			
								15			
								16			
								17			
						%		18			
								19			
								20			
								21			
								22			
								23			
								24			

TOEROEK ASSOCIATES, INC.

Project No.: Gregg County 6609	Boring		Sheet
Client/Project: EPA Region 6	Well ID		
Name of Geo/Eng.:	Location Map: See Figure		
SS2 0-6 inches			

Location:	Date/Time (start): 4/10/14 @ 9:09
	Date/Time (finish):
SS2	Depth (bore): (Well):
	Depth to Water: (1st) (Static)
	Screen Interval: NA Top of Casing: NA
	X: Y: Elev:

Well Const	COLOR		PID	OVA (ppm)	Blow Cnt	% Rec	Smpl Run	Depth	Graphic	Class	Description
	brown		BZ	0				X			no odor, no staining
			5	0				1			sandy, some fines, damp
						%		2			located SW of tank farm near MW11, and S of Tank 39, outside berm area
								3			
								4			
								5			VOCs
						%		6			SVOCs TAL Metals
								7			HG
								8			
								9			
						%		10			
								11			
								12			
								13			
						%		14			
								15			
								16			
								17			
						%		18			
								19			
								20			
								21			
								22			
								23			
								24			

TOEROEK ASSOCIATES, INC.

Project No.: Gregg County 6609	Boring		Sheet
Client/Project: EPA Region 6	Well ID		
Name of Geo/Eng.: PK	Location Map:		
SS3 0-6 inches			

Location:	Date/Time (start): 4/10/14 @ 12:06
	Date/Time (finish):
SS3 MS/MSD	Depth (bore): (Well):
	Depth to Water: (1st) (Static)
	Screen Interval: NA Top of Casing: NA

X: Y: Elev:

Well Const	COLOR		PID	OVA (ppm)	Blow Cnt	% Rec	Smpl Run	Depth	Graphic	Class	Description
	Light		BZ	0				X			sandy, slight odor, stain at 6-7 inches
	brown		5	2.8				1			
	to tan										located north of SS9; location east of tank 15 inside of 90 degree piping bend/valve
						%		2			
								3			
								4			VOCs SVOCs
								5			TAL metals HG
						%		6			
								7			
								8			
								9			
						%		10			
								11			
								12			
								13			
						%		14			
								15			
								16			
								17			
						%		18			
								19			
								20			
								21			
								22			
								23			
								24			

TOEROEK ASSOCIATES, INC.

Project No.: Gregg County 6609	Boring		Sheet
Client/Project: EPA Region 6	Well ID		
Name of Geo/Eng.: PK	Location Map: See Figure		
SS4 0-6 inches			

Location:	Date/Time (start): 4/17/14 @ 10:20
	Date/Time (finish):
SS4	Depth (bore): (Well):
	Depth to Water: (1st) (Static)
	Screen Interval: NA Top of Casing: NA

X: Y: Elev:

Well Const	COLOR		PID	OVA (ppm)	Blow Cnt	% Rec	Smpl Run	Depth	Graphic	Class	Description
	Dark		BZ					X			no stain, no odor, vegetated cover, rocky pebbles, dry
	brown		5					1			located near T&L Bldg on west side
						%		2			
								3			
								4			VOCs SVOCs
								5			TAL metals HG
						%		6			
								7			
								8			
								9			
						%		10			
								11			
								12			
								13			
						%		14			
								15			
								16			
								17			
						%		18			
								19			
								20			
								21			
								22			
								23			
								24			

TOEROEK ASSOCIATES, INC.

Project No.: Gregg County 6609	Boring		Sheet
Client/Project: EPA Region 6	Well ID		
Name of Geo/Eng.: PK	Location Map: See Figure		
SS5 0-6 inches			

Location:	Date/Time (start): 4/16/14 @ 12:00
	Date/Time (finish):
SS5	Depth (bore): (Well):
	Depth to Water: (1st) (Static)
	Screen Interval: NA Top of Casing: NA

X: Y: Elev:

Well Const	COLOR		PID	OVA (ppm)	Blow Cnt	% Rec	Smpl Run	Depth	Graphic	Class	Description
	Light		BZ	0				X			staining, very wet, detritis on top, saturated,
	brown		5	0				1			sandy/coarse
	dark brown										located south of tank 6 north of tank 8 along east side
						%		2			of sidewalk, both sides of sidewalk are heavily stained
											and still have some standing water
								3			
											VOCs
								4			SVOCs
											TAL metals
								5			HG
						%		6			
								7			
								8			
								9			
						%		10			
								11			
								12			
								13			
						%		14			
								15			
								16			
								17			
						%		18			
								19			
								20			
								21			
								22			
								23			
								24			

TOEROEK ASSOCIATES, INC.

Project No.: Gregg County 6609	Boring		Sheet
Client/Project: EPA Region 6	Well ID		
Name of Geo/Eng.: PK	Location Map: Seer Figure		
SS6 0-6 inches			

Location:	Date/Time (start): 4/16/14 @ 11:29
	Date/Time (finish):
SS6	Depth (bore): (Well):
	Depth to Water: (1st) (Static)
	Screen Interval: NA Top of Casing: NA

X: Y: Elev:

Well Const	COLOR		PID	OVA (ppm)	Blow Cnt	% Rec	Smpl Run	Depth	Graphic	Class	Description
	grey		BZ	0				X			sandy/silt/debris, no stain, no odor, moist
	brown		5	0				1			
						%		2			located under piping, under catwalk area. Area is littered with trash/debris and concrete splash pad is located beneath area in some places
								3			
								4			VOCs
											SVOCs
								5			TAL metals
											HG
						%		6			
								7			
								8			
								9			
						%		10			
								11			
								12			
								13			
						%		14			
								15			
								16			
								17			
						%		18			
								19			
								20			
								21			
								22			
								23			
								24			

TOEROEK ASSOCIATES, INC.

Project No.: Gregg County 6609	Boring		Sheet
Client/Project: EPA Region 6	Well ID		
Name of Geo/Eng.: PK	Location Map: See Figure		
SS7 0-6 inches			

Location:	Date/Time (start): 4/16/14 @ 11:40
	Date/Time (finish):
SS7	Depth (bore): (Well):
	Depth to Water: (1st) (Static)
	Screen Interval: NA Top of Casing: NA

X: Y: Elev:

Well Const	COLOR		PID	OVA (ppm)	Blow Cnt	% Rec	Smpl Run	Depth	Graphic	Class	Description
				0				X			No stain. In vegetation downhill from cylindrical tank and refining equipment.
				0				1			Moist.
						%		2			Located SE of Tank 6, halfway between SS6 and MW16 off, south of old overgrown roadway
								3			
								4			VOCs
											SVOCs
								5			TAL metals
											HG
						%		6			
								7			
								8			
								9			
						%		10			
								11			
								12			
								13			
						%		14			
								15			
								16			
								17			
						%		18			
								19			
								20			
								21			
								22			
								23			
								24			

TOEROEK ASSOCIATES, INC.

Project No.: Gregg County 6609	Boring		Sheet
Client/Project: EPA Region 6	Well ID		
Name of Geo/Eng.: PK	Location Map: See Figure		
SS8 0-6 inches			

Location:	Date/Time (start): 4/9/14 @ 14:10
	Date/Time (finish):
SS8	Depth (bore): (Well):
	Depth to Water: (1st) (Static)
	Screen Interval: NA Top of Casing: NA

X: Y: Elev:

Well Const	COLOR		PID	OVA (ppm)	Blow Cnt	% Rec	Smpl Run	Depth	Graphic	Class	Description
	Light		BZ	0				X			South of tank 23 inside of 45 degree piping by
	brown		5	0				1			valve/pump C(90 degrees)
											silt/dry
						%		2			faint odor, no stain
								3			
								4			VOCs
											SVOCs
								5			TAL metals
											HG
						%		6			
								7			
								8			
								9			
						%		10			
								11			
								12			
								13			
						%		14			
								15			
								16			
								17			
						%		18			
								19			
								20			
								21			
								22			
								23			
								24			

TOEROEK ASSOCIATES, INC.

Project No.: Gregg County 6609	Boring		Sheet
Client/Project: EPA Region 6	Well ID		
Name of Geo/Eng.: PK	Location Map: See Figure		
SS9 0-6 inches			

Location:	Date/Time (start): 4/16/14 @ 13:14
	Date/Time (finish):
SS9	Depth (bore): (Well):
	Depth to Water: (1st) (Static)
	Screen Interval: NA Top of Casing: NA

X: Y: Elev:

Well Const	COLOR		PID	OVA (ppm)	Blow Cnt	% Rec	Smpl Run	Depth	Graphic	Class	Description
	Brown		BZ	0				X			Damp sand with silt.
	dark brown		5					1			
						%		2			Pine needles and leaf debris on surface, by tank valve located on the east side of tank 25, westside of 90 degree pipe
								3			
								4			VOCs SVOCs
								5			TAL metals HG
						%		6			
								7			
								8			
								9			
						%		10			
								11			
								12			
								13			
						%		14			
								15			
								16			
								17			
						%		18			
								19			
								20			
								21			
								22			
								23			
								24			

TOEROEK ASSOCIATES, INC.

Project No.: Gregg County 6609	Boring		Sheet
Client/Project: EPA Region 6	Well ID		
Name of Geo/Eng.: PK	Location Map: See Figure		
SS10 0-6 inches			

Location:	Date/Time (start): 4/16/14 @ 12:50
	Date/Time (finish):
SS10	Depth (bore): (Well):
	Depth to Water: (1st) (Static)
	Screen Interval: NA Top of Casing: NA

X: Y: Elev:

Well Const	COLOR		PID	OVA (ppm)	Blow Cnt	% Rec	Smpl Run	Depth	Graphic	Class	Description
	Light		BZ	0				X			No stain, no odor, sandy/some silt
	brown		9	0				1			
	white										Located on westside of tank 12 inside flat berm
	tan					%		2			
								3			
								4			VOCs
											SVOCs
								5			TAL metals
											HG
						%		6			
								7			
								8			
								9			
						%		10			
								11			
								12			
								13			
						%		14			
								15			
								16			
								17			
						%		18			
								19			
								20			
								21			
								22			
								23			
								24			

TOEROEK ASSOCIATES, INC.

Project No.: Gregg County 6609	Boring		Sheet
Client/Project: EPA Region 6	Well ID		
Name of Geo/Eng.: PK	Location Map: See Figure		
SS11 0-6 inches			

Location:	Date/Time (start): 4/8/14 @ 15:11
	Date/Time (finish):
SS11	Depth (bore): (Well):
	Depth to Water: (1st) (Static)
	Screen Interval: NA Top of Casing: NA

X: Y: Elev:

Well Const	COLOR		PID	OVA (ppm)	Blow Cnt	% Rec	Smpl Run	Depth	Graphic	Class	Description
	Brown		BZ	0				X			No odor, thin stain, 3" depth dry
			5	0				1			SS11/SS11DUP
						%		2			Collected westside of Tank 20A, silty sand
								3			
								4			VOCs
											SVOCs
								5			TAL metals
											HG
						%		6			
								7			
								8			
								9			
						%		10			
								11			
								12			
								13			
						%		14			
								15			
								16			
								17			
						%		18			
								19			
								20			
								21			
								22			
								23			
								24			

TOEROEK ASSOCIATES, INC.

Project No.: Gregg County 6609	Boring		Sheet
Client/Project: EPA Region 6	Well ID		
Name of Geo/Eng.: PK	Location Map: See Figure		
SS12 0-6 inches			

Location:	Date/Time (start): 4/8/14 @ 16:08
	Date/Time (finish):
SS12	Depth (bore): (Well):
	Depth to Water: (1st) (Static)
	Screen Interval: NA Top of Casing: NA

X: Y: Elev:

Well Const	COLOR		PID	OVA (ppm)	Blow Cnt	% Rec	Smpl Run	Depth	Graphic	Class	Description
	Brown		BZ	0				X			No odor/wet
			5	0				1			
											SS12
						%		2			Collected N/NW side of tank
								3			
								4			VOCs
											SVOCs
								5			TAL metals
											HG
						%		6			
								7			
								8			
								9			
						%		10			
								11			
								12			
								13			
						%		14			
								15			
								16			
								17			
						%		18			
								19			
								20			
								21			
								22			
								23			
								24			

TOEROEK ASSOCIATES, INC.

Project No.: Gregg County 6609	Boring		Sheet
Client/Project: EPA Region 6	Well ID		
Name of Geo/Eng.: PK	Location Map: See Figure		
SS13 0-6 inches			

Location:	Date/Time (start): 4/8/14 @ 11:50
	Date/Time (finish):
SS13	Depth (bore): (Well):
	Depth to Water: (1st) (Static)
	Screen Interval: NA Top of Casing: NA

X: Y: Elev:

Well Const	COLOR		PID	OVA (ppm)	Blow Cnt	% Rec	Smpl Run	Depth	Graphic	Class	Description
	Brown		BZ	0				X			No odor, staining, odor from bldg (sweet)
			5	0				1			SS13/SSD13DUP
						%		2			some pebbles/rocks
								3			Collected below in between 2 bldgs in heavy vegetation
								4			
						%		5			VOCs SVOCs
								6			TAL metals HG
								7			
								8			
						%		9			
								10			
								11			
								12			
						%		13			
								14			
								15			
								16			
						%		17			
								18			
								19			
								20			
								21			
								22			
								23			
								24			

TOEROEK ASSOCIATES, INC.

Project No.: Gregg County 6609	Boring		Sheet
Client/Project: EPA Region 6	Well ID		
Name of Geo/Eng.: PK	Location Map: See Figure		
SS14 0-6 inches			

Location:	Date/Time (start): 4/10/14 @ 9:59
	Date/Time (finish):
SS14	Depth (bore): (Well):
	Depth to Water: (1st) (Static)
	Screen Interval: NA Top of Casing: NA

X: Y: Elev:

Well Const	COLOR		PID	OVA (ppm)	Blow Cnt	% Rec	Smpl Run	Depth	Graphic	Class	Description
	Brown		BZ	0				X			No odor or staining, silty
			5	0				1			
											Located southwest of tank 47
						%		2			Some organic discolorations
								3			
								4			
								5			VOCs
											SVOCs
						%		6			TAL metals
											HG
								7			
								8			
								9			
						%		10			
								11			
								12			
								13			
						%		14			
								15			
								16			
								17			
						%		18			
								19			
								20			
								21			
								22			
								23			
								24			

TOEROEK ASSOCIATES, INC.

Project No.: Gregg County6609	Boring		Sheet
Client/Project: EPA Region 6	Well ID		
Name of Geo/Eng.: PK	Location Map: See Figure		
SS15 0-6 inches			

Location:	Date/Time (start): 4/10/14 @ 11:14
	Date/Time (finish):
SS15	Depth (bore): (Well):
	Depth to Water: (1st) (Static)
	Screen Interval: NA Top of Casing: NA

X: Y: Elev:

Well Const	COLOR		PID	OVA (ppm)	Blow Cnt	% Rec	Smpl Run	Depth	Graphic	Class	Description
	Dark		BZ	0				X			No odor, no stain
	brown		5	0				1			
											Located SW side of AST46 across from SS9
						%		2			Location dry
								3			
								4			
								5			VOCs
											SVOCs
						%		6			TAL metals
											HG
								7			
								8			
								9			
						%		10			
								11			
								12			
								13			
						%		14			
								15			
								16			
								17			
						%		18			
								19			
								20			
								21			
								22			
								23			
								24			

TOEROEK ASSOCIATES, INC.

Project No.: Gregg County 6609	Boring		Sheet
Client/Project: EPA Region 6	Well ID		
Name of Geo/Eng.: PK	Location Map: See Figure		
SS16 0-6 inches			
Location:	Date/Time (start): 4/17/14 @ 9:07		
	Date/Time (finish):		
SS16 / SS16 DUP	Depth (bore): (Well):		
	Depth to Water: (1st) (Static)		
	Screen Interval: NA Top of Casing: NA		
	X:	Y:	Elev:

Well Const	COLOR		PID	OVA (ppm)	Blow Cnt	% Rec	Smpl Run	Depth	Graphic	Class	Description
	Brown		BZ	0				X			Westside of tank 20A
			5	0				1			
											Resample next to SS11
						%		2			Silty, sand.
											No odor/stain
								3			
								4			
								5			VOCs
											SVOCs
						%		6			TAL metals
											HG
								7			
								8			
								9			
						%		10			
								11			
								12			
								13			
						%		14			
								15			
								16			
								17			
						%		18			
								19			
								20			
								21			
								22			
								23			
								24			

SURFACE SOIL MAP

EPA map from 1999 with field adjusted SS locs

SEDIMENT CORE LOGS

SED1 THROUGH SED7

SEDIMENT CORE LOG

SED 1

Station ID SED1 on previous map

TOEROEK ASSOCIATES, INC.

PROJECT NAME:	Gregg County	CORE PENETRATION:	N/A
DATE SAMPLED:	4/14/2014	CORE RECOVERY:	N/A
LOCATION:	SED1	% RECOVERY:	N/A
TIME:	804	SAMPLING METHOD:	N/A
UNCORRECTED DEPTH (-FT):	0.5	POSITION METHOD:	N/A
NOS WATER LEVEL (TIDE):	n/a	LATITUDE:	N/A
WATER DEPTH MLLW:	1.5	LONGITUDE:	N/A
VESSEL:	AMS CORE	NORTHING:	N/A
SAMPLED BY:	Arthur	EASTING:	N/A
	Ireland	WEATHER:	Rainy/cloudy
	Walden		No GPS SATs
	Kieler		

2 ft offshore between culvert concrete pipes - west side - ~1.5 below water

DEPTH		SAMPLE DATA			SEDIMENT TYPE			
Feet Below Mud Surface	Feet Below MLLW	SAMPLE NUMBER	INTERVAL	RECOVERY	USCS	SYMBOL	LITHOLOGY	OBSERVATIONS
2		SED1					6"	*MSD location VOC SVOC TAL/HG
4								
6								
8								
10								
12								
14								

REVIEWED BY: _____ PAGE ____ OF ____

SEDIMENT CORE LOG

SED 2

Station ID SED2 on previous map

TOEROEK ASSOCIATES, INC.

PROJECT NAME:	Gregg County	CORE PENETRATION:	N/A
DATE SAMPLED:	4/14/2014	CORE RECOVERY:	N/A
LOCATION:	SED2	% RECOVERY:	N/A
TIME:	927	SAMPLING METHOD:	N/A
UNCORRECTED DEPTH (-FT)	0.5	POSITION METHOD:	N/A
NOS WATER LEVEL (TIDE):	n/a	LATITUDE:	N/A
WATER DEPTH MLLW:	~11.5	LONGITUDE:	N/A
VESSEL:	AMS SEDCORE	NORTHING:	N/A
SAMPLED BY:	Arthur	EASTING:	N/A
	Ireland	WEATHER:	Rainy/cloudy
	Walden		No GPS SAT
	Kieler		

25 ft offshore, center point, north end

DEPTH: Feet Below Mud Surface	DEPTH: Feet Below MLLW	SAMPLE DATA: SAMPLE NUMBER	SAMPLE DATA: INTERVAL	SAMPLE DATA: RECOVERY	SEDIMENT TYPE: USCS	SEDIMENT TYPE: SYMBOL	LITHOLOGY	OBSERVATIONS
		SED2					DUP Location VOC SVOC TAL/HG	Strong odor Some staining
2								
4								
6								
8								
10								
12								
14								

REVIEWED BY: _____ PAGE ____ OF ____

SEDIMENT CORE LOG

SED 3

Station ID SED3 on previous map

TOEROEK ASSOCIATES, INC.

PROJECT NAME:	Gregg County	CORE PENETRATION:	N/A
DATE SAMPLED:	4/14/2014	CORE RECOVERY:	N/A
LOCATION:	SED3	% RECOVERY:	N/A
TIME:	1020	SAMPLING METHOD:	N/A
UNCORRECTED DEPTH (-FT)	0.5	POSITION METHOD:	N/A
NOS WATER LEVEL (TIDE):	n/a	LATITUDE:	N/A
WATER DEPTH MLLW:	~10	LONGITUDE:	N/A
VESSEL:	AMS SEDCORE	NORTHING:	N/A
SAMPLED BY:	Arthur	EASTING:	N/A
	Ireland	WEATHER:	Rainy/cloudy
	Walden		No GPS Signal
	Kieler		Stormy

DEPTH		SAMPLE DATA			SEDIMENT TYPE		South end, center	
Feet Below Mud Surface	Feet Below MLLW	SAMPLE NUMBER	INTERVAL	RECOVERY	USCS	SYMBOL	LITHOLOGY	OBSERVATIONS
		SED3						Slight odor
2								
							VOC SVOC TAL/HG	
4								
6								
8								
10								
12								
14								

REVIEWED BY: _____ PAGE ____ OF ____

SEDIMENT CORE LOG

SED 4

Station ID SED6 on previous map

TOEROEK ASSOCIATES, INC.

PROJECT NAME:	Gregg County	CORE PENETRATION:	N/A
DATE SAMPLED:	4/14/2014	CORE RECOVERY:	N/A
LOCATION:	SED4 (SED 6 old #)	% RECOVERY:	N/A
TIME:	1317	SAMPLING METHOD:	N/A
UNCORRECTED DEPTH (-FT)	0.5	POSITION METHOD:	N/A
NOS WATER LEVEL (TIDE):	n/a	LATITUDE:	N/A
WATER DEPTH MLLW:		LONGITUDE:	N/A
VESSEL:	AMS CORE SED	NORTHING:	N/A
SAMPLED BY:	Arthur	EASTING:	N/A
	Ireland	WEATHER:	Cloudy/Rain
	Walden		No GPS Signal
	Kieler		

DEPTH		SAMPLE DATA			SEDIMENT TYPE		South of North Aerator	
Feet Below Mud Surface	Feet Below MLLW	SAMPLE NUMBER	INTERVAL	RECOVERY	USCS	SYMBOL	LITHOLOGY	OBSERVATIONS
		SED4						Thick black petroleum odor Staining
2								
							VOC SVOC TAL/HG	
4								
6								
8								
10								
12								
14								

REVIEWED BY: _____ PAGE ____ OF ____

SEDIMENT CORE LOG

SED 5

Station ID SED7 on previous map

TOEROEK ASSOCIATES, INC.

PROJECT NAME:	Gregg County	CORE PENETRATION:	N/A
DATE SAMPLED:	4/14/2014	CORE RECOVERY:	N/A
LOCATION:	SED5 (old SED #7)	% RECOVERY:	N/A
TIME:	1442	SAMPLING METHOD:	N/A
UNCORRECTED DEPTH (-FT)	1.5	POSITION METHOD:	N/A
NOS WATER LEVEL (TIDE):	n/a	LATITUDE:	N/A
WATER DEPTH MLLW:		LONGITUDE:	N/A
VESSEL:	AMS CORE SED	NORTHING:	N/A
SAMPLED BY:	Arthur	EASTING:	N/A
	Ireland	WEATHER:	Rain/clouds
	Walden		No GPS Signal
	Kieler		

By south aerator

DEPTH: Feet Below Mud Surface	DEPTH: Feet Below MLLW	SAMPLE DATA: SAMPLE NUMBER	SAMPLE DATA: INTERVAL	SAMPLE DATA: RECOVERY	SEDIMENT TYPE: USCS	SEDIMENT TYPE: SYMBOL	LITHOLOGY	OBSERVATIONS
		SED5						Thick black residue Odor stain
2								
							VOC SVOC TAL/HG	
4								
6								
8								
10								
12								
14								

REVIEWED BY: _____ PAGE ____ OF ____

SEDIMENT CORE LOG

SED 6

Station ID SED4 on previous map

TOEROEK ASSOCIATES, INC.

PROJECT NAME:	Gregg County	CORE PENETRATION:	N/A
DATE SAMPLED:	4/14/2014	CORE RECOVERY:	N/A
LOCATION:	SED6 (SED 4 old #)	% RECOVERY:	N/A
TIME:	1130	SAMPLING METHOD:	N/A
UNCORRECTED DEPTH (-FT)	~.5	POSITION METHOD:	N/A
NOS WATER LEVEL (TIDE):	n/a	LATITUDE:	N/A
WATER DEPTH MLLW:	~8'	LONGITUDE:	N/A
VESSEL:	AMS CORE SED	NORTHING:	N/A
SAMPLED BY:	Arthur	EASTING:	N/A
	Ireland	WEATHER:	Rain/No GPS
	Walden		Storm
	Kieler		Lightning/Hail

DEPTH		SAMPLE DATA			SEDIMENT TYPE		10 ft. offshore, NE Central	
Feet Below Mud Surface	Feet Below MLLW	SAMPLE NUMBER	INTERVAL	RECOVERY	USCS	SYMBOL	LITHOLOGY	OBSERVATIONS
		SED 6					Rocks/sand/silt	Odor staining
2								
							VOC SVOC TAL/HG	
4								
6								
8								
10								
12								
14								

REVIEWED BY: _____ PAGE ____ OF ____

SEDIMENT CORE LOG

SED 7

Station ID SED5 on previous map

TOEROEK ASSOCIATES, INC.

PROJECT NAME:	Gregg County	CORE PENETRATION:	N/A
DATE SAMPLED:	4/14/2014	CORE RECOVERY:	N/A
LOCATION:	SED7 (SED 5 old #)	% RECOVERY:	N/A
TIME:	1232	SAMPLING METHOD:	N/A
UNCORRECTED DEPTH (-FT)	~.5	POSITION METHOD:	N/A
NOS WATER LEVEL (TIDE):	n/a	LATITUDE:	N/A
WATER DEPTH MLLW:	~7'	LONGITUDE:	N/A
VESSEL:		NORTHING:	N/A
SAMPLED BY:	Arthur	EASTING:	N/A
	Ireland	WEATHER:	Rainy
	Walden		No GPS
	Kieler		

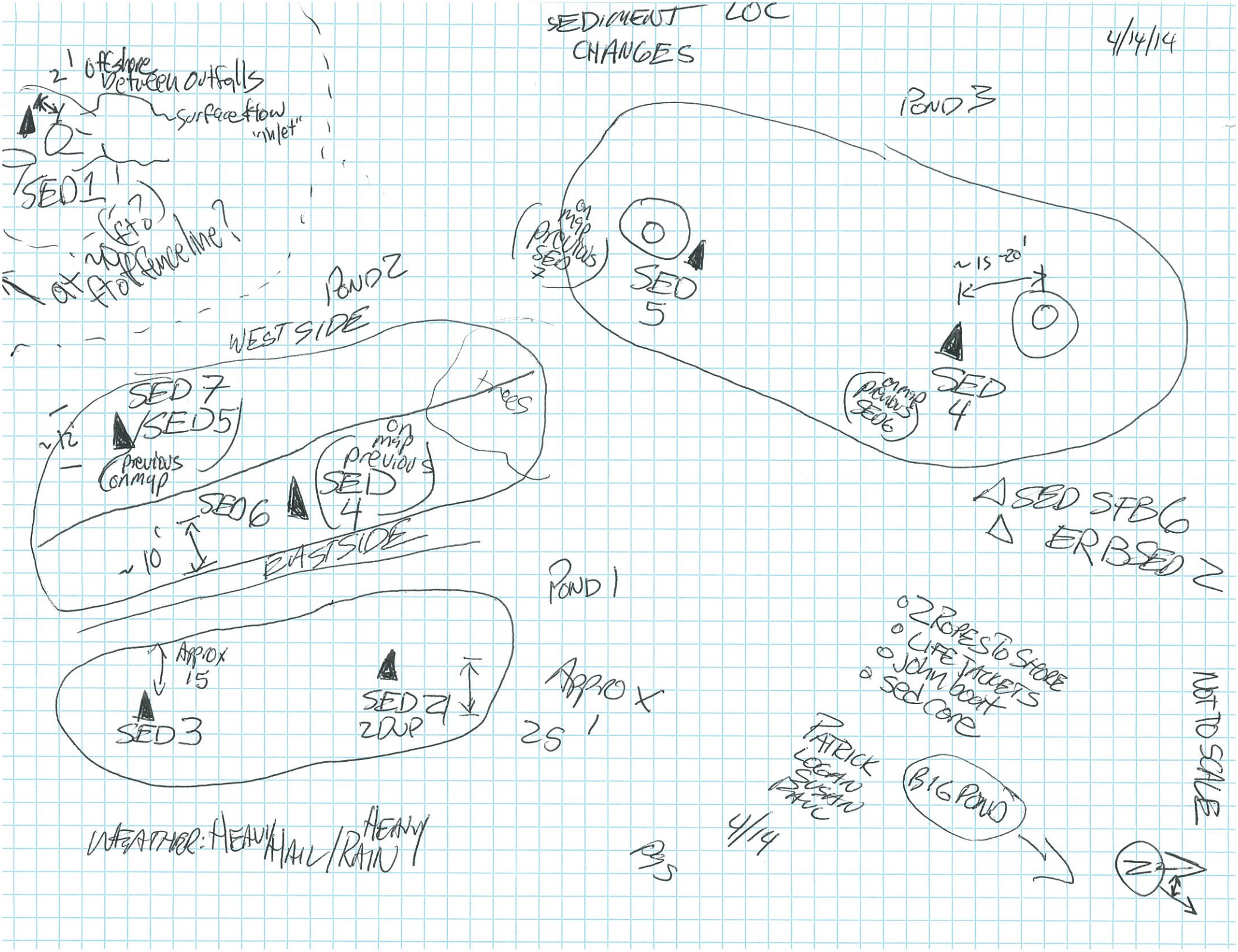
DEPTH		SAMPLE DATA			SEDIMENT TYPE		SW Central	
Feet Below Mud Surface	Feet Below MLLW	SAMPLE NUMBER	INTERVAL	RECOVERY	USCS	SYMBOL	LITHOLOGY	OBSERVATIONS
		SED 7					Sandy	
2								
								VOC SVOC TAL/HG
4								
6								
8								
10								
12								
14								

REVIEWED BY: _____ PAGE ____ OF ____

SEDIMENT MAP

SEDIMENT LOC CHANGES

4/14/14



WEATHER: HEAVY HAIL / HEAVY RAIN

4/14

BJS

UFP-QAPP CHANGE NOTIFICATIONS

GREGG COUNTY REFINERY QAPP NOTIFICATION

TOEROEK
ASSOCIATES, INC.

DATE: 4/13/14

DESCRIPTION OF CHANGE: CHANGE IN OBTAINABLE ACCURACY FOR GPS
based on #SATS AVAILABLE TO AQUIRE (VARIES ±3FT/±22F
ASTS/PIPECHASES/CATWALKS OBSTRUCT SATTELITE AQUISITION

REASON FOR CHANGE: FIELD CONDITIONS, WEATHER AND FACILITY
INFRASTRUCTURE

CHANGE TO QAPP SECTION: SAP SECTION 4.0, 4.11

RESULT OF CHANGE: LOSS OF ACCURACY

DESCRIBE CHANGE NOTIFICATION TO EPA: (N) EPA NOT ON SITE - WILL DISCUSS
WITH EPA ON MONDAY

CHANGE NOTED IN LOGBOOK (Y/N) and RECORDED IN LOGBOOK No.: LOG (Y)
FORM (Y)

CHANGE TO BE NOTED IN TRIP REPORT (Y/N): YES

GREGG COUNTY REFINERY QAPP NOTIFICATION

TOEROEK ASSOCIATES, INC.

DATE: 4/10/14

DESCRIPTION OF CHANGE: RESOLUTION OF COC MISTAKE, RESAMPLE PROPOSAL

REASON FOR CHANGE: TOEROEK TEAM TO RESAMPLE SAMPLE DEPTH INTERVALS TO AQUIRE ORIGINAL ENV. SAMPLES REJECTED DUE TO COC MISSING FROM COOLER (ONLY 1 of 2 PAGES WERE PLACED IN COOLER)

CHANGE TO QAPP SECTION: #20, #29

RESULT OF CHANGE: WILL RESAMPLE AT OFFSET LOCATIONS. TOEROEK WILL INCREASE FIELD SAMP QC AND STRIVE TO CORRECT SCRIBE ISSUE(S).

DESCRIBE CHANGE NOTIFICATION TO EPA: DISCUSSION IN FIELD WITH RICH/TARA EPA TO DISCUSS AND POSSIBLY RELOCATE BORINGS.

CHANGE NOTED IN LOGBOOK (Y/N) and RECORDED IN LOGBOOK No.: LOG (Y) FORM (Y)

CHANGE TO BE NOTED IN TRIP REPORT (Y/N): YES

GREGG COUNTY REFINERY QAPP NOTIFICATION

TOEROEK
ASSOCIATES, INC.

DATE: 4/10/14

DESCRIPTION OF CHANGE: SCREEN INTERVAL PLACEMENT AND LENGTH

REASON FOR CHANGE: ENSURE WL INTERVAL WILL FALL INTO SCREEN INTERVAL FOR FLUCTUATIONS IN GW AND TO MONITOR POTENTIAL LNAPL

CHANGE TO QAPP SECTION: GENERAL SAP TEXT

RESULT OF CHANGE: INCREASED SCREEN INTERVAL AND INCREASED DEPTH OF TD

DESCRIBE CHANGE NOTIFICATION TO EPA: DISCUSSION 4/10/14 WITH TARA AND RICH

CHANGE NOTED IN LOGBOOK (Y/N) and RECORDED IN LOGBOOK No.: LOG (Y) Form (Y)

CHANGE TO BE NOTED IN TRIP REPORT (Y/N): YES

GREGG COUNTY REFINERY QAPP NOTIFICATION

TOEROEK ASSOCIATES, INC.

DATE: 4/10/14

DESCRIPTION OF CHANGE: GW EQUIPMENT RINSATE REQUEST TO CHANGE TO NO GW ERB BASED ON USING ONLY NEW SAMPLING SUPPLIES (TUBING, HOSE AND PURGE POLY/SILICON)

REASON FOR CHANGE: THE USE OF NEW MATERIALS ONLY SHOULD ALLOW FOR NO GW ERB COLLECTION.

CHANGE TO QAPP SECTION: WS #20

RESULT OF CHANGE: NO ERB GW SAMPLES

DESCRIBE CHANGE NOTIFICATION TO EPA: YES. DISCUSSED WITH TARA ON 4/10/14. SHE INDICATED WE SHOULD COLLECT ~~ER~~ GW SAMPLES USING HOSE AND WATER INTERFACE PROBE. WILL COMPLY AS DIRECTED.

CHANGE NOTED IN LOGBOOK (Y/N) and RECORDED IN LOGBOOK No.: (Y) FORM (N) LOG

CHANGE TO BE NOTED IN TRIP REPORT (Y/N): N/A

GREGG COUNTY REFINERY QAPP NOTIFICATION

TOEROEK ASSOCIATES, INC.

DATE: 4/9/14

DESCRIPTION OF CHANGE: RELOCATION OF SS LOCATIONS

REASON FOR CHANGE: STANDING WATER, SATURATED SAMPLE LOCATIONS

CHANGE TO QAPP SECTION: WS #17/#18, SAP SECTION 4.6

RESULT OF CHANGE: RELOCATION OF PRE-DETERMINED SURFACE SOIL LOCATIONS.

DESCRIBE CHANGE NOTIFICATION TO EPA: (Y) WENDY/TARA SELECTED NEW LOCATIONS FOR NEW SS SAMPLING

CHANGE NOTED IN LOGBOOK (Y/N) and RECORDED IN LOGBOOK No.: (Y) LOG (Y) FORM

CHANGE TO BE NOTED IN TRIP REPORT (Y/N): YES, WILL NOTE CHANGE AND AND NEW LOCATIONS TO SAMPLE MAP PER EPA REQUE

GREGG COUNTY REFINERY QAPP NOTIFICATION

TOEROEK
ASSOCIATES, INC.

DATE: 4/9/14

DESCRIPTION OF CHANGE: CHANGE FIELD QC PROCEDURE FOR SAMPLE. COCs, COOLERS.

REASON FOR CHANGE: LOSS IN CHAIN OF CUSTODY. 2 COC PAGES WERE NOT INCLUDED IN COOLERS AND RESULTED IN LOSS OF DATA & COST.

CHANGE TO QAPP SECTION: FAILURE OF WS#21 PARTIAL & #29

RESULT OF CHANGE: INCREASE QC PROCEDURE REQUIREMENTS

DESCRIBE CHANGE NOTIFICATION TO EPA: DISCUSSED PROBLEM/ISSUES RESOLUTION (POTENTIAL) IDEAS AND CHANGE IN FIELD PROCEDURES TARA PAUL AND RICH AND MYSELF WILL CONTINUE DISCUSSION WHEN MORE INFO IS AVAILABLE.

CHANGE NOTED IN LOGBOOK (Y/N) and RECORDED IN LOGBOOK No.: LOG (Y) FORM (Y)

CHANGE TO BE NOTED IN TRIP REPORT (Y/N): YES

NOTES: COC CONTINUE TO BE PROBLEMATIC. MUST INCLUDE IN LESSONS LEARNED, PRE-PRINTED LABELS AND FIELD-PRINTED COCs ARE DIFFICULT TO EXECUTE [illegible]

GREGG COUNTY REFINERY QAPP NOTIFICATION

TOEROEK
ASSOCIATES, INC.

DATE: 4/8/14, 4/14/14 PK

DESCRIPTION OF CHANGE: SEDIMENT COLLECTION METHODOLOGY FOR USE OF BOAT, 2 ADDITIONAL PERSONNEL

REASON FOR CHANGE: WATER LEVELS HIGER, VOLUME OF WATER GREATER, SATURATED BANKS AND UNKNOWN DEPTHS OF IMPOUNDMENTS

CHANGE TO QAPP SECTION: SAP SECTION 4.7

RESULT OF CHANGE: INCREASE IN TIME/EFFORT FOR SAMPLE COLLECTION, INCREASE H/S RISK AND HIGHER SAFETY FACTOR

DESCRIBE CHANGE NOTIFICATION TO EPA: YES TARA, WENDY AND RICH ALL AWARE OF CHANGE BASED ON FIELD CONDITIONS REVIEWED PROCEDURES WITH RICH ON 4/14/14

CHANGE NOTED IN LOGBOOK (Y/N) and RECORDED IN LOGBOOK No.: LOG (Y) FORM (Y)

CHANGE TO BE NOTED IN TRIP REPORT (Y/N): (Y)

GREGG COUNTY REFINERY QAPP NOTIFICATION

TOEROEK
ASSOCIATES, INC.

DATE: 4/8/14

DESCRIPTION OF CHANGE: Surface Soil homogenization is completed in hole with stainless steel trowel instead of in a plastic bag.

REASON FOR CHANGE: Better homogenization, less waste and reduces the number and type of surfaces soils will come in contact to.

CHANGE TO QAPP SECTION: SAP 4.6, SOP 004

RESULT OF CHANGE: See Reason section above

DESCRIBE CHANGE NOTIFICATION TO EPA: Collection procedures discussed with EPA also included the change of locations based on standing water. EPA to relocate surface sample(s) currently impacted

CHANGE NOTED IN LOGBOOK (Y/N) and RECORDED IN LOGBOOK No.: (Y)

CHANGE TO BE NOTED IN TRIP REPORT (Y/N): Y

GREGG COUNTY REFINERY QAPP NOTIFICATION

TOEROEK ASSOCIATES, INC.

4/7/14

DATE: MW 12 RELOCATION DUE TO SATURATED

DESCRIPTION OF CHANGE: CONDITIONS AND HEAVY SLOPE/SAT. SOILS. TIMBER MAY BE UNSAFE TO WORK UNDER/ BESIDE WITH SILTY CONDITIONS, RUNNING WATER THROUGH TIMBER TO OUTFALLS/OFF SITE TO SOUTH.

REASON FOR CHANGE: FIELD CONDITIONS, TIMBER

CHANGE TO QAPP SECTION: QAPP WS#18 & #17

RESULT OF CHANGE: NO GW MW SOUTH OF IMPOUNDMENTS. SS WILL BE RELOCATED ALSO BY EPA.

DESCRIBE CHANGE NOTIFICATION TO EPA: (Y) TARA WILL SELECT NEW MW 12 LOCATION ALONG S. FENCE MORE TOWARDS WEST - IN LESS TIMBER, MORE SANDY LOCATION

CHANGE NOTED IN LOGBOOK (Y/N) and RECORDED IN LOGBOOK No.: (Y)

CHANGE TO BE NOTED IN TRIP REPORT (Y/N): (Y)

GREGG COUNTY REFINERY QAPP NOTIFICATION

TOEROEK
ASSOCIATES, INC.

DATE: 4/7/14

DESCRIPTION OF CHANGE: FIELD SCHEDULE MUST BE TOTALLY REVISED DUE TO WEATHER/SITE CONDITIONS. MW LOCATIONS ARE TOO WET/SATURATED TO GET TO. MW5 FOR EXAMPLE IS UNDERWATER. SURFACE SOIL LOCATION ARE UNDERWATER.

REASON FOR CHANGE: FIELD CONDITIONS

CHANGE TO QAPP SECTION: CNS 14/16A

RESULT OF CHANGE: DELAY IN ACCESS, POSSIBLE/PROBABLE SAMPLE RE-LOCATIONS, POTENTIAL SCHEDULE IMACTS, UTILITY LOCATES?, CONTRACTOR SCHEDULE?

DESCRIBE CHANGE NOTIFICATION TO EPA: DISCUSSED WITH TARA AND WENDY IN FIELD 4/7/14

CHANGE NOTED IN LOGBOOK (Y/N) and RECORDED IN LOGBOOK No.: ON FORM (Y)
IN LOG (Y)

CHANGE TO BE NOTED IN TRIP REPORT (Y/N): YES

GREGG COUNTY REFINERY QAPP NOTIFICATION

TOEROEK ASSOCIATES, INC.

DATE: 4/7/10

DESCRIPTION OF CHANGE: ONE WATER LEVEL INSTRUMENT WILL NOT BE INTERFACE PROBE AND WILL NOT DETECT FP / IMMISCIBLE PHASE DURING SOME GW ACTIVITIES. ALL MW (DEVELOP ONLY) WILL GET MONITORED WITH INTERFACE PROBE

REASON FOR CHANGE:
EQUIPMENT AVAILABILITY

CHANGE TO QAPP SECTION: SOP 13

RESULT OF CHANGE: SOME WELL SAMPLING WILL NOT HAVE FP MONITOR/DECON DURING GW SAMPLING ACTIVITIES. WELL WILL BE MONITORED FOR FP DURING DEVELOPMENT. ALL WILL BE MONITORED FOR FP DURING EVENT.

DESCRIBE CHANGE NOTIFICATION TO EPA: (Y) DISCUSSED AT MW2 WITH TARA AND WENDY WHEN REVIEWING DEVELOPMENT METHODOLOGY/PROCEDURES. DECON DISCUSSED ABSE BETWEEN EACH MW LOCATION.

CHANGE NOTED IN LOGBOOK (Y/N) and RECORDED IN LOGBOOK No.: (Y) FORM (N) No

CHANGE TO BE NOTED IN TRIP REPORT (Y/N): (Y)

GREGG COUNTY REFINERY QAPP NOTIFICATION

TOEROEK
ASSOCIATES, INC.

DATE: 4-7-14

DESCRIPTION OF CHANGE: MAX DEVELOPMENT FOR MWS OF 6 VOLUMES

REASON FOR CHANGE: TURBIDITY, DO, PROBLEMATIC

CHANGE TO QAPP SECTION: SOP 16

RESULT OF CHANGE: LIMIT CHASING PARAMETERS/QUALITY MEASUREMENT IN MW OF UNKNOWN INTEGRITY, LIMIT IDW

DESCRIBE CHANGE NOTIFICATION TO EPA: 4/7/14 WITH TARA AND WENDY AT MNZ.

CHANGE NOTED IN LOGBOOK (Y/N) and RECORDED IN LOGBOOK No.: ON FORM (N) IN LOG (Y) FIELD DEVEL. FORM

CHANGE TO BE NOTED IN TRIP REPORT (Y/N): YES

MONITORING EQUIPMENT CALIBRATION LOG

GREGG COUNTY REFINERY CALIBRATION LOG

TOEROEK
ASSOCIATES, INC.

* 2pt calibration 4, ~~5~~, 7

DATE TIME	SERIAL NO.	INSTRUMENT	ZERO SPAN	ISOBUTYLENE 100 PPM	TURBIDITY	COND.	pH 7	pH 10	pH 4	ORP	DO
4/12/14	2085	YSI					CA	CA	CA		
4/15 827	592906601	Mini RAE	0	100							
4/15/14	2085	YSI					CA	*	CA		
4/15/14	1000	YSI					CA	CA	CA		
4/16/14	592906601	Mini RAE	0	100							
4/16/14	592905126	Mini RAE	0	100							
4/16/14	4191	2100									
4/16/14	4031	2100									
4/16/14	—	—									
4/17/14	4191	2100									
4/17/14	4031	2100									
4/17/14	2085	YSI					CA	CA	CA		
4/17/14	1000	YSI					CA	CA	CA		
4/17/14	592906601	Mini RAE	0	100							
4/17/14	592905126	Mini RAE	0	100							

GREGG COUNTY REFINERY CALIBRATION LOG

TOEROEK ASSOCIATES, INC.

DATE TIME	SERIAL NO.	INSTRUMENT	ZERO SPAN	ISOBUTYLENE 100 PPM	TURBIDITY	COND.	pH 7	pH 10	pH 4	ORP	DO
4-8 610	592905126	Mini RAE	0	100							
4/8 610	592906601	Mini RAE	0	100	652, 62.3, 632						
4/8 610	4191	HACH 2100 factory calibrated			63 62 63						
4/8 610	4031	HACH 2100 factory calibrated									
4/8 610	2085	YSI SSC				CA	CA	CA	CA	CA	CA
4/8 610	1000	YSI SS6				CA	CA	CA	CA	CA	CA
4/9 530	592905R6	Mini RAE	0	100							
4/9 530	592906601	Mini RAE	0	100							
4/10 650	592905R6	mini RAE	0	100							
4/10 650	592906601	mini Rae	0	100							
4/11 728	4031	HACH 2100 factory calibrated			657, 596, 555						
4/11 730	2085	YSI 556				~~CA~~	CA	CA	CA	CA	CA
4/11 11:00	2085	YSI 556 recalibrated per instructions				CA	CA	CA	CA	CA	CA
		specific conductivity not accepted first calibration recalibrated accepted after									
		cleaning calibration									
4/12 6:15	4191	Hach 2100 factory calibrated									
4/12 6:26	4031	Hach 2100 factory calibrated			621 531, 605						
4/14 5:30	592905R6	mini Rae	0	100	5.02, 62.7, 631						
4/14 5:30	592906601	mini Rae	0	100							
4/15 826	4191	Hach 2100			5.05, 63.2, 635						
4/15 823	4031	Hach 2100			5.36, 58.9, 610						
4/15 825	592905R6	mini RAE	0	100							

___ OF ___

conductivity Standard lot # 3AK715 Exp. Nov 14
pH Buffer 7.0 lot # 4AA065 Exp. Jan 16
pH Buffer 4.0 lot # 4AB415 Exp. Feb 16
pH Buffer 10.0 lot # 3AL009 Exp. Dec 15
ORP lot # 3AK708 Exp. Aug 14

* calibration accepted