

# **Report Review**

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Automated Data Processing Tool (ADaPT)

Laboratory Reports

Text

Other Items

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### **Report Requirements**

#### **Report Requirements:**

1. Attachment A (V2.0) Scope of Services Amended and Restated Agency Term Contract.

2. Petroleum Restoration Program (PRP) Standard Specification Details (Updated 10/29/2019).



19. **REPORTS (Excluding Professional Engineering and Professional Geology Services):** The following pay items are for reports associated with specified scopes of work. Reports must be accurate and complete prior to submittal to DEP. All reports must be submitted to DEP in accordance with the requirements in Chapter 62-780, F.A.C., the "Technical Report and Deliverable Related Time Frames" table in Appendix I, applicable DEP guidance, and comply with the DWM Policy on Professional Certification of Technical Documents dated March 31, 2000, if applicable. All Reports must include a history of the site, a summary of activities completed under the work order, field notes and appropriate logs for any field work, lab reports, tables, figures and maps as applicable, evaluation of the data provided, deviations from Task Assignment requirements, and recommendations for additional work needed to move the site towards closure.

The Contractor shall use of the most current version of the specified report, permit, or document form. All maps shall include a dated title block, facility ID, site name and address, north arrow, bar scale, and a legend of all symbols used, whereas distribution maps shall include iso-contours for COCs drawn such that solid lines denote known concentration contours, dashed lines denote likely concentration contours, and dotted lines denote estimated concentration contours. Tables of analytical results shall be cumulative when the data is available, include the required qualifiers and qualifier codes, and bold the results that exceed the applicable target cleanup level. If due diligence was performed and previous data cannot be obtained in electronic format, copies of historical data are sufficient.

# Report Requirements [Section 9.6 of the PRP Standard Specification Details document dated 10/29/2019]

#### 3.6 Site Assessment Deliverable

The deliverable is the submission of the report as specified in the Scope of Work (Interim SA, SSA, RA Interim, Baseline and TSAR report(s)). If submitting a TSAR, each section will be filled out in its entirety. Each report shall contain the results of the field activities performed, and shall include at a minimum:

- A. Copies of any permits obtained and not previously submitted;
- B. A summary of work performed, sampling results, conclusions based on data collected and recommendations for modifications of subsequent tasks, including, as applicable: a description of any changes in land use, efforts made to locate missing wells, description of methods used to identify IDW and disposal, and any other relevant information related to the field activities and resultant data;
- C. For TSAR only, summary of work shall also include: estimated costs with breakdown to achieve closure by RMO 1 and RMO 2;
- D. If applicable, a recommendation and justification for No Further Action, well abandonment and site restoration;
- E. A site map depicting the locations of all SBs, compliance wells and MWs in relation to former and current tank areas, integral piping and dispensers, buildings, land cover, sidewalks, utilities, and any public or private supply wells present onsite. Property lines and any former excavated areas must be indicated;
- F. Additional figures (with scale and legend) shall be provided depicting, as it applies to the assessment: off-site potable wells and potential receptors, a plume map showing the lateral and vertical extent of all contaminants of concern exceeding soil and/or groundwater CTLs and/or NADCs, groundwater elevation map with elevations calculated for each MWs, piezometer and compliance well, contamination map illustrating the degree



of soil and/or groundwater contamination at each boring and well location with sampling dates and analytical data, OVA map depicting highest OVA reading for each boring location;

- G. For TSAR only, figures (with scale and legend) showing site location illustrated on an USGS topographic map including quadrangle name and scale, can be combined with a well survey map with ½ mile and ¼ mile circles drawn around site, vicinity map depicting adjacent property usage within a one or two block radius of source property, lithological cross-section at site where lithological information has been collected with screened intervals and water levels;
- H. Tabulated soil and groundwater data, including historical and current status of wells must be reflected in all groundwater tables;
- . SB, MW, groundwater and instrument calibration logs, as it applies to this SOW;
- J. Laboratory report(s), COC(s) and NELAP certification for the field work conducted;
- K. Disposal manifests, weight tickets and/or certificates of treatment or disposal, as they apply to this SOW;
- L. Copy of all field notes.
- M. Any other items specified in the Scope of Work/Purchase Order for the site-specific report (e.g. photographic documentation, ADaPT data, etc.).



## File Review [Section 9.6 of the PRP Standard Specification Details document dated 10/29/2019]

#### 2.2 File Review

The Contractor shall perform a file review of all applicable FDEP records for the site. At a minimum, the information reported must include: historical free product and DTW Table(s), the DTW range, the screen intervals of MWs, and lithology in the affected depth interval. Additionally, this file review shall be used to describe the site history as it relates to the activities described in this SOW. The deliverable is a completed Historical Summary Worksheet that can be found at: https://floridadep.gov/waste/petroleum-restoration/forms/historical-site-summary.

### **File Review Tips**

Always Keep Closure Endpoint Requirements in Mind.

1. Tables - complete and contain ALL historical and current data.

2. When reviewing historical reports, review lab reports (not just tables). Historical Tables often have typos and incorrect concentrations.

Profile	Facility-Site ID	Document Date	Received Date	Document Type	Document Subject
Reimbursement	8516823	11-11-1911	11-11-1911	APPLICATION REVIEW ROUTING SLI	
Reimbursement	8516823	11-11-1911	11-11-1911	<b>REVIEW - CHECKLIST MATERIALS</b>	
Permitting_Authorization	8516823	01-01-1985	01-01-1985	HISTORICAL REGISTRATION RECORD	<b>REGISTRATION INFO</b>
Cleanup_Remediation	8516823	01-01-1990	01-01-1990	SIS REPORT	CAR
Cleanup_Remediation	8516823	09-21-1990	09-21-1990	APPROVAL RELATED	
Reimbursement	8516823	12-30-1991	12-30-1991	<b>REIMBURSEMENT APPLICATION - CO</b>	

#### **File Review Tips**

3. OCULUS Tip – Reimbursement documents can contain Closure documents, Site Plans, Lab Reports, Contamination Assessment Reports (CARs), etc. that might not have been otherwise uploaded to OCULUS.

Profile	Facility-Site ID	Document Date	<b>Received Date</b>	Document Type	Document Subject
🗋 Reimbursement	8516823	11-11-1911	11-11-1911	APPLICATION REVIEW ROUTING SLI	
Reimbursement	8516823	11-11-1911	11-11-1911	REVIEW - CHECKLIST MATERIALS	
Permitting_Authorization	8516823	01-01-1985	01-01-1985	HISTORICAL REGISTRATION RECORD	<b>REGISTRATION INFO</b>
Cleanup_Remediation	8516823	01-01-1990	01-01-1990	SIS REPORT	CAR
Cleanup_Remediation	8516823	09-21-1990	09-21-1990	APPROVAL RELATED	
🗋 Reimbursement	8516823	12-30-1991	12-30-1991	<b>REIMBURSEMENT APPLICATION - CO</b>	

#### Tables

Organic Vapor Analyzer (OVA) Soil Analytical Groundwater (GW) Elevation GW Analytical Well Construction Free Product Summary



#### OVA = Organic Vapor Analyzer

• Measures volatile organic compounds (VOCs)

#### PID vs. FID

#### PID Photo Ionization Detector

- Uses ultraviolet light.
- Detects VOCs directly.
- Readings = net.

FID Flame Ionization Detector

- Uses flame that burns on hydrogen.
- Readings = Total Hydrocarbons.
  [petroleum + other (methane)]
- Analyze sample again with filter.

#### TABLE 3: SOIL SCREENING SUMMARY

Facility Name: Mr. Wong's Chinese Restaurant FID Facility ID#: 48/8513352

BORING NO.	DATE COLLECTED	DEPTH TO	SAMPLE INTERVAL	READING	CARBON	READING	COMMENTS
		WATER	(FBLS)	(ppm)	(ppm)	(ppm)	
			1	1.1		1.1	
			2	1_2		1.2	
			3	1_2		1.2	
			4	1_2		1.2	
			5	1		1	
			6	1 U		1 U	
SB-18	10/6/2006	12	7	20,1	16,9	3,3	
00 10	10/012000		8	>4600	1.07	>4589	
			9	>4600	16	>4584	
			10	>4600	50.4	>4549	
			11	>4600	9.4	>4590	
			12	>4600	20.9	>4579	
			13	900.4	12.8	887.9	
			14	241.3	9.3	232	
			1	1_1		1.1	
			2	1		1	
			3	1 U		1 U	
			4	1_2		1.2	
			5	1_3		1.3	
			6	1		1	
CD 10	10/6/2006	10	7	1_2		1.2	
SD=19	10/0/2000	12	8	1 U		1 U	
			9	1 U		1 U	
			10	1 U	-	1 U	
			11	1 U		1 U	
			12	1 U		10	
			13	1_1		1.1	
			14	1 U		1 U	
			1	1 U		1 U	
			2	1 U		1 U	
			3	1 U		10	
			4	1 U		1 U	
			5	1 U		1 U	
			6	10		10	
00.00	101510000	40	7	1 U		1 U	
SB-20	10/5/2006	12	8	1 U		1 U	
			9	1 U		1 U	
			10	1_2		1.2	
			11	2.9		2.9	
			12	19.6		19.6	
			13	5.3		5.3	
			14	3.3		3.3	

### Soil Screening Summary (using FID)

#### **Check Borings** Logs

## Boring Log (using FID)

Boring	/Well N	iumber B-1	8			Permit N	lumber.			FDEP Facilit	ty Ident	tificatio	on Number 52
Site N	ame					Borehol	e Start Da	Time	40/1	F. A	M T PM		
For	ner Mr	Wong':	s Chinese	Restaur	ant		End Da	10-6-06	Time			м П РМ	
Enviro	nmenta	Contra	actor	etal		Geologi	Environment	tal Tech	inician	's Name			
Dalla	ig Comp	any	vironine		Paveme	nt Thick	Bor	rehole I	Depth (	feet)			
0.11		EDS	;			~6			4.25			1	4
Unllin	lg Metho D	PT		Apparent from so:	i Borehol il moistu	e DTW (a re content	n feet i) /2	Measured Well DTV water recharges in	W (in feet after well) NM	OVA (list m Photovo	odel an ac	d chec	FID
Dispo	sition of	Dall	Cuttings [	check me	thod(s)	1	ΓD	rum 🗹 Spread	E Backfill		spile	E	Other
(descr Borst	the if othe	her or I	nultiple i (check	tems are	checked	0			<b>F b</b> · · ·				
Doten	ore com	Aven OR	(chock (	AIC)	11	weii	Grou	t I. Bentonite	I¶ Backfi		Other (	tescrib	c)
Sample Type	Sample Depth Interval (feet)	Sample Recovery	SPT Blows (per six mches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sampl (include grava size ba and o	e Description used on USCS, od ther remarks)	ors, staining,	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples
на	0-1		NA	11	-	1.1	1	SAND - tan, for	ne, louse, Čl	=11.1]	SP	Mj	
	1-2			1,2	,	1.2	_ 2	as	above				
	2-3			42	-	1.2	3	as	above				
	3-4			1,2	-	1,2	_ 4	as	above				
	4-5			1.0	-	1,0	5	as	above				
	5-6			<1	-	۲)	6	SAND. tan, c	ahusive, sitt	y, odor	sм	m	
DP	6-7			20.2	16.9	3.3	_ 7	as	above				
	7-8			1460	10.7	458 <sup>9</sup>	8	a:	s above	odor			
	8-9			74600	14.D	4 <sup>689</sup>	9	a	sabore	-			
-	9-10			74600	50.4	4549	10	as	abour				ê10'
	10-11			74600	9.4	79:390	_ 11	as	above				
	11-12			74600	20.9	4579	12	as	abure				-
	12-13			900.7	12,8	881.9	13		aw	c.		is.	-
	13-14			241,3	9,3	232.0	14	ds	above				TD

Sample Type Codes PH = Post Hole, HA = Hand Auger; SS = Split Spoon, ST = Shelby Tube, DP = Direct Push, SC = Sonic Core, DC = Drill Cuttings Moisture Content Codes D = Dry; M = Moist, W = Wet, S = Saturated

### Soil Screening Summary (using PID)

#### **Check Borings Logs**

#### PID

#### TABLE 1: SOIL SCREENING SUMMARY

Facility Name: Sidekick Shell (former *Texaco #100858 - San Miguel*) Facility Address: 9011 Little Road, New Port Richey, Pasco County, FL FDEP ID: 518630449

BORING	DATE	DEPTH	SAMPLE	OVA-PID	COMMENTS
NO.	COLLECTED	то	INTERVAL	READING	&
		WATER	(FBLS)	(ppm)	LITHOLOGY
			1	0.0	Fine sand, SP
			2	0.0	Fine sand, SP
			3	0.0	Fine sand, SP
			4	0.0	Fine sand, SP
B-9	2/28/2017	11	6	0.0	Fine sand, SP
			8	0.5	Fine sand, SP
			10	0.0	Fine sand, SP
			12	0.0	Fine sand, SP
			14	43.3	Fine sand, SP
			1	0.0	Gravelly sand, SW
			2	0.0	Gravely sand, SW
			3	0.0	Gravely sand, SW
			4	0.0	Gravely sand, SW
B-10	2/28/2017	11	6	0.0	Gravely sand, SW
			8	0.0	Gravely sand, SW
			10	0.0	Gravely sand, SW
			12	0.0	Fine sand, SP
			14	0.0	Fine sand, SP
			1	0.0	Fine sand, SP
			2	0.0	Fine sand, SP
			3	0.0	Fine sand, SP
			4	0.0	Fine sand, SP
B-11	2/28/2017	11	6	0.0	Gravely sand, SW
			8	0.0	Gravely sand, SW
			10	0.0	Fine sand, SP
			12	2.2	Fine sand, SP
			14	2.3	Fine sand, SP
			1	0.0	Fine sand, SP
			2	0.0	Fine sand, SP
			3	0.0	Fine sand, SP
			4	0.0	Fine sand, SP
			6	0.0	Fine sand, SP
			8	0.0	Fine sand, SP
			10	0.0	Fine sand, SP
DW-1	2/28/17, 3/3/17	14.9	12	326	Fine sand, SP, petroleum odor
1			14	543	Fine sand, SP, petroleum odor
			16	702	Fine sand, SP, petroleum odor
1			18	11.1	Fine sand, SP
1			20	4.1	Fine sand, SP
1			25	5.0	Clay and limestone, CL
1			30	0.0	Limestone
			35	0.0	Limestone

#### Boring Log (using PID)

#### For Invoicing: Check Borehole Depth and Borehole Diameter

	1	-	,				-					-87:	14
							В	ORING LO	<b>JG</b>				
	0		1								Pa	ige Iof	f3
Bori	ng/Well	Numbe	r.		Permit	Number:			FDEP Fac	ility ID No.:			
	B	-2								42-8	73570	6	
Site	Name					Bore	shole Start	Date: 9. 6 . Date	Borehole \$	Start Time: 04	35	AM	🔽 PM 🗖
	Automol	tive Flu	id Rec	ycling, I	LLC		End	Date: 9 - 6- 201	v 1	End Time: / O	15	AM	PM 🗆
Énvi	roណ្ដំពោង	I Cont	nactor:			Geologi	ist's Name	к	-	Environme	ntal Tec	chnicia	n's Name:
	Stream	line Er	wironm	ental, I	nc.			Melissa M. Del Ma	isto		Aust	en Eve	erett
Drill	ing Com	pany:			Paveme	mt Thick	inch	ies): Iorchole I	Diameter (inche	s): Bo	rehole	Depth	(feet):
P	refeired	Drillin	ig Solut	ions	NA .	-unga	ver		l		5-	2	
Drill	ing Meth	od(s):		Apparen	nt Borehol	e DTW (i	in feet	Measured Well	DTW (in feet after	er OVA (list m	nodel a	nd chec	sk type):
	н	S A		from s	oil moistu	are conten	1): 29	water recharg	es in wall): N	A Min/R	ae 200	00	FID PID
Disp (desc	osition o	f Drill (	Cuttings multiple	(check items a	method(: ire check	a)]:	Drum	Spread	Backfill	Stock	pile		Other
Bore	hole Con	npletio	n (check	one):	Well	4	Grout	Bentonite	Backfi	п . 👟			
Sample Type	Sample Depth Interval (feet)	Sample Recovery (Inches)	SIT Blows (per six inches)	Unfiltered OVA	Filtered OVA	NetOVA	Depth (fect)	Sam (include grain size b	aple Descript ased on USCS, o other remarks)	ion dors, staining, and	USCS Symbol	Molifure Content	Lab Soil an Groundwate Samples (in sample numbe and depth or temporary serve interval)
- PH	0-1	NA	NA	-	-	0.0	1	Bar - 51	P.M. Sand		SP	٩	
PH	1-2	NA	NA	-	-	0.0	2	BRN-or 5	NO ODE	and	se	D	
HAPH	2-3	NA	NA	-	-	0.0	3	SAME	0 0.090		8	Q	
PHA	34	NA	NA	-	-	0.0	4	Sam No	.042		10	٥	
			Har	-	-		5						
ss	4-6	24/24	11	-	-	799	6	4-5= BR . 5-1 = BR# +	orm mille	- petrolistain,	512	w	6 -
SS	-			-	-		7		ur - per	hed aquiter			
55	6-8	18/24	712	-	-	1150	8	30+ + or - Mode	noted h	and day	eL	NU	
SS			- 4	-	-		9						
SS	8-10	24/24	IO N N No	-	-	1200	10	BON + Gray haul - Mod	- motile	h clay	4	P	SANDL @ 10
SS				-	-		11			_			
50	10-12	1	71		-	1027	12	sam	1 10-		co	D	

tion Division of Waste Management - Ba

tal De

#### Soil Analytical Table

(VOAs, Total Recoverable Petroleum Hydrocarbons (TRPH), & Metals)

> Review Soil Laboratory Report

Concentrations must be displayed as they are presented in the laboratory report.

Florida Department of Environmental Protection -- Petroleum Restoration Program

#### TABLE 2A: SOIL ANALYTICAL SUMMARY - VOAs, TRPHs and METALS

See notes at end of Facility ID#: 518630449 Facility Name: Sidekick Shell (former Texaco #100858 - San Miguel) table OVA Sample Laboratory Analyses Depth Sample NA OVA Ethyl-Total Chro-Borina to Benzene Toluene MTBE TRPHs Arsenic Cad-mium Lead Date Reating Well Interval benzene Xylenes mium Water Collected No. (ft) (fbls) (ppm) (ma/ka) (ma/ka) (mg/kg) (mg/kg) (mg/kg) (mg/kg) (ma/ka) (mg/kg) (mg/kg) (mg/kg) 4 163 00504 U 0.000555 U 0.000578 U 0.000703 U 0.000681 U 6.40 U NS NS NS NS 11 B-2 2/28/2017 0.000411 U 0.000452 U 0.000529 I 0.0007451 0.000555 U 11.9 V NS NS NS NS 11 B-3 2/28/2017 10 0.00034 U 0.00024 U 0.00025 U 0.00089 U 0.00067 U 5.3 I NS NS NS NS East @ 8 5/16/2022 8ftR 10 NS 0.00036 U 0.00026 U 0.00027 U 0.00094 U 0.00071 U 4.8 U NS NS NS NS South @ 5/16/2022 7ftR B-5 @ 7 10 7-8 0.00034 U 0.00024 U 0.00025 U 0.00089 U 0.00067 U 4.9 U NS NS NS NS 0 5/17/2022 8ft 0.00038 U 0.00027 U 0.00029 U 0.0010 U 0.00076 U NS 5.1 U NS NS NS B-6 @ 10 - 3 5/17/2022 3ft 0.00038 U 0.00027 U 0.00028 U 0.00099 U 0.00075 U 5.0 U NS NS NS B-7 @ 10 - 3 NS 5/17/2022 3ft B-8 @ 7 10 7-8 0.00036 U 0.00026 U 0.00027 U 0.00095 U 0.00072 U 4.9 U NS NS NS NS 5/17/2022 8ft 0.00037 U 0.00027 U 0.00028 U 0.00098 U 0.00074 U 5.2 U NS NS NS MW-14 10 144.1NS 5/17/2022 @ 1ft 0.00034 U 0.00025 U 0.00026 U 0.00090 U 0.00068 U 10 5.0 U NS NS NS 0.50 OW-2R 8 5/16/2022 @8' NA NS 0.00037 U 0.00026 U 0.00028 U 0.00097 U 0.00073 U 12 I 0.14 U 0.035 1.0 0.63 5/17/2022 IDW 0.09 340 7.5 38 eachability Based on Groundwater Criteria (mg/kg) 0.007 0.6 0.5 0.2 \* \* 1.500 130 4.400 460 82 210 400 rect Exposure Residential (mo/ko

Notes: NA = Not Available.

NS = Not Sampled

\* = Leachability value may be determined using TCLP.

Check accuracy of SCTLs

\*\* = Not a health concern for exposure scenario

U = Not detected to the level shown. I = Concentration is between the method detection limit and the practical quantitative limit.

V = Analyte equal to or above detection limit in the method blank

Calculate Benzo(a)pyrene Equivalent (BaPE) concentration if at least 1 carcinogenic PAHs is equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (no qualifier) or estimated (J,T, I qualifiers)

#### TABLE 4: SOIL ANALYTICAL SUMMARY - Carcinogenic PAHs Construction DALLS

Soil Analytical Table (Carcinogenic Polynuclear Aromatic Hydrocarbons (PAHs))

**Review Soil** Laboratory Report

Facility IE	0#: 4290	64010				Carc	inoge		HS				See notes at end of table
	Sample	э		OVA				Laboratory	Analvaes				
Boring/ Well No.	Date Collected	Depth to Water (ft)	Sample Interval (fbls)	Net OVA Reading (ppm)	Benzo (a) pyrene (mg/kg)	Benzo (a) anthra- cane (mg/kg)	Benzo (b) fluoran- thene (mg/kg)	Benzo (k) fluoran- thene (mg/kg)	Chry- sene (mg/kg)	Dibenz (a,h) anthra- cene (mg/kg)	Indeno (1,2,3-cd) pyrene (mg/kg)	Benzo (a) pyrene quivalent (mg/kg)	Comments
eachability Ba	sed on Grou	ndwater Cr	iteria (mg/i	g)	8	0.8	2.4	24	77	0.7	6.6		
Virect Exposur	e Residential	(mg/kg)			0.1	Ŧ	#	#	#	#	#	0.1	
8-20/28R	05/17/19	14	12	550	0.023U	0.019U	0.023U	0.025U	0.023U	0.020U	0.020U	0	
8-40	05/20/19	31	12	397	0.023U	0.020U	0.023U	0.026U	0.023U	0.021U	0.021U	0	
B-41	05/20/19	15	14	11700	0.026U	0.022U	0.026U	0.029U	0.026U	0.023U	0.023U	0	
88-42	05/20/19		14	0	0.021U	0.018U	0.021U	0.024U	0.021U	0.019U	0.019U	0	
	05/05/40				0.00511	0.00011	0.00011	0.0001	0.00011	0.00211	0.003		
0~43	05/20/19		14	3	0.0260	0.0220	0.0260	0.0290	0.0260	0.0230	0.0230	U	
8-44	05/20/19		14	108	0.02411	0.02011	0.02411	0.02711	0.02411	0.02211	0.02211	0	
0~44	00/20/15		14	150	0.0240	0.0200	0.0240	0.0270	0.0240	0.0220	0.0220		
Vaste	5/17/2019				0.023U	0.020U	0.023U	0.026U	0.023U	0.021U	0.021U	0	
haracterizatio	n												
8-12/27R	06/19/23				0.0019U	0.0023U	0.0018U	0.0027U	0.0033U	0.0019U	0.0027U	0	
8-11/30RR	06/19/23				0.0020U	0.0023U	0.0018U	0.0026U	0.0034U	0.0020U	0.0028U	0	
B-3R	06/19/23				0.067	0.042	0.11	0.041	0.076	0.013	0.064	0.1	
				/								(	
88-20R	06/19/23				0.0019U	0.0022U	0.0018U	0.0026U	0.0033U	0.0019U	0.0027U	0	
					0.00001	0.000.011				0.00001		-	
B-SR	06/19/23				0.00200	0.0024U	0.0032(1)	0.00280	0.00350	0.0020U	0.0028U	0	
B.7/26B	06/10/22				0.002011	0.002211	0.004911	0.002911	0.002411	0.001011	0.002811	0	
50-7723M	00/15/23				0.00200	0.00230	0.00100	0.00200	0.00340	0.00190	0.00200	0	
B-21RA	06/19/23				0.0019U	0.0022U	0.0019(1)	0.0026U	0.0033U	0.0019U	0.0026U	0	
												-	
8-21RB	06/19/23				0.0019U	0.0023U	0.0018U	0.0027U	0.0034U	0.0019U	0.0028U	0	
8-16R	06/19/23				0.0020U	0.0023U	0.0018U	0.0027U	0.0034U	0.0019U	0.0028U	0	
SB-33R	06/19/23				0.0020U	0.0024U	0.0019U	0.0028U	0.0035U	0.0020U	0.0029U	0	
re-Burn	07/26/23				0.082	0.038	0.12	0.051	0.081	0.018	0.10	0.1	
laine.	NA Net 1	allable											
VOIE5.	NA = NOLAV	anadie.											

NS - Not Sampled.

\*\* - Leachability value not applicable.

# - Direct Exposure value not applicable except as part of the Benzo(a)pyrene equivalent.

U-indicates that the compound was analyzed for but not detected.

-The reported value is between the laboratory method detection limit & the laboratory practical quantitation limit.

J=Estimated value.

### Carcinogenic PAHs (soil) in Benz(a)pyrene Equivalent Calculation

- Benzo(a)pyrene
- Benzo(a)anthracene
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Chrysene
- Dibenzo(a,h)anthracene
- Indeno(1,2,3-cd)pyrene

#### Benzo(a)Pyrene Conversion Table

#### Add Concentration from Soil Analytical Table

#### Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name:	Sharyn's Bridal Gallery
Location:	2411 S. Pine Ave, Ocala
Facility/Site ID No.:	429084010
Soil Sample No.	SB-3R
Sample Date	6/19/2023
Location:	SB-3R
Depth (ft):	2

<u>INSTRUCTIONS</u>: Calculate Total Benzo(a)pyrene Equivalents <u>if at least one of the carcinogenic PAHs is</u> <u>detected in the sample</u> at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

- 1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
- If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
- If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
- 4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
- If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Conce	entration (m	ng/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene		0.067		1.0	0.0670
Benzo(a)anthracene		0.042		0.1	0.0042
Benzo(b)fluoranthene		0.110		0.1	0.0110
Benzo(k)fluoranthene		0.041		0.01	0.0004
Chrysene		0.076		0.001	0.0001
Dibenz(a,h)anthracene	V	0.013		1.0	0.0130
Indeno(1,2,3-cd)pyrene		0.064		0.1	0.0064



Detection	Concentration Reported	Data Qualifier	Enter
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	т	reported (estimated) value
≥ MDL but < PQL	Estimated	1	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

#### Groundwater Elevation

Notes

## Check DTW (and FP as **Check Depth to Water** needed) from Field Notes **Measurements in Field**



#### TABLE 5: GROUNDWATER ELEVATION SUMMARY

Facility ID#: 4290	64010				Facility I	Name: Sh	naryn's Bri	idal Galler	У						
WELL NO.		MW-9			MW-10			MW-11			MW-12			MW-13	
DIAMETER		2 in			2 in			2 in			2 in			2 in	
WELL DEPTH		27.55 ft			34.23 ft			34.30 ft			43.30 ft			50 ft	
SCREEN INTERVAL		4.5 to 27.5			9.2 to 34.2			9.3 to 34.3			13.3 to 43.3	3		35 to 50	
TOC ELEVATION		105.90	<		103.87			100.40			101.12			104.28	
DATE	ELEV .	ртw	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP
3/26/2008	99.69	6.21	NP				<i>i</i>			T00	_				
12/2/2008	96.28	9.62	NP		not <b>For</b> I	newly i	nstalled	d wells,	check		nstalled	b			
8/31/2011	96.52	9.38	NP		Flev	ation c	alculati	ons fro	m Field	Notes	8				
7/19/2012	102.85	3.05	NP	96.59			ulouluti				0.01	NP		not installed	ł
4/15/2013	93.35	12.55	NP	89.11	well	constr	uction (	details	rom W	ell	9.01	NP			
8/4/2014	99.25	6.65	NP	94.68	Con	structio	n & De	velonm	ent Lo	n	5.70	NP			
11/7/2018	96.91	8.99	NP	92.47	1001	Structic		reiopii		9	6.43	NP			
5/29/2019	98.17	7.73	NP	93.44	10.43	NP	90.48	9.92	NP	64.08	37.04	NP	57.78	46.50	NP
5/5/2022	98.37	7.53	NP	93.04	10.83	NP	89.95	10.45	NP	64.42	36.70	NP		DRY	
7/24/2023	1.6	able to Loc	ata	Lle	abla ta Lac	ato	91.66	8.74	NP						
7/25/2023	0	Iable to Loc	ale	U	Idule (0 LOC	ale				67.46	33.66	NP	66.38	37.90	NP

### Groundwater Analytical Table – PAHs & TRPH

- Concentrations must be presented as in the laboratory report
- Check Cleanup Target Levels (CTLs)

OUNDWATER MONITORING WELL ANALYTICAL SUMMARY - PAHs and TRPHs Ind(1,2,3-cd)P, if MDLs exceed

Florida Department of Environmental Protection -- Bureau of Petroleum Storage Systems

GCTLs, check Lab PQLs & Compare with Target PQLs

For BaA, BbF, D(a,h)A, and

Facility Name:	Sharyn's	Bridal	Gallery
----------------	----------	--------	---------

Sample		TRPHs	Naph- thalene	1-Methyl- naph- thalene	2-Methyl- naph- thalene	Acen- aph- thene	Acen- aph- thylene	Anthra- cene	Benzo (g,h,i) pery- lene	Fluoran- thene	Fluor- ene	Phenan- threne	Pyrene	Benzo (a) pyrene	Benzo (a) anthra- cene	Benzo (b) fluoran- thene	Benzo (k) fluoran- thene	Chry- sene	Dibenz (a,h) anthra- cene	Indeno (1,2,3-cd) pyrene
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
GCTLs		5,000	14	28	28	20	210	2,100	210	280	280	210	210	0.2**	0.05ª	0.05ª	0.5	4.8	0.005ª	0.05ª
NADCs		50,000	140	280	280	200	2,100	21,000	2,100	2,800	2,800	2,100	2,100	20	5	5	50	480	0.5	5
MW-1	12/2/2008	200(I)	6.0	1.3	3.6	0.032(I)	0.022U	0.02U	0.012U	0.096	0.03U	0.059(I)	0.077(I)	0.032(I)	0.034(l)	0.070	0.036(I)	0.057	0.011U	0.011U
	8/31/2011	260(I)	9.1	2.8	4.8	0.048(I)	0.040(I)	0.91	0.96	2.1	0.035(I)	0.83	1.9	1.2	0.70	1.5	0.68	1.2	0.36	0.91
	7/19/2012	940	33	15	32	0.050(l)	0.023U	0.021U	0.012U	0.10	0.087(l)	0.10	0.089(I)	0.0094U	0.027(l)	0.076	0.020(I)	0.057	0.011U	0.011U
	8/6/2014	NS	1.1	0.31	0.49	0.040(I)	0.036U	0.036U	0.040U	0.051U	0.063(I)	0.039U	0.048U	0.043U	0.037U	0.059U	0.046U	0.051U	0.026U	0.037U
	11/8/2018	180(I)	0.8	1.3	0.10	0.040(l)	0.036U	0.036U	0.040U	0.051U	0.057(l)	0.040(l)	0.048U	0.043U	0.037U	0.059U	0.046U	0.051U	0.026U	0.037U
	5/4/2022	100U	0.4	0.83	0.50U	0.050U	0.050U	0.050U	0.050U	0.051U	0.057(l)	0.057(l)	0.050U	0.050U	0.050U	0.059U	0.050U	0.051U	0.052U	0.050U
	7/25/2023	530U	2.0	2.2	2.70	0.027(I)	0.030U	0.049U	0.041U	0.035U	0.041(l)	0.035(I)	0.034U	0.034U	0.039U	0.040U	0.025U	0.029U	0.049U	0.039U
MW-2R	7/19/2012	9500	200	50	100	0.21	0.022U	0.020U	0.012U	0.024(I)	0.22	0.19	0.022U	0.0092U	0.011U	0.0071U	0.017U	0.010U	0.011U	0.011U
	8/6/2014	3400	220	59	110	0.35	0.036U	0.069(I)	0.040U	0.051U	0.34	0.30	0.048U	0.043U	0.037U	0.059U	0.046U	0.051U	0.026U	0.037U
	11/8/2018	2900	100	45	68	0.38	0.036U	0.036U	0.040U	0.051U	0.29	0.080(l)	0.048U	0.043U	0.037U	0.059U	0.046U	0.051U	0.026U	0.037U
	5/4/2022	560(I)	0.050U	0.097(I)	0.10	0.050U	0.050U	0.050U	0.050U	0.051U	0.050U	0.050U	0.050U	0.050U	0.050U	0.059U	0.050U	0.051U	0.052U	0.050U
	7/25/2023	2200	31	10	16	0.13(I)	0.031U	0.051U	0.043U	0.043(I)	0.11(l)	0.077(l)	0.036U	0.035U	0.040U	0.042U	0.026U	0.030U	0.051U	0.041U

### **Carcinogenic PAHs in Groundwater**

Prior to April 17, 2005, the groundwater CTLs for four carcinogenic PAHs [Benzo(a)anthracene, Benzo(b)fluoranthene, Dibenz(a,h)anthracene, and Indeno(1,2,3-cd)pyrene] were based on the PQL, that is, "the lowest level that can be reliably measured during routine laboratory operating conditions within specified limits of precision and accuracy" [see Subsection 62-770.200(44), F.A.C.]. Since April 17, 2005, the groundwater CTLs for those four contaminants have been based on their respective toxicities. While this change is consistent with the way other CTLs were calculated, it creates a little confusion because the risk-based groundwater CTLs for those four carcinogenic PAHs are lower than their respective PQLs. However, as specified in Chapter 62-770, F.A.C. and the other cleanup rules, when the risk-based CTL is lower than the PQL, the PQL becomes the alternative CTL as long as it is the best achievable detection limit. In order to provide assistance in determining whether PQLs reported in laboratory reports are actually the best achievable detection limit for each contaminant, the FDEP prepared the document "Guidance for the Selection of Analytical Methods and for the Evaluation of Practical Quantitation Limits", dated October 12, 2004, and referenced in the cleanup rules (the document can be accessed at

Modern labs under optimal conditions.

www.dep.state.fl.us/waste/categories/wc/pages/LinksToGuidanceDocuments.htm). Table C of that document provides Target PQLs for the four carcinogenic PAHs in question as follows:

<u>Contaminant</u>	<u>GCTL</u> (µg/L)	Target PQL (µg/L)	EPA Method		
Benzo(a)anthracene	0.05	0.2	8310		
Benzo(b)fluoranthene	0.05	0.1	8310		
Dibenz(a,h)anthracene	0.005	0.2	8310		
Indeno(1,2,3-cd)pyrene	0.05	0.2	8310		

#### **Well Construction Details**

	C	heck MW Co	nstruction & D	evelopment Log	gs			
								Check Boring Logs
	Cocility Nomer			TABLE 11:	WELL CONSTRU			
	,	7850 South Pine	Avenue, Ocala, FL				42/5200414	$\checkmark$
WELL	DATE	INSTALLATION	TOP OF CASING	ABANDONED	TOTAL WELL	SCREENED	WELL	LITHOLOGY OF SCREENED INTERVAL
NO	INSTALLED	METHOD	ELEVATION	YES/NO	DEPTH (FEET)	INTERVAL (FBLS)	DIAMETER (INCHES)	
MW-1	3/22/1995	UNK	100.20	NO	35.00	25-35	2	LIMESTONE
MW-2	7/16/1996	UNK	99.91	NO	35.00	25-35	2	CLAY
MW-3	7/16/1996	UNK	100.63	NO	25.00	15-25	2	CLAY
MW-4	7/17/1996	UNK	100.26	NO	25.00	15-25	2	LIMESTONE
MW-5	7/17/1996	UNK	100.83	YES	25.00	15-25	2	LIMESTONE
MW-7	7/9/2001	UNK	99.23	NO	29.90	14.9-29.9	2	CLAY
MW-8	7/9/2001	UNK	100.03	NO	34.88	19.88-34.88	2	CLAY
MW-10	7/9/2001	UNK	99.65	NO	34.10	19.1-34.1	2	SANDY CLAY
MW-11	7/10/2001	UNK	99.53	NO	34.40	19.4-34.4	2	CLAYEY SAND
MW-12	7/10/2001	UNK	99.50	NO	31.20	16.2-31.2	2	SANDY CLAY
MW-13	11/8/2002	UNK	99.66	NO	36.70	21.37-36.37	2	CLAY
MW-14	11/7/2002	UNK	99.71	NO	30.72	15.72-30.72	2	LIMESTONE
MW-15	11/7/2002	UNK	99.66	NO	31.35	16.35-31.35	2	LIMESTONE
MW-16	11/7/2002	UNK	98.66	NO	30.85	15.85-30.85	2	CLAY
MW-17	11/7/2002	UNK	99.87	NO	30.71	15.71-30.71	2	LIMESTONE
MW-18	11/7/2002	UNK	99.72	YES	32.00	17-32	2	LIMESTONE
MW-18R	3/3/2015	H.S.A.	98.57	NO	30.00	15-30	2	CLAY OVER LIMESTONE
MW-19	11/8/2002	UNK	99.87	NO	30.36	15.36-30.36	4	LIMESTONE
MW-19R	3/8/2019	H.S.A.		NO	30.00	15-30	2	CLAY OVER LIMESTONE
MW-20	11/8/2002	UNK	99.70	CNF	30.70	15.7-30.7	2	LIMESTONE
MW-21	5/1/2003	UNK	100.35	YES	33.05	18-33	2	LIMESTONE
MW-21R	3/3/2015	H.S.A.	99.53	NO	28.00	13-28	2	CLAY OVER LIMESTONE
101100	E1110000	1.16.11.7	00.00	ON UT	05.00	00.00.05.00		LINEOTONE

#### **Free Product Summary**

Check Field Notes, water level data collected with product interface probe, photos, etc.

#### TABLE 5: FREE PRODUCT SUMMARY

LOCATION	DATE MEASURED	FP THICKNESS BEFORE FP REMOVAL (feet)	FP THICKNESS AFTER FP REMOVAL (feet)	VOLUME RECOVERED (gal)	CUMULATIVE VOLUME RECOVERED (gal)	COMMENTS
MW-1	4/5/2023	0.32	0.1	1	1	dark brown
	4/12/2023	0.29	0.1	0.8	1.8	dark brown
	4/18/2023	0.25	0.1	0.8	2.6	dark brown
	4/27/2023	0.27	0.1	1	3.6	dark brown

#### **Tables – Final Note**

Always check tables to ensure all samples have been collected that are needed for closure requirements.

Don't wait until closure to determine if additional sampling/well installation is needed.

## **Figures**

Site Location Site Plan OVA Soil Analytical GW Analytical GW Elevation Lithologic Cross Section





#### **Site Location Map**



# Site Plan

- Provide:
  - Soil Borings (SBs), Compliance Wells (CWs), and Monitoring Wells (MWs).
  - Former/current tanks.
  - Integral piping.
  - Dispensers, buildings.
  - Land cover, sidewalks.
  - Utilities.



# Site Plan

- Provide:
  - Public/private supply wells.
  - Property lines.
  - Former excavated areas.
  - Off-site potable wells and potential receptors.



### **Soil/Groundwater Plume Map**

- Provide:
  - Plumes of all contaminants exceeding CTLs.



## **Groundwater Elevation Map**

- Provide:
  - Groundwater elevations at CWs, MWs, & piezometers.
  - Elevation contours.
  - Interpretation of groundwater flow direction.



# Lithologic Cross Section

- Check:
  - Sample locations.
  - Boring Logs depth & lithology.
  - Vertical & Horizontal scale.



## **Field Notes**



## Field Notes Must Include:

- Daily Field Log.
- Boring Logs.
- Groundwater Sampling Logs.
- Calibration Logs.
- MW Construction & Development Logs.
- Documentation and Logs of any other field work performed.



## **DAILY FIELD LOG**

Must comply with PRP Field Notes Guidance -8/17/2017.

Facility Address —	> 2801 North antre Avenue wednesday
Date	Location St. Pete, Pinellas Co. FL Date 03/22/2023
Facility Name	Project (Clien Stop N Shop (pg. 10f))
Purpose of Field Event	-> Monthiy Odem -> 67 Sunny
Temperature & Weather Conditions -	EDE0 5-100 - + 52 185 5620
Facility ID	EDGE Cott: COUL 94 Takt
P.O. Number	1027 70 27. 0010 17 - 7836 77
Arrival Time	HUR PROJECT # 129191.05.31
Names of all personnel onsite	>0915: Wehicle
(missing: abbreviation of applicable	Nisson Titon (#1018). gruted store
labor category, ULT added)	Manager upon arrival.
No blank lines between entries	- SOW: Collect system readings of well data reading.
any blank area are lined through	- Hr. Readings woon arnival:
References beginning of activity	SVE: 17968.6 MS pump: 0.6 (OFF) . Sozrae: 17331.9
Cross-reference using other Forms	10:10 Collibrate pause (see severate Cal log)
to collect data	1 LOESTBERT ON Data Readings
Military Time as a m /a m	Equipment: PID to Gians Time VII Po 1030
(Missing: Standard Time Zone: EST added)	Do marker Water land latenter
(missing, standard time zone, EST added)	DO MATCH, WATCH LEVEL INDICATER,
	1040 Open all Wents,
	1045 Start well data readings. Note: All
	well date readings on seperate logs. Sent to PM
Documentation of all	for "if needed" adjustments.
significant activities	>1250 As per PM, no adjustments necessary.
	1255 End will date readings. Post Calibrate.
Den den Tim	1300 Clean up site. Hr. Readings upon departure:
Departure Time	SVE: 17971.7 ME BUMB: D. 16 (vff) SOBVAC: 17335.0
any blank area not utilized by the end	1310 HER offaile, not back to Jampa office
of the day must be lined though and	KT I CO OBOLE IS I CAMPE OTTOOL
initialized, missing, initialis (added)	Solution 7 The
Signature of Person maintaining logbook.	3/24/22 B Romal
	Trace of Aprilan

### **BORING LOG**

- Prepared for Soil borings and soil sampling; well installations regardless if OVA/lithology data is collected.
- Borehole diameter and depth must match Invoice Rate Sheet.

	Florida Department of Environmental Protection - Division of Waste Management - Bureau of Petroleum Storage Systems														
	BORING LOG														
								D	OKING LOC	,	9	p.,	es Lai		
h	Borin	 g∕Well I	Numbe			Permit	Number:			FDEP Facility	ID No.:	14	gero		
	8-2									42-8735706					
	Site N	amies					Bore	shole Start	Date: 9 - 6 - 2.516	Borehole Start	35	AM			
	A	utomot	I Cont	uid Rec	ycling, L	TC	Geologi	End	Date: 9 - 6 - 201 V	End	End Time: / O /			a's Name:	
	1	Stream	ine Er	vironm	ental, Ir	nc.	Ceange	at a repris	Melissa M. Del Masto		Chivitemata	Austen Everett			
	Drillir	ng Comp	pany: Drillin	in Solut	ions	Paveme	mt Thick	ness (inch	tes): Borchole Diam	eter (inches):	Bo	rehole Depth (feet):			
	Drillir	tg Meth	od(s):	19 00101	Apparen	t Borehol	e DTW (i	in feet	Measured Well DTW	(in feet after	OVA (list m	odel a	nd chec	ck type):	
		H	S A		from se	oil moistu	are conten	0: 28	water recharges in	WAID: NA	MiniRa	ae 200	ю	FID 🗖 PID	
	Dispo	sition of	Drill (	Cuttings	(check r	nethod(s	i):	Drum	Spread	Backfill	Stockp	ile		Other	
	(deser Boreh	ole Con	her or	multiple	one):	Well	ed): G	Grout		Backfill	. 20				
		-		. (	0	her (des	enbe)								
	San	Sam	()	(per	0 nU	File	z	Dej	Samala	Description		uso	Molifi	Lab Soil and Groundwater	
1	ipic T	ple D	et OV cred C tered tered tered ie Res ie Res				Ň	C G (include grain size based on USCS, odors, stalais				S Sy	10	sample number	
	ype	epu	() ()	ws ches)	ονα	VV	>	NG)	ethe	r remarks)		abol	onten	temporary screen	
				NA					Bar - 51 10-14	sand				and tany	
1	PH	0-7	NA.	~~	-	-	0.0		No	Pen		26	٩		
Ì	JHK	1-2	NA	NA	-	-	0.0	2	BRN-OF 55 F-M Sand				D		
10	117	2.3	NA	NA	-	-	0.0	3	Same	6.00	_				
	PH		-				0.0		No	e Den		8	ø		
41	PH	3-4	_NA _	NA	-	-	0.0	4	KOM NO EDA	4		50	٥		
				4	-	-		5		_					
	~		24/	22	-	-	200	6	4-5= BAr . 5-6	sand app	trulstain,	Sh		3 1 1	
	22	4-6	24	17	_	_	199	, ,	5-1 : BRA + Only	mullet c	07 15	a	w	. 6 *	
	SS				-	-		7		- perchee	aquiter				
	55	6-8	18	4 4		-	1150	8	30++ on - mo	the hand	day	CL	M		
H			127	1 112			400	_	Mohnut	aD a.s.		~~	2		
	33	$\sim \epsilon$		1	-	-		9			_			1 1 1	
	SS	8-10	24/24	IN Vo	-	-	1200	10	hand - Moderat	motiles a	(a)	4	P	SANDL @ 10	
N	SS				-	-		11							
	55	10-12	1	711		-	1027	12	sam	0.200		co	D		
	Sample Moistu	Type Content	ndes: P	H = Past s: D = D	Hole; H. hry; M -	A = Hand Moist;	Auger; 1 W = Wet	SS = Split : ; S = Satu	Spoon; ST = Shelby Tube; reled	DP = Direct Pus	; SC = Sonic (	Core;	DC	- Drill Cuttings /	
# GROUNDWATER SAMPLING LOG

- Check:
  - Screen interval.
  - Well Volume Purge calculation.
  - Tubing depth.
  - Stabilization readings.
  - Number of wells sampled must match Invoice Rate Sheet.

NAME: S	tone Trust. / Fl	DEP FAC ID: 5	2/9103178	, 0 00	LC	CATION: 15	701 US	Highway	19 N, Largo, FL	-		
WELL NO:	Mw-	14		SAMPLE	ID: M	W-14	(			DATE	/23	
	_				PURG	SING DA	TA					
WELL	(inches): 2	TUBING	ER /inches):	WEL	LL SCREEN	NTERVAL	S T	TATIC DI O WATEI	EPTH R (feet) W. 1		URGE PUMP T	YPE
WELL VOL	UME PURGE:	1 WELL VOL	UME = (TOT	AL WELL DEP	TH - STA	TIC DEPTH T	O WAT	ER) X	WELL CAPAC	ITY	TEPREER. TT	
(only fill out	if applicable)		= (	PLIMP VOI	feet -		fr TY 3	eet) X X TU	0.16 gall BING LENGTH	ons/foot =		gallons
(only fill out	if applicable)			= ga	allons + (	gallo	ons/foot	x	feet)	+	gallons	= gallor
INITIAL PUI DEPTH IN V	VP OR TUBING	° 6	FINAL PUN DEPTH IN	IP OR TUBING WELL (feet):	6	PURGIN	IG ED AT:	244	PURGING ENDED AT:	1301	TOTAL VO PURGED (	gallons):
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	CO (circle umbr	ND. units) us/cm	OXYGEN (circle units) (mg/) or % saturation	TURBI (NTU	DITY COLC s) (descri	R ODOR be) (describ
157	1.30	1.30	0.10	5-30	6.92	29.0	12	2	0,31	4.2	2 Cle	or none
159	0.20	1.50	040	5.23	6.92	28.9	17	18	0.30	2.9	8 1	. 1
1301	0.20	1.70	0.10	5.35	6.92	28.8	12	11	0.30	4.0	v v	
				41-0.04	1.000 - 0.0				11 - 0.05		All - 4.47	43# - 5.00
TUBING IN	SIDE DIA. CA	SPerFoot): U PACITY (Gal./F	t.): 1/8" = 0.02;	0006; 3/16"	= 0.0014;	1/4" = 0.002	26; <b>5</b>	/16" = 0.0	004; <u>3/8"</u> =	0.006; 1	/2" = 0.010;	5/8" = 0.016
PURGINGE	QUIPMENT C	ODES:B = Bail	er; BP = Blad	der Pump; ESI	P = Electric S	ubmersible P	ump; PF	P = Perist	altic Pump; 0	Other (Sp	ecify)	
SAMPLED	BY (PRINT) / A	FFILIATION: V	V&AR	SAMPLER(S)	SAMP	LING DA	ATA		SAMPLING	- 12	SAMPLI	NG 0
William Rua	ine			T1 10 11 10	il	12	Ľ	-			C ENDED	AT: 1305
DEPTH IN	TUBING WELL (feet):	6		MATERIAL C	ODE: HDPE			Filtratio	FILTERED: Y In Equipment T	ype:	FILTERS	size: µm
FIELD DEC	ONTAMINATIO	DN. PUM	P Y (N	$\overline{)}$	TUBING	Y (N (r	eplaced	$\mathbf{b}$	DUPLICATE	: Y	N	
SAME	LE CONTAINE	R SPECIFICA	TION	SAMPLE	PRESERV	ATION (includ	ling wet	ice)	INTEN	DED	SAMPLING	SAMPLE PU
SAMPLE	*	MATERIAL	VOLUME	PRESERVAT	IVE	TOTAL VOL		FINAL	ANALYSIS METH	AND/OR	T CODE	FLOW RAT
ID CODE	3	CODE	40mL	HCI/4C	ADDE	DINFIELD	(mL)	<2	BTEX *	MTBE	APP	100
MW-17	1	AG	250 mL	H2SO4				<2	PAH &	TRPH	APP	770
Print M	1	PP	250 mL	HNO3	+-			<2	Lead	(Pb)	APP	270
	2				_				-			
REMARKS	¥	5			1							
MATERIAL S = Silicone	CODES:	AG = Amber ( O = Other	Glass; CG = (Specify)	Clear Glass;	HDPE =	High Density	Polyethy	lene;	LDPE = Low D	lensity Poly	ethylene; Pl	P = Polypropyle
SAMPLING	EQUIPMENT	CODES:APP	After (Throug	gh) Peristaltic F Method (Tubin	Pump; B = Ba	ailer; BP = B	ladder P	ump; ES	P = Electric Su	bmersible f	Pump;	
RFPP = Re		and the second		THE PROPERTY AND A REPORT	PLANTER PLA							

# GROUNDWATER SAMPLING LOG

- Check:
  - Does it make sense?

HANNE: OLD	ne Petroleu	m			S	ITE DCATION:904	SE 1 <sup>et</sup> Te	errad	e, Ocala, M	arion Cour	ty FACID	428511401
WELL NO:	WW-12			SAMPLE	ID: MW-12					DATE 7-	30-2	4
					PUR	GING DAT	ΓA					
WELL		TUBIN	3	WE DE	LL SCREEN	INTERVAL	STATI	C DE	PTH 23 9	PUR	GE PUMP T	PE
WELL VOL (only fill out	(incres): 2 UME PURGE: If applicable)	1 WELL VO	LUME = (TOT	AL WELL DEF	TH - ST/	TIC DEFTING	O WATER)	X	WELL CAPACI OUL	autous/loci	- 0.6	21 mailion
EQUIPMEN (only fill out	IT VOLUME PI If applicable)	URGE: 1 EQU	IPMENT VOL	E PUMP VOI	UME + (TU	BING CAPACIT	Y X	TUB	ING LENGTH)	+ FLOW CEL	L VOLUME	= pellon
INITIAL PU DEPTH IN	MP OR TUBIN WELL (feel):	24.00	FINAL PUI DEPTH IN	VP OR TUBIN WELL (feet):	BZ4.86		3 DAT: 15	35	PURGING ENDED AT:	1536	TOTAL VOL PURGED (	
TIME	VOLUME PURGED (galions)	CUMUL VOLUME PURGED (galons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. µS/cm		DISSOLVED OXYGEN mg/L	TURBIDIT (NTUs)	Y ORP (mV)	COLOR (describe
1536	0.01	0.01	0.01	2400	6.65	2.8.9	420	)	7.9	35	14	5 clear
P	urged	day				-		-				
WELL CAP	ACITY (Galor	n Per Footi:	0.75" = 0.02.	1" = 0.04;	1.25" = 0.)	06; 2"=0.18	3: 3" = 0.	37;	4" = 0.65;	5" = 1.02;	6" = 1.47;	12" = 5.88
WELL CAP TUBING IN PURGING	ACITY (Galor ISIDE DIA, CA EQUIPMENT (	PACITY (Gal CODES: 8	0.75" = 0.02; F1.} 1/8" = 0 3 = Bailer;	1" = 0.04; 0006; 3/16 BP = Bladder	1.25" = 0.0 " = 0.0014; Pump;	06; 2" = 0,18 1/4" - 0.002 ESP = Electric	5; 3" = 0. 6; 5/16" Submorsible	37; = 0.0	4" = 0.65 04; 3/8" = 0 p; PP = P	5" = 1.02; 1.006; 1/2' eristaltic Pum	6" = 1.47; = 0.010; p: 0 = 0	12" = 5.88 5(8" = 0.016 ther (Specify)
WELL CAP TUBING IN PURGING	ACITY (Gallor ISIDE DIA, CA EQUIPMENT (	TA Per Fool : PACITY (Gal CODES: E	0.75" = 0.02; F1 } 1/8" = 0 3 = Baller;	1" = 0.04; 0006; 3/16 BP = Bladder	1.25" = 0. = 0.0014; Pump; SAMI	06; 2" = 0.16 1/4" - 0.032 ESP = Electric PLING DA	3; 3" = 0. 6; 5/16" Submensible	37; = 0.0	4" = 0.65; 04; 3/8" = 0 p; PP = P	5" = 1.02; 1.006; 1/2' aristatic Pum	6" = 1.47; = 0.010; p; 0 = 0	12" = 5.88 5/6" = 0.016 ther (Specify)
WELL CAP TUBING IN PURGING SAMPLED	ACITY (Gator ISIDE DIA, CA EQUIPMENT ( BY (PRINT) //	AFFILIATION:	0.75" = 0.02; Ft.]: 1/8" = 0 3 = Bailer;	1" = 0.04; 00006; 3/16 BP = Bindder SAMPLER(S	1.25" = 0.3 * = 0.0014; Pump: SAMI SIGNATUR	06; 2" = 0.16 1/4" = 0.032 ESP = Electric PLING DA (E(S):	5: 3" = 0. 6: 5/16" Submorsible	37; = 0.0	4" = 0.65: 04; 3/B" = 0 p; PP = P SAMPLING	5" = 1.02; 1.006; 1/2' aristatic Pum	6" = 1.47; = 0.010; p: 0 = 0 SAMPLIN ENDED /	12" = 5.88 5/8" = 0.016 ther (Specify)
WELL CAP TUBING IN PURGING SAMPLED	ACITY (Galor ISIDE DIA. CA EQUIPMENT ( BY (PRINT) / ) TUBING	AFFILIATION	0.75" = 0.02; F1 ]: 1/8" = 0 8 = Baller;	1" = 0.04; 00006; 3/16 BP = Bladder SAMPLER(S	1.25" = 0.0 " = 0.0014; Pump: SAMI SIGNATUR	2" = 0.1( 1/4" - 0.002 ESP = Electric PLING DA RE(S):	5: 3" = 0. 6: 5/16" Submorsible	37: = 0.0	4" = 0.65: 04; 3/8" = 0 p; PP = P SAMPLING INITIATED A	5" = 1.02; 1006; 1/2' aristatic Pum T:1635	6" = 1.47; = 0.010; p: 0 = 0 SAMPLIN ENDED /	12" = 5.88 5/8" = 0.016 http: (Specify)
WELL CAP TUBING IN PURGING SAMPLED DEPTH IN FIELD DEC	ACITY (Galor ISIDE DIA. CA EQUIPMENT 1 BY (PRINT) // TUBING WELL (feet):	AFFILIATION:	0.75" = 0.02; FL}: 1/8" = 0 3 = Bailer; AP N	1" = 0.04; 0006; 3/16 BP = Bladder SAMPLER(S TUBING MATERIAL (	1.25" = 0.0 * • 0.0014; Pump: SAMI SIGNATUR CODE PE	D6; 2" = 0.16 1/4" = 0.012 ESP = Electric PLING DA E(S):	3" = 0. 5: 5/16" Submorsible ATA Fil	37; = 0.0 a Pum ELD-F	4" = 0.65: 04; 3/B" = 0 p; PP = P SAMPLING INITIATED A FILTERED: DUPLICATE:	5" = 1.02; 1006; 1/2' aristaltic Pum T:1635 N	6" = 1,47; = 0.010; p: 0 = 0 SAMPLIN ENDED /	12" = 5.88 5/8" = 0.016 Rther (Specify) NG NT: 1709
WELL CAP TUBING IN PURGING SAMPLED PUMP OR DEPTH IN FIELD DEC SAMI	ACITY (Galor ISIDE DIA. CA EQUIPMENT ( BY (PRINT) / ) TUBING WELL (feet): CONTAMINATI	AFFILIATION: 24,00 ON: PUT PACITY (Gel. CODES: I AFFILIATION: DON: PUT ER SPECIFIC	0.75" = 0.02; FL]: 1/8" = 0 3 = Bailer; AP N ATION	1" = 0.04; 0006; 3/16 BP = Bladder SAMPLER(S TUBINA MATERIAL C T	1.25" = 0.0 1.25" = 0.0014; Pump: SAMI SIGNATUF CODE PE UBING SAMPLE F	14" = 0.10 14" = 0.002 ESP = Electric PLING DA RE(5): N (replaced RESERVATIO	5: 3" = 0. 6: 5/16" Submersible ATA Fil	37; = 0.0 a Pum ELD-F	4" = 0.65: 04: 3/8" = 0 9: PP = P SAMPLING INITIATED A FILTERED: DUPLICATE: INTEND	5" = 1.02; 1006; 1/2' aristatic Pum T-1635 N	6" = 1,47; = 0,010; p: 0 = 0 SAMPLIN ENDED /	12" + 5.88 5/8" = 0.016 ther (Specify) NG NT: 1709
WELL CAR TUBING IN PURGING SAMPLED PUMP OR DEPTH IN FIELD DEC SAMPLE SAMPLE	ACITY (Galor ISIDE DIA, CA EQUIPMENT ( BY (PRINT) / ) TUBING WELL (feet): 20NTAMINATI PLE CONTAIN	AFFILIATION: 24,00 N: PUI ER SPECIFIC MATERIAL	8.75" = 0.02; FL: 1/8" = 0 3 = Bailer; AP N ATION VOLUME	1" = 0.04; 0000; 3/16 BP = Bladder SAMPLER(S MATERIAL O TUBING MATERIAL O T PRESERVA	1.25" = 0.0 1.25" = 0.0014; Pump: SAMI SIGNATUP SIGNATUP CODE PE UBING SAMPLE F TIVE	14" - 0.002 14" - 0.002 ESP = Electric PLING DA E(3) N (replaced RESERVATIO TOTAL VOL	3" = 0. 6: 5/16" Submorable <b>TA</b> Fil () N FIND	37: - 0.0 - Pum ELD-F	4" = 0.65; 04; 3/B" = 0 SAMPLING INITIATED A PILTERED: DUPLICATE: INTEND ANALYSIS A METHO	5" = 1.02; 1.006; 1/2; aristaltic Pum T: 1635 N ED ND/OR EC ND/OR	6" = 1.47; = 0.010; p: 0 = 0 SAMPLING ENDED / N WMPLING DUIPMENT CODE	12" + 5.85 548 - 0.016 Wher (Specify) IG NT: 1709 SAMPLE PUM FLOW RATT
WELL CAP TUBING IN PURGING SAMPLED PUMP OR DEPTH IN FIELD DEC SAMPLE ID CODE MW-12	ACITY (Galor ISIDE DIA. CA EQUIPMENT I BY (PRINT) / ) TUBING WELL (feet): 20NTAMINATI PLE CONTAIN CONTAMINATI 3	AFFILIATION: 24.00 ON: PUI ER SPECIFIC MATERIAL CODE CG	8.75" = 0.02; FL: 1/8" = 0 3 = Baller; AP N ATION VOLUME 40 mL	1" = 0.04 0006; 3/16 BP = Bladder SAMPLER(S TUBINA MATERIAL ( T PRESERVA USED HCL	1.25" = 0.0 * = 0.0014; Pump: SAMI SIGNATUR CODE PE UBING SAMPLE F TIVE ADD	N (replaced           N (replaced           RESERVATIO           TOTAL VOL           ED IN FIELD (r	3: 3" = 0. 6: 5/16" Submonible <b>NTA</b> Fill N Fill N/	37: - 0.0 - Pum ELD-F	4" = 0.65 04: 3/6" = 0 p: PP = P SAMPLING UNITIATED A FILTERED: DUPLICATE INTEND ANALYSIS A METHO 8250-BTE	5" = 1.02: 1.006; 1/2' aristaltic Pum T:1635 N ED ND/OR EC ND/OR EC	6" = 1.47; = 0.010; p: 0 = 0 SAMPLING SAMPLING DUIPMENT CODE APP	12" + 5.88 548 - 0.016 Rther (Specify) 46 KT: 1709 FLOW RATE FLOW RATE (mL per minut M-100
WELL CAF TUBING IN PURGING SAMPLED DEPTH IN FIELD DEF SAMPLE SAMP	ACITY (Galor ISIDE DIA. CA EQUIPMENT I BY (PRINT) // TUBING WELL (feet): 20NTAMINATI 20NTAMINATI 20NTAMINATI 3	AFFELIATION: 24.00 CODES: C	8.75" = 0.02; FL: 1/8" = 0 3 = Baller: AP N ATION VOLUME 40 mL -250 mL	1" = 0.04 0006; 3/16 BP = Bladder SAMPLER(S MATERIAL C TUBINA MATERIAL C T PRESERVA USED HCL N/A	1.25" = 0.0014; ** < 0.0014; Pump: SAMI \$) SIGNATUT \$) SIGNATUT	N (replaced           N (replaced           N (replaced           N (replaced           N N (NA	8: 3"=0. 6: 5/16" Submorsible NTA Fill ) N mL Fill N//	37; = 0.0 s Pum ELD-F	4" = 0.65: 04: 3/6" = 0 p: PP = P SAMPLING UNITIATED A NILTERED: DUPLICATE: INTEND ANALYSIS A METHO 8260-BTE 8270 - P	T: 1.02: 1.006; 1/2' anistatile Pum T: 1635 N ED ND:OR EC ND:OR EC AHS	6" = 1.47; = 0.010; p: 0 = 0 SAMPLIN ENDED / N WMPLING DUIPMENT CODE APP PP	12" + 5.88 5/8" - 0.016 ther (Specify) 46 NT: 1709 SAMPLE PUM FLOW RATT (nL per minut M 00
WELL CAP TUBING IN PURGING SAMPLED DEPTH IN FIELD DEC SAMPLE ID CODE MW-12 MW-12 MW-12	ACITY (Galor ISIDE DIA. CA EQUIPMENT ( BY (PRINT) // ULBING WELL (Helt): CONTAMINATI PLE CONTAIN CONTAMINATI 91E CONTAIN 3 1	The Per Fool: PACITY (Gal. CODES: I AFFILIATION: CODE R SPECIFIC MATERIAL CODE CG AG AG AG	0.75" = 0.02; F1; 1/8" = 0 в = Bailer; AP N ATHON VOLUME 40 mL 250 mL 250 mL	1" = 0.04; 0006; 3/16 BP = Bladder SAMPLER(S MATERIAL O TUBINA MATERIAL O T PRESERVA USED HCL N/A H2SO3	1.25" = 0.0 1.25" = 0.0014; Pump: Pump: SIGNATUR SI	N (replaced N (replaced N (replaced N N/A N/A N/A	8: 3" = 0. 6: 5/16" Submensible NA Fill N N/ N/ N/	37; = 0.0 Pum ELD-F	4" = 0.65 04 3/8" = 0 SAMPLING UNITIATED A UNITIATED A UNITIATED A UNITIATED A UNITIATED A UNITIATED A METHO 8260-BTE 8270 - P FL-PRO-	1 = 1.02; 1006; 1.02; 1006; 1.02; 1006; 1.02; 1006; 1.02; 1006; 1.02; N ECO ECO ECO ECO ECO ECO ECO ECO	6" = 1.47; = 0.010; p: 0 = 0 SAMPLING ENDED / N AMPLING COOE APP PP PP	12" + 5.88 5/8" - 0.016 ther (Specify) 46 NT: 1709 SAMPLE PUM FLOW RATI (nL per minut M 00
WELL CAP TUBING IN PURGING SAMPLED DEPTH IN FIELD DEC SAMPLE ID CODE MW-12 MW-12 MW-12	ACITY (Galor ISIDE DIA, CA EQUIPMENT ( BY (PRINT) // EVEL (Geet): 20NTAMINATI PLE CONTAMINATI PLE CONTAMINATI 1	In Per Fool: PACITY (Gal. CODES: PAFFILIATION: AFFILIATION: 2.4.00 ON: PUI ER SPECIFIC CG AG AG PE	0.75" = 0.02; F1; 1/8" = 0 8 = Bailer; AP N ATTON VOLUME 40 mL -250 mL 250 mL	1" = 0.04: 0006; 3/16 BP = Bladder SAMPLEP(S TUBINS MATERIAL USED HCL N/A H2SO4	1.25" = 0.0 1.25" = 0.0014; Pump: SAMPLIS CODE: PE UBING SAMPLE F TIVE ADD	06: 2" = 0.16 14" = 0.032 ESP = Electric PLING DA ELING DA ELING DA ELIS N (replaced RESERVATIO TOTAL VOL ED IN FIELD (r N/A N/A N/A	3: 3" = 0. 6: 5/16" Submonible NTA Fill N Submonible Fill N N N N N N N N N N N N N	37; = 0.0 s Pum ELD-F AL 1 A A A A	4" = 0.65 04, 3/8" = 0 5 AMPLING INTIATED A INTIATED A INTIATED A INTERED: DUPLICATE: NETHO 8260-BTE 8270 - P FL-PRO- 8010 - L	1005;         102;           1006;         102;           1006;         102;           1006;         102;           11/2/30;         102;           11/2/30;         102;           11/2/30;         102;           11/2/30;         102;           11/2/30;         102;           11/2/30;         102;           11/2/30;         102;           11/2/30;         102; <td>N MPP PP PP PP PP PP</td> <td>12" + 5.85 \$6" - 0.016 \$6" - 0.016 \$6 \$7 \$7 \$7 \$7 \$7 \$7 \$7 \$7 \$7 \$7</td>	N MPP PP PP PP PP PP	12" + 5.85 \$6" - 0.016 \$6" - 0.016 \$6 \$7 \$7 \$7 \$7 \$7 \$7 \$7 \$7 \$7 \$7
WELL CAF TUBING IN PURGING SAMPLED DEPTH IN FIELD DEC SAMPLE ID CODE MW-12 MW-12 MW-12 MW-12 MW-12	ACITY (Sation Iside DiA, CA Equipment ( BY (PRINT) // ) TUBING WIELL (det): 20NTAMINATI 21 CONTAINA CONTAINATI 2	as Per Fool: PACITY (Gal CODES: AFFILIATION: 2 4.00 ON: PUI ER BPECIFIC CG CG AG AG AG PE CG	8.75" = 0.02; FL] 1/8" = 0 8 = Bailer; AP N ATION VOLUME 40 mL 250 mL 250 mL 250 mL	1" = 0.04: 0.0006; 3/16 BP = Bladder SAMPLER(5 NATERIAL C TUBINS MATERIAL C TUBINS MATERIAL C TUBINS MATERIAL C H2SO4	1.25" = 0.0 1.26" = 0.0014; Pump: SAMU SIGNATUP CODE: PE UBING SAMPLE F TIVE ADD	06: 2" = 0.16 14" = 0.022 ESP = Electric PLING D& RESERVATIO N (replaced RESERVATIO TOTAL VOL EDIM FIELD (r N/A N/A N/A N/A	3: 3" = 0. 6: 5/16" Submonible NTA Fill N N N N N N N N N N N N N	37; = 0.0 = Pum ELD-F AL 1 A A A A A	4" = 0.65: 04: 376" = 0 97: PP = P SAMPLING LIN/TIATED A PLUTERED: DUPLICATE: NALLYSIS A NALLYSIS A NALLYSIS A NALLYSIS A S250-BTE 825	1         1.02;           1006;         1.02;           1006;         1.02;           1006;         1.02;           1006;         1.02;           11         1.02;           12         1.02; <td>N MARPLING PP PP PP PP PP</td> <td>12" = 5.85 \$6" = 0.016 threr (Sneefly) NG NT: 1709 SAMITLE FUU FLOW RAT (mL per minu M100</td>	N MARPLING PP PP PP PP PP	12" = 5.85 \$6" = 0.016 threr (Sneefly) NG NT: 1709 SAMITLE FUU FLOW RAT (mL per minu M100

#### **Calibration Log**

Guidance for Completing the Field Instrument Calibration Log for FT 1000 of DEP-SOP-001/01 (check Math)

FIELD INSTRUMEN Project Site/FacID: Store Tr Calibrated by (Print)/Affiliation: William	nt CALIBRATION RECORDS - EX st / 52/9 mbrac/brater #	KAMPLE CALIBRATION LOG -	<b>PRP</b> Boldly "X" this bo qualified data on	x if there this page	e is e.
Temperature (Quarterly) Date of L	ast Temp Verification:7/11/2	23 See log book:			
DISSOLVED OXYGEN (DO) (REFERENCE: DEP Meter/Instrument Name and Unique ID:	SOP FT 1500) √S J = (	Acceptance Criteria +/-0.3 n	ng DO/L		12
Initials & Rate Time	Standard Temp Saturation (DO %) °C mg/L (100%)	Response DO         Deviation           6)         (%)         mg DO/L	Deviation mg DO/L	Pass o	r Fail
CALICV CCV LAL 255 751 CALICV CCV 1/ 8/1/22 753	100% 23.7 B.47	100.0 <u>8.466</u> 100.1 B-466	10-3 20-3	00	F
CAL ICV CCV 1/ML BILLOSD	100% 24.9 8.39	101.4 8.279	20.3	Ō	F
CAL ICV CCV	100%			Р	F
CAL ICV CCV	<u>100%</u>			P	F

See Table FT 1500-1 and/or Table FS 2200-2 for Dissolved Oxygen Saturation corresponding to Temperature.

# Well Construction & Development Log

- Check:
  - Borehole Depth and Diameter.
  - Well Depth.
  - Well Install Method.
  - Surface Casing Diameter, Length, and Install Method.
  - Riser and Screen Diameter.
  - Specifications must match Invoice Rate Sheet.

#### WELL CONSTRUCTION AND DEVELOPMENT LOG

		WELL CONSTRUCTION	ONDATA							
Well Number:	Site Name:		FDEP Facility I.D. Numbe	r: Well Install Date(s):						
MW-28	CIR	CLE K #2709766	11/8839708	4/5/2021						
Well Location and Type (check	appropriate boxes):	Well Purpose: 🔲 Perched Mon	itoring	Well Install Method:						
🗹 On-Site	Right-of-Way	Shallow (Wat	er-Table ) Monitoring	LICA.						
🔲 Ott-Site Private Property		Intermediate	or Deep Monitoring	H3R:						
🗌 Above Grade (AC) 🛛 🗹	Flush-to-Grade	Remodiation of	or Other (describe)	Surface Casing Install Method:						
If AC, list feet of riser above land s	urface: N/A	1		N/A						
Borehole Depth Well I	Depth Borehole I	Diameter Manhole Diameter	Well Pad Size:							
(feet): 12 (feet):	12 (inches):	8.25 (inches): 8	feet byfeet							
Riser Diameter and Material:	Riser/Screen	Firsh-Threaded	Riser Length: 2 feet							
2" SCH 40 PVC	Connections:	Other (describe)	from 0	feet to 2 feet						
Screen Diameter and Material:		Screen Slot Size:	Screen Length: 10 f	eet						
2" SCH 401	vc	0.010"	from 2	feet to <u>12</u> feet						
1 <sup>st</sup> Surface Casing Material:	N/A	l <sup>#</sup> Surface Casing I.D. (inches):	l <sup>#</sup> Surface Casing Length:	N/A feet						
also check: 🗌 Permanent	Temporary	N/A	from N/A	feet to <u>N/A</u> feet						
2 <sup>nd</sup> Surface Casing Material:	N/A	2 <sup>ad</sup> Surface Casing I.D. (inches):	2 <sup>nt</sup> Surface Casing Length:	N/A feet						
also check: 🗌 Permanent	Temporary	N/A	from N/A	feet to N/A feet						
3 <sup>rd</sup> Surface Casing Material:	N/A	3 <sup>rd</sup> Surface Casing I.D. (inches):	3 <sup>et</sup> Surface Casing Length:	N/A feet						
also check: 🔲 Permanent	Temporary	N/A	from N/A	feet to N/A feet						
Filter Pack Material and Size:	Prepacked Filter Aro	und Screen (check one):	Filter Pack Length:	11 feet						
20/30 silica	Yes	V No	from 1	feet to 12 feet						
Filter Pack Seal Material and		anies sillen	Filter Pack Seal Length:	0.5 feet						
Size:		auroo amud	from 0.5	feet to <u>1</u> feet						
Surface Seal Material:			Surface Seal Length:	0.3feet						
		cement Grout	from 0.2	feet to 0.5 feet						

		WELL DEVE	LOPMENT DATA	A
Well Development Date:	Well	Development Method (cheo	:k one): 🛛 🔽 Surga/P(	ump 🔲 Pump 📄 Compressed Air
04/05/21		Other (describe)		• • • • • •
Development Pump Type (check):	Centri	fugal 🔲 Peristaltic	Depth to Groundwater (b	before developing in feet):
🗌 Submersible 🛛 🗌 Other (describe)		-		6.00
Pumping Rate (gallons per minute):		Maximum Drawdown of 0	Groundwater During	Well Purged Dry (check one):
0.5		Development (feet):	2.15	TYes Vo
Pumping Conditio Intermittent	Total Dev Removed	elopment Water (galloos):	Development Duration (minutes): 20	Development Water Drummed (check one):
Weine American (asles and adap) A	4 Start - 61		(mana). 30	and adapt At End of Developments
water Appearance (color and odor) A	a start of 1	peveropment:	water Appearance (coto	r and outer, At that of Development:
CLOUDY BRO	WN, NO	ODOR		CLEAR, NO ODOR

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

#### **ADaPT**

#### Automated Data Processing Tool



## What is ADaPT?

ADaPT is a Microsoft Access application used by the Division of Waste Management (DWM) to evaluate analytical chemistry data from water, soil and air samples. It checks for the completeness of data using method specific Quality Control (QC) elements specified in the DWM library, and then further evaluates the data. For example, ADaPT evaluates all QC data reporting, all QC that falls outside specific QC limits, and compares all lab quality control accuracy and precision information reported in the Electronic Data Deliverable (EDD) against the criteria established in the DWM library. Further, it evaluates holding times and looks for contamination in the samples collected for field, equipment and trip blanks.

If QC problems (outliers) exist, and the laboratory has not assigned or has incorrectly assigned the appropriate qualifiers, then ADaPT will add the necessary qualifiers to the associated sample results.

#### **ADaPT Process**

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# Site Manager Receives Email from an Office of Technology and Information Services (OTIS) User

Validated: Production Repository Upload for File ADAPTPR20231103165803.csv
OTIS User <otis@dep-upms002.dep.state.fl.us> <math>\bigcirc</math> Reply All <math>\rightarrow</math> Forward <math>\checkmark</math></otis@dep-upms002.dep.state.fl.us>
To jpgbowen49@att.net; Del Masto, Melissa; prp.adapt@dep.state.fl.us; abd@dep.state.fl.us; ram.sankuratri@floridadep.gov Sat 11/4/2023 1:40 AM
(1) This sender otis@dep-upms002.dep.state.fl.us is from outside your organization.
edd_upload.log Jog File
Caution: This is an external email and may be malicious. Please take care when clicking links or opening attachments.
* An Electronic Data Deliverable (EDD) has been received by EDEP
* and loaded into REDD - Repository for Electronic Data Deliverables. *
* Data is now available for analysis and reporting
* or for upload to the program specific destination.
PRODUCTION Repository Load
Program Area: PRP
Email Contact: <u>casey.lax@floridadep.gov</u> Use 3 Links
Lab EDD File: 8516823_20231016_PRldd.txt
Field EDD File: 8516823_20231016_PRfdd.txt
3D&reserved=0[guid=11.4662372.1]
Click on the above link to download a ZIP file of the ADaPT lab EDD, lab EDD error log and field EDDs.
CTL Exceedance PHP Report: https://nam12.safelinks.protection.outlook.com/?url=https%3A%2F%2Fprodapps.dep.state.fl.us%2Fredd%2FReports%2FCompliance_Report%2FCompliance%2FPRP%
2F8516823%2F10%2F2023&data=05%7C01%7Cmdelmasto%40northstar.com%7Cae0addb850fd45a4327008dbdcf8bdb3%7C36226acbbe984ea0aa7d700781c294a9%7C1%7C0%
2F6bXEY0iighnZp6IPdZsc5ZywcD0230Rqcc41ng%3D&reserved=0
1313 VILLMAR KOUVER, VERVICE REVEALED IN COLUMN VILLEVILLEVILLEVILLEVILLEVILLEVILLEVILL
2F8516823%2F10%2F2023&data=05%7C01%7Cmdelmasto%40northstar.com%7Cae0addb850fd45a4327008dbdcf8bdb3%7C36226acbbe984ea0aa7d700781c294a9%7C1%7C0%
Data Summary Pricedomonants, protection.outlook.com/run=https://am.outlook.com/run=htttps://am.outlook.com/run=https://am.outlook.com/run=https://am.out

### **ADaPT – DEP Site Manager**

#### OCULUS - Confirm ADaPT files were uploaded.

οςι	JLUS	Search	Actions	Tools	Help	Logout			delmas	sto_
Searcl Catalog 336 docum Storage Ta	n Resu nents in 1 ca anks (336)	talog Results/Page 10 ~ Operations View	Refresh	Export to I → B_Printable F	Excel Solutions	Send Search Results	Showing Res Page(s) <b>1 <u>2</u></b>	ults 1 to : 3 4 5 6	10 7 8 9 10 Next	
	File Type	Profile	Facility-Site ID	Document Date	Received Date	2 Document Type	Document Subject	County	/ Facility Type	C
	8	Cleanup_Cleanup Reme	diation 977	01-31-2024	01-31-2024	REVIEW COMMENTS	TASK 4 - RAIR - TA#731-003F	LAKE	STCM FACILITY	П
	1	Discovery_Compliance	8509977	01-29-2024	01-29-2024	INSPECTION RELATED	ATTACHMENT - 2024/01/29, E-MAI	LAKE	STCM FACILITY	
$\circ$	1	Cleanup_Remediation	8509977	01-17-2024	01-17-2024	LAB ANALYTICAL REPORTS	8509977_20231208_PR_REDD_UPLOA	LAKE	<b>RETAIL STATION</b>	1
$\bigcirc$	₩.	Cleanup_Remediation	8509977	01-16-2024	01-16-2024	SITE ASSESSMENT RELATED	TASK 4 - RAIR - PO#C0C890	LAKE	STCM FACILITY	
$\circ \Box$		Administrative	8509977	12-29-2023	12-29-2023	FIELD WORK NOTIFICATION	TASK 2 - FIELD WORK NOTIFICATI	LAKE	STCM FACILITY	
	1	Cleanup Remediation	8509977	12-08-2023	01-16-2024	OUTGOING CORRESPONDENCE	ELECTRONIC DATA DELIVERABLE SU	LAKE	STCM FACILITY	
$\circ \Box$	ą	Cleanup_Remediation	8509977	12-08-2023	01-16-2024	LAB ANALYTICAL REPORTS	ZIPPED ADAPT FILE - 8509977_12	LAKE	STCM FACILITY	
$\circ$		Fiscal	8509977	10-17-2023	10-17-2023	WORK ORDER - TASK ASSIGNMENT F	CHANGE ORDER 6 - PO COC890	LAKE	STCM FACILITY	0
$\circ \Box$		] Fiscal	8509977	08-01-2023	08-01-2023	WORK ORDER - TASK ASSIGNMENT F	CHANGE ORDER 5 - PO COC890	LAKE	STCM FACILITY	0
$\circ$	₩.	🗋 Fiscal	8509977	07-26-2023	07-26-2023	WORK ORDER - TASK ASSIGNMENT F	CHANGE ORDER 4 - PO COC890	LAKE	STCM FACILITY	0

#### **ADaPT – DEP Site Manager**

	CTL E	Ехсі	EEC	DAN	ce R	EP	POR	Ţ					REDD
Home												Repository	or Electronic Data Deliverables
							F	acility: 8516823					Completeness
							Facility	<b>/ Name:</b> PILOT #4556					
							Rep	oort Date: 10/2023					<b>X</b> I Export
		This repo This repo	ort indicate rt assumes	es potential e s a criteria b	exceedances, any ased on Chapter	/ interp 62-777	pretation of th 7, F.A.C., val	nis data should be performed by some ues and does not consider the effect o	one exper	ienced in wate und levels at a	er quality data evaluatio a site or the data qualifie	n. ers.	
							Tes	stsite Name: IW-4					
							Sa	mple Date: 10/16/2023					
							:	Sample Time: 13:43					
							R	eport Type: SEMGW					
ANALYTE ID	ANALYTE NAME	DISSOLVED	RESULTS	QUALIFIER	FDEP QUALIFIER	UNITS	REG LEVEL	REG LEVEL SOURCE	REG UNIT	UNIT MATCH	EXCEEDANCE FACTOR	TARGET PQL	PARAMETER COMMENTS
53703	Dibenzo(a,h)anthracene		0.032	U		ug/l	0.005	Groundwater Criteria, Table I (04/17/2005)	ug/L	MATCH	6.4	0.2	
1634044	Methyl-t-butyl ether		27			ug/l	20	Groundwater Criteria, Table I (04/17/2005)	ug/L	MATCH	1.35		

#### **ADaPT – DEP Site Manager**

47

REDD

0.3 U

3.12

														Ren	pository for F	-lectronic Da	ta Deliverat
ome														КСр	USICOLY TOT E		
Facility: 8516823 Facility Name: PILO Report Date: 10/2023	T #4556 3															Con	npliance
Report Type: SEMG	W															×I	Export
		TESTSITE NAME			IW-4	IW-42	IW-44	IW-45	IW-46	MW-33R	MW-42R	MW-47	MW-48	MW-49	MW-50	MW-51	MW-52
		SAMPLE DATE			10/16/2023	10/13/2023	10/16/2023	10/16/2023	10/16/2023	10/13/2023	10/13/2023	10/13/2023	10/13/2023	10/13/2023	10/16/2023	10/16/2023	10/16/2023
ANALYTICAL METHOD	ANALYTE ID	ANALYTE NAME	MATRIX	UNITS	Results	Results	Results										
EPA 8270	90120	1-METHYLNAPHTHALENE	W	UG/L	1.3	0.31 U	3.8	2.4	1.5	1.8	0.32 U	29.6	9.2	37.4	9.5	0.61	1.2
EPA 8270	91576	2-METHYLNAPHTHALENE	W	UG/L	1.4	0.31 U	3.6	2.5	1.5	2.2	0.32 U	32.3	3	41.4	9.1	0.33 U	0.33 U
EPA 8270	83329	ACENAPHTHENE	W	UG/L	0.34 I	0.31 U	0.33 U	0.33 U	0.32 U	1.4	0.32 U	4.9	2.1	21	1.3 U	0.33 U	0.33 U
EPA 8270	208968	ACENAPHTHYLENE	W	UG/L	0.32 U	0.31 U	0.33 U	0.33 U	0.32 U	0.31 U	0.32 U	2.3	0.361	1.2 U	1.3 U	0.33 U	0.33 U
EPA 8270	120127	ANTHRACENE	W	UG/L	0.2 U	0.19 U	0.21 U	0.21 U	0.2 U	0.62	0.2 U	21.4 L	0.19 U	0.77 U	0.8 U	0.21 U	0.21 U
EPA 8260	71432	BENZENE	W	UG/L	0.31 U	0.31 U	0.31 U	0.31 U	2.1	3.5	0.31 U	15.2	12.3	4.2	5.7	1.2	1.3
EPA 8270	56553	BENZO(A)ANTHRACENE	W	UG/L	0.032 U	0.031 U	0.033 U	0.033 U	0.032 U	0.031 U	0.033 I	0.031 U	0.031 U	0.12 U	0.13 U	0.033 U	0.033 U
EPA 8270	50328	BENZO(A)PYRENE	W	UG/L	0.032 U	0.031 U	0.033 U	0.033 U	0.032 U	0.031 U	0.043 I	0.031 U	0.031 U	0.12 U	0.13 U	0.033 U	0.033 U
EPA 8270	205992	BENZO(B)FLUORANTHENE	W	UG/L	0.04 I	0.044 I	0.033 U	0.033 U	0.032 U	0.031 U	0.085	0.031 U	0.031 U	0.12 U	0.13 U	0.033 U	0.033 U
EPA 8270	191242	BENZO(G,H,I)PERYLENE	W	UG/L	0.032 U	0.031 U	0.033 U	0.033 U	0.032 U	0.031 U	0.043 I	0.031 U	0.031 U	0.12 U	0.13 U	0.033 U	0.033 U
EPA 8270	207089	BENZO(K)FLUORANTHENE	W	UG/L	0.032 U	0.031 U	0.033 U	0.033 U	0.032 U	0.031 U	0.033 I	0.031 U	0.031 U	0.12 U	0.13 U	0.033 U	0.033 U
EPA 8270	218019	CHRYSENE	W	UG/L	0.032 U	0.031 U	0.033 U	0.033 U	0.032 U	0.031 U	0.064 I	1.2	0.031 U	0.12 U	0.13 U	0.033 U	0.033 U
EPA 8270	53703	DIBENZO(A,H)ANTHRACENE	W	UG/L	0.032 U	0.031 U	0.033 U	0.033 U	0.032 U	0.031 U	0.032 U	0.031 U	0.031 U	0.12 U	0.13 U	0.033 U	0.033 U
EPA 8260	100414	ETHYLBENZENE	W	UG/L	0.36 U	0.36 U	0.451	0.36 U	0.36 U	0.61 I	0.36 U	15.2	21.9	9	3.7	0.36 U	0.36 U
EPA 8270	206440	FLUORANTHENE	W	UG/L	0.2 U	0.19 U	0.21 U	0.21 U	0.2 U	0.19 U	0.2 U	4	0.21 I	0.77 U	0.8 U	0.21 U	0.21 U
EPA 8270	86737	FLUORENE	W	UG/L	0.23 I	0.19 U	0.31	0.21 U	0.2 U	1.3	0.2 U	5.7	1.5	2.21	0.991	0.21 U	0.23
EPA 8270	193395	INDENO(1,2,3-CD)PYRENE	W	UG/L	0.032 U	0.031 U	0.033 U	0.033 U	0.032 U	0.031 U	0.047 I	0.031 U	0.031 U	0.12 U	0.13 U	0.033 U	0.033 U
EPA 8260	1634044	METHYL-T-BUTYL ETHER	W	UG/L	27	0.23 U	2.6	2.3	7.2	0.85 I	0.23 U	0.44 I	0.23 U	0.63 I	7.6	2.4	4.3
EPA 8270	91203	NAPHTHALENE	W	UG/L	1.1	0.31 U	4.8	2.2	1.3	2.1	0.32 U	40.2	15.8	39.2	16.5	3.4	5
EPA 8270	85018	PHENANTHRENE	W	UG/L	0.2 U	0.19 U	0.21 U	0.21 U	0.2 U	0.75 I	0.2 U	2.6 I	0.19 U	2.1 I	0.8 U	0.21 U	0.21 U
EPA 8270	129000	PYRENE	W	UG/L	0.2 U	0.19 U	0.21 U	0.21 U	0.2 U	0.19 U	0.2 U	11.9	0.19 U	0.77 U	0.8 U	0.21 U	0.21 U

DATA SUMMARY REPORT

TOLUENE

TOTAL RECOVERABLE PET. HYDROCARBONS

W

w

UG/L

MG/L

0.3 U

1.4

0.3 U

3.79

0.3 U

0.326

0.3 U

0.275

0.3 U

0.337

0.3 U

0.3 U

0.319

0.481

13

0.61

14.9

0.3 U

0.459

0.3 U

2.38

0.3 U

1.03

EPA 8260

FDEP FL-PRO

108883

1935

### **ADaPT – DEP Site Manager Review**

#### ADaPT indicates additional Qualifiers should have been reported

			_						1								1											
	А	В	С	D	E	F	G	н	1	J	К	L	M	N	0	Р	Q	R	S	Т	U	V	W	<u> </u>	Y	Z	AA	AB
				Wel																								
		Facilit		l_Pu	Sam		Sampl	Samp							Prese						Detec							
	Facility	l y Na	TestSite	rge	ple I		e Me	le Fil	Matr	STORET		Lab Cer	Prep Dat	Prep M	rv Int		Analysis			Qual	tion		Report T		Program	Client An		
	D	me	Name	d	D	Sample Date	thod	tered	ix	Code	Parameter	t Numb	e	ethod	act	Analysis Date	Method	Result	Units	ifier	Limit	Comments	ype	Rev	Area	alyte ID	Error	Dilution
· 2	850135		- M\\/_2	v	15850	8/9/2023 12:08	DD	N	14/	1002	Arconic	- F8/580	########	3010	v	8/17/2023 1/1-33	EPA 6010	8	ug/I		8		SEMGW		DDD	7440382		1
2	050135		MM/ 2	v	15050	0/0/2023 12:00		N	VV	1002	Cadmium	E04505		2010	v	8/17/2023 14.33	EPA 6010	1	ug/L		0		SEMCIAL			7440362		1
3	050135			T .	12020	0/9/2023 12:00	PP DD	IN N	vv	1027	Claumium	E04509		3010	T V	0/17/2023 14:33	EPA 0010	-	ug/L				SEIVIGVV		PRP	7440439		1
4	050105	Z JIN-EAU		T .	12020	0/9/2025 12:00	PP	IN N	vv	1054	Chromium	E04509	******	3010	T	6/17/2025 14:55	EPA 6010	2	ug/L		2		SEIVIGW		PKP	7440475		1
5	850135.	Z JN-EAU	IVIVV-3	Y	15850	8/9/2023 11:15	PP	N	vv	1051	Lead	E84589	*****	3010	Y	8/16/2023 11:40	EPA 6010	3	ug/L	0	3		SEIVIGW		PRP	7439921		1
6	850135	2 JN-EAU	WW-2	Y	15850	8/9/2023 12:08	PP	N	w	1051	Lead	E84589	#######	3010	Y	8/1//2023 14:33	EPA 6010	3	ug/L	U	3		SEMGW		PRP	7439921		1
																						ADaPT found the						
											4,6-Dinitro-2-	·										following						
											methylpheno											outliers;ReasonCode(S)Su						
7	850135	2 )N-EAU	MW-2	Y 1	15850	8/9/2023 12:08	PP	N	W	30204		E84589	#######	3510	Y	8/12/2023 5:36	EPA 8270	2.2	ug/L	U	2.2	rrogate Recovery.	SEMGW	JU	PRP	534521		1
											Recoverable																	
											Pet.																	
											Hydrocarbon																	
8	850135	2 DN-EAU	MW-4	Y	15850	8/9/2023 10:28	PP	N	w	31666	s	E84589	#######	FL-PRO	Y	8/16/2023 13:09	DEP FL-PR	0.52	mg/L	U	0.52		SEMGW		PRP	1935		1
											Total											ADaPT found the						
											Recoverable											following						
											Pet.											outliers;ReasonCode(S)Su						
9	850135	2 DN-EAU	MW-3	Y	15850	8/9/2023 11:15	PP	N	w	31666	Hvdrocarbon	E84589	########	FL-PRO	Y	8/15/2023 18:16	DEP FL-PR	0.55	mg/L	U	0.55	rrogate Recovery.	SEMGW	JU	PRP	1935		1
											Total											,						
											Recoverable																	
10	850135	2 DN-EAU	MW-2	Y	15850	8/9/2023 12:08	PP	N	w	31666	Pet.	E84589	#######	FL-PRO	Y	8/15/2023 18:16	DEP FL-PR	0.55	mg/L	U	0.55		SEMGW		PRP	1935		1
						-,-,					Total					-,,												-
											Recoverable																	
11	850135		MW-1	v ·	15850	8/9/2023 13:30	PP	N	w	31666	Pet	F84589	########	FL-PRO	v	8/15/2023 15.24	DEP EL-PR	0.52	mg/l	п	0.52	Estimated Result	SEMGW		PRP	1935		1
	000100.				10000	0, 5, 2025 15.50			**	31000	1.00	204000		11-110	· ·	0/10/2020 10.24	Del Te-TIN	0.52	····8/ L	•	0.52	estimated nesult	SENIO W		1.101	1000		-

# Laboratory Reports



## **Reviewing Lab Reports**

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- Read the narrative.
- Review Results, Check for Qualifiers.
- Check Quality Control (QC) Summaries & Surrogate Reports (if any issues).
- Check Consultant Report Tables for analytical results and CTLs (use Chemical Abstract System (CAS) numbers if needed).
- Check the Chain of Custody (COC) (cooler temp, correct samples collected & analysis, notes).

#### **Case Narrative**

- "Story" of the Lab Report.
- Short statement that summarizes the report, any problems encountered, the date the samples were received, Quality Assurance (QA)/QC problems, etc.
- Important because it helps identify a problem that could lead to limitations on the use of the data.

#### **Case Narrative**

#### • Example:

#### Comments

No additional comments.

#### Receipt

The samples were received on 1/13/2016 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.6° C, 2.4° C and 2.5° C.

#### GC/MS VOA

Method(s) 8260B: Surrogate recovery was outside acceptance limits for the following matrix spike/matrix spike duplicate (MS/MSD) samples: (490-95719-B-4 MS) and (490-95719-C-4 MSD). The parent sample's surrogate recovery was within limits.LCS/LCSD was within limits The MS/MSD sample has been qualified and reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D SIM: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 490-313127, 313401.

Method(s) 8270D SIM: No laboratory control sample duplicate (LCSD) was prepared for preparation batch 490-313127. There was insufficient volume for the following sample to perform a sample re-extraction; therefore, the data has been reported: MW-A (490-95706-2).

Method(s) 8270D SIM: The following sample is reported without the required LCSD due to loss of sample during re-extract: MW-1 (490-95706-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Note: Not all laboratories include narratives in their reports.

#### **Reviewing Lab Reports**



## **MDL vs PQL**



- Method Detection Limit (MDL) = an *estimate* of the minimum amount of a substance that can be reported with 99% confidence that the measured concentration is *distinguishable* from method blank results, or the minimum result that can be reliably discriminated from a blank with a predetermined confidence level. MDL is based on the analytical *method* used.
- **Practical Quantitative Limit (PQL)** = the lowest level of measurement that can be *reliably* achieved during routine laboratory operating conditions.
- Source: Chapter 62-160.120 Florida Administrative Code

## "Common" Data Qualifier Codes – Chapter 62-160 F.A.C.

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I = value is greater than or equal to the laboratory MDL but less than the Laboratory PQL.

J = Estimated value, should be accompanied by detailed explanation to justify the reason(s) for designating the value as estimated. (Examples: instances where a quality control item associated with the reported value failed to meet the established quality control criteria; matrix interference, calibrations did not meet accepted criteria, etc.).

## "Common" Data Qualifier Codes – Chapter 62-160 F.A.C.

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- Q = Sample held beyond the accepted hold time.
- U = Compound was analyzed for but not detected. The value of the qualifier should be the MDL.
- V = Analyte was detected at or above the MDL in both the sample and the associated method blank and the blank value was greater than 10% of the associated sample value.

See Chapter 62-160 F.A.C. for the complete list.

#### "L" Qualifier

#### L Qualifier: Off-scale high.

- Actual value is known to be greater than value given.
- To be used when the concentration of the analyte is above the acceptable level for quantitation (exceeds the linear range or highest calibration standard).

Source: Chapter 62-160 Quality Assurance

## "L" Qualifier - Keep looking for the final result

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			Analysis	Prep			Dilution
Parameter	Method	Results	Date	Date	Units	RL	Factor
1,2-Dichlorobenzene	8021	ND	02/07/2005 16:46		ug/kg	106	50
1,3-Dichtorobenzene	8021	ND	02/07/2005 16:46		ug/kg	106	50
1.4-Dichlorobenzene	8021	ND	02/07/2005 16:46		ug/kg	106	50
Benzene	8021	3280 LJ4	02/07/2005 16:46		ug/kg	106	50
Chlorobenzene	8021	ND	02/07/2005 16:46		ug/kg	106	50
Ethylbenzene	8021	15300 LJ4	02/07/2005 16:46		ug/kg	106	50
MTBE	8021	1040 LJ4	02/07/2005 16:46		ug/kg	106	50
o-Xylene	8021	34300 LJ4	02/07/2005 16:46		ug/kg	106	50
p.m-Xylene	8021	48200 LJ4	02/07/2005 16:46		ug/kg	211	50
Toluene	8021	37300 LJ4	02/07/2005 16:46		ug/kg	106	<mark>50</mark>
1,4-Dichlorobutane(SURR)	8021	73.7	02/07/2005 16:46		%	(72 - 117)	50
4-Bromofluorobenzene(SURR)	8021	28 J4	02/07/2005 16:46		%	(71 - 124)	50
Benzene	8021	6430	02/07/2005 17:35		ug/kg	211	100
Ethylbenzene	8021	31600 L	02/07/2005 17:35		ug/kg	211	100
МТВЕ	8021	3200	02/07/2005 17:35		ug/kg	211	100
o-Xylene	8021	79600 L	02/07/2005 17:35		ug/kg	211	100
p,m-Xylene	8021	122000 L	02/07/2005 17:35		ug/kg	423	100
Toluene	8021	<mark>71900 L</mark>	02/07/2005 17:35		ug/kg	211	<mark>100</mark>
1,4-Dichlorobutane(SURR)	8021	107 J4	02/07/2005 17:35		%	(72 - 117)	100
4-Bromofluorobenzene(SURR)	8021	52 J4	02/07/2005 17:35		%	(71 - 124)	100
Ethylbenzene	8021	58000	02/07/2005 18:24		ug/kg	2110	1000
o-Xylene	8021	158000	02/07/2005 18:24		ug/kg	2110	1000
p,m-Xylene	8021	292000	02/07/2005 18:24		ug/kg	4230	1000
Toluene	8021	135000	02/07/2005 18:24		ug/kg	2110	1000
1,4-Dichlorobutane(SURR)	8021	133 J4	02/07/2005 18:24		%	(72 - 117)	1000

#### Source: PEL Laboratories, Inc.

#### **Surrogate Recoveries**

- Surrogate Spikes: samples fortified at known concentrations with one or more compounds having similar chemical characteristics to the compounds of interest, but which are not normally found in environmental samples.
- Source: Ch. 62-160, F.A.C., Quality Assurance

Analyte	Result	Qualifier	PQL	MDL	Unit
Benzene	0.749	Ι	1.00	0.200	ug/L
Toluene	0.420	1	1.00	0.170	ug/L
Ethylbenzene	7.03		1.00	0.190	ug/L
Xylenes, Total	0.580	U	3.00	0.580	ug/L
Methyl tert-butyl ether	0.170	U	1.00	0.170	ug/L
Surrogate	%Recovery	Qualifier	Limits		
Dibromofluoromethane (Surr)	100		70 - 130		
Toluene-d8 (Surr)	112		70 - 130		
1,2-Dichloroethane-d4 (Surr)	130		70 - 130		
A-Bromofluorohenzene (Surr)	108		70 - 130		

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#### **Interpreting Surrogate Recoveries**

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 Above 100 % - Target analyte(s) concentrations may also be biased/reported high.
 Actual target analyte concentration may be lower than the reported value.

 Below 100 % - Target analyte(s) concentrations may also be suppressed or biased low.
 Actual target analyte concentration may be higher than the reported value.

#### **Interpreting Surrogate Recoveries**

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Out of range surrogate recoveries (usually +/- 30%) trigger a re-extraction or re-analysis to determine cause of the anomaly (i.e. laboratory error or matrix interference).

•

 Note: High concentrations of a target analyte can cause can result in poor surrogate recovery QC results.

#### **Matrix Interference**

- In addition to the analyte you are trying to measure, the sample may contain non-target analytes or physical/chemical characteristics of a sample that prevents the quantification of the target analyte.
- Example:
  - TRPH: Non-Target non-petroleum organic compound present in the sample that will elevate the TRPH concentration.

#### **CAS Registry Numbers**

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A unique and unambiguous identifier for a specific substance that allows clear communication and, with the help of CAS (Chemical Abstract System) scientists links together all available data and research about that substance. Governmental agencies rely on CAS Registry Numbers for substance identification in regulatory applications because they are unique, easily validated, and internationally recognized.

CAS numbers in Lab Reports can ensure correct reporting.

Source: <u>cas.org/cas-data/cas-registry</u>

## **CAS Registry Numbers**

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 Useful when trying to verify the CTLs of analytes – especially ones with multiple names (generic, historical, commercial) for instance: EDB (CAS# 106-93-4)

#### Standards and Technology (S. Department of Commerce) NIST Chemistry WebBook, SRD 69

National Institute of

Other names: α,β-Dibromoethane; sym-Dibromoethane; Aadibroom; Bromofume; Dowfume W-8; Dowfume W85; Ethylene bromide; Ethylene dibromide; EDB; Glycol Dibromide; Iscobrome D; Nefis; Sanhyuum; Soilfume; 1,2-Dibromoethane; CH2BrCH2Br; Dibromoethane; Aethylenbromid; Bromuro di etile; Celmide; DBE; 1,2-Dibromaethan; 1,2-Dibromoethane; Dibromaethan; 1,2-Dibromoethane; CH2BrCH2Br; Dibromoethane; Aethylenbromid; Bromuro di etile; Celmide; DBE; 1,2-Dibromaethan; 1,2-Dibromoethan; 1,2-Dibromoethan; 1,2-Dibromoethan; 1,2-Dibromoethan; 1,2-Dibromoethan; 1,2-Dibromoethan; 1,2-Dibromoethan; 1,2-Dibromoethan; 1,2-Dibromoethan; Dowfume 40; Dowfume edb; Dowfume W-90; Dowfume W-100; Dwubromoetan; EDB-85; E-D-Bee; ENT 15,349; 1,2-Ethylene dibromide; Fumo-gas; Kopfume; NCI-C00522; Nephis; Pestmaster edb-85; Rcra waste number U067; Soilbrom; Soilbrom-40; Soilbrom-85; Soilbrom-90; Soilbrom-100; Soilbrome-85; Soilbrom-90ec; UN 1605; Unifume; Edabrom; α,ω-Dibromoethane; 1,2-dibromoethane (EDB)

Nat'l Institute of Standards and Technology (NIST) – U.S. Dept of Commerce – NIST Chemistry WebBook, SRD 69 <u>https://webbook.nist.gov/chemistry/</u>

## CAS Numbers in Lab Reports & 62-777 CTLs



#### Lab Report

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.
Field Data	Analytica	I Method:						
Field pH	7.51	Std. Units			1		03/18/20 14:06	
Field Temperature	24.44	deg C			1		03/18/20 14:06	
Field Specific Conductance	1476	umhos/cm			1		03/18/20 14:06	
Oxygen, Dissolved	0.79	mg/L			1		03/18/20 14:06	7782-44-7
Turbidity	5.53	NTU			1		03/18/20 14:06	
FL-PRO Water, Low Volume	Analytica	I Method: FL-F	RO Prepara	tion Method	I: EPA	3510		
Petroleum Range Organics <b>Surrogates</b>	0.73 U	mg/L	0.91	0.73	1	03/19/20 20:37	03/20/20 10:38	
o-Terphenyl (S)	84	%	66-139		1	03/19/20 20:37	03/20/20 10:38	84-15-1
N-Pentatriacontane (S)	82	%	42-159		1	03/19/20 20:37	03/20/20 10:38	630-07-09
8270 MSSV PAHLV by SIM	Analytica	I Method: EPA	8270 by SIM	Preparatio	n Meth	nod: EPA 3510		
Acenaphthene	0.040 U	ug/L	0.50	0.040	1	03/20/20 09:22	03/20/20 22:01	83-32-9
Acenaphthylene	0.030 U	ug/L	0.50	0.030	1	03/20/20 09:22	03/20/20 22:01	208-96-8
Anthracene	0.043 U	ug/L	0.50	0.043	1	03/20/20 09:22	03/20/20 22:01	120-12-7
Benzo(a)anthracene	0.055 U	ug/L	0.10	0.055	1	03/20/20 09:22	03/20/20 22:01	56-55-3
Benzo(a)pyrene	0.12 U	ug/L	0.20	0.12	1	03/20/20 09:22	03/20/20 22:01	50-32-8
Benzo(b)fluoranthene	0.027 U	ug/L	0.10	0.027	1	03/20/20 09:22	03/20/20 22:01	205-99-2
Benzo(g,h,i)perylene	0.15 U	ug/L	0.50	0.15	1	03/20/20 09:22	03/20/20 22:01	191-24-2
Benzo(k)fluoranthene	0.16 U	ug/L	0.50	0.16	1	03/20/20 09:22	03/20/20 22:01	207-08-9
Chrysene	0.026 U	ug/L	0.50	0.026	1	03/20/20 09:22	03/20/20 22:01	218-01-9
Dibenz(a,h)anthracene	0.13 U	ug/L	0.15	0.13	1	03/20/20 09:22	03/20/20 22:01	53-70-3
Fluoranthene	0.018 U	ug/L	0.50	0.018	1	03/20/20 09:22	03/20/20 22:01	206-44-0

nemical	Groundwater Criteria	Freshwater Surface Water Criteria	Marine Surface Water Criteria	Groundwater of Low Yield/Poor Quality Criteria	Non-Cancer Target Organs/Syst ems or Effects	CAS	Carcinogenic
enaphthene	20	3	3	200	-Liver	83-32-9	
enaphthylene	210	-	-	2100	-Liver	208-96-8	
ephate	4	190	190	40	-Neurological	30560-19-1	-yes
etone	6300	1700	1700	63000	-Kidney -Liver - Neurological	67-64-1	
etonitrile	42	20000	20000	420	-Mortality	27522	
etophenone	700	7800	7800	7000	-None Specified	98-86-2	
ifluorfen, sodium [or Bla	1	190	190	10	-Kidney	62476-59-9	
rolein	3.5	0.4	0.4	35	-Nasal	-654840	
rylamide	0.008	0.3	0.3	0.08	-Neurological	29007	-yes
rylic acid	3500			35000	-Developmental	29135	
rylonitrile	0.06	0.2	0.2	0.6	-Nasal - Reproductive	107-13-1	-yes
achlor	2	0.5	0.5	20	-Blood	15972-60-8	-yes
dicarb [or Ternik]	7	0.9	0.9	70	-Neurological	-651437	
dicarb sulfone	7	46	46	70	-Neurological	1646-88-4	
dicarb sulfoxide	7	4.2	4.2	70	-Neurological	1646-87-3	

GCTLS

Note: Not all Lab Reports include CAS Numbers. Source: Chapter 62-777-Tech Rpt-Table1-Groundwater-CTL\_Feb 2005 [Excel]

#### When Results are "Unacceptable"

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Discuss with your Professional and Team Leader!

Possible Reasons:

- Samples analyzed out of hold time.
- Blank Contamination and sample analysis is above CTLs.

#### DEP-SOP-001/01

#### FS 1000 General Sampling Procedures

Table FS 1000-4 (Required Containers, Preservation Techniques, and Holding Times) - Applicable to all Non-Potable Water Samples (inc. wastewater, SW, and GW) Table FS 1000-5 (Approved Water & Wastewater Procedures, Containers, Preservation and Holding Times for <u>Analytes</u> Not Found in 40 CFR 136

Table FS 1000-6 (Recommended Sample Containers, Sample Volumes, Preservation Techniques & Holding Times for Residuals, Soil and Sediment Samples

 Table FS 1000-7 (Sample Handling, Preservation and Holding Time Table for SW 846 Method 5035A)

Table FS 1000-8 (Preservation Methods and Holding Times for Drinking Water Samples that Differ from 40 CFR Part 136, Table II)

COOLER TEMPS												
ANALYTE	SOIL FS 1000-6 & FS 1000-7	WATER FS 1000-4	WATER FS 1000-5	WATER FS 1000-8								
Volatile Organics Compounds	4±2°C	≤6°C	Not Listed	4°C								
Semivolatile Organics (PAHs)	<6°C	≤6°C	Not Listed	4°C								
ткрн	<6°C	Not Listed	4°C	Not Listed								
Total Metals except Mercury &		Not										
Chromium VI	None	Needed	Not Listed	Not Listed								
EDB	Not Listed	Needed	Not Listed	4°C								
Organohalide Pesticides & Commercial PCBs	NA	≤6°C	Not Listed	4°C								
Nitrate / Nitrite	<6°C	≤6°C	Not Listed	4°C								
O-Phosphate	<6°C	≤6°C	Not Listed	Listed								
Organic Carbon		<6°C	Not Listed	Listed								
Chloronated Pesticides	NA	<6°C	Not Listed	4°C								
PCBs	NA	<6°C	Not Listed	4°C								

#### https://floridadep.gov/dear/quality-assurance/content/dep-sops

# Sample COC

Address: 1055 Kathleen Rd Pro Lakeland, FL 33805 PC Phone: 800-899-1794 FD FAX: 863-648-1106 F Contact: Joel Cornwell Sampled By: Decet: DAvis S Turn Around Time: Standard Rush AEL Profile #: 65107 & SAMPLE ID SAMPLE DESCRIPTION MW-5R	oject Number: DEP Facility No: DEP Facility Addr. DEP Facility Addr. Grab Comp	15075 15075 8630449 RJ , M EQUIS SAM	9 Des Part	Richey	FL		Totai				* T :	201	338	6 *	IMBER
Lakeland, FL 33805         PC           hene:         800-899-1794         FD           AX:         863-648-1106         FD           contact         Joel Cornwell         9           sampled By:         Decel:         DAvis         s           vm: Around Time:         Standard         Rush         A           AEL Profile #:         65107         &         S           SAMPLE ID         SAMPLE DESCRIPTION         MW-5R         S	Divertier Contractions	15075 8630449 <i>RJ_N</i> EQuIS	a New Part	Ruchey	PL	REQUIRED	Total	1			* 1 2	201	338	0 ~	IMBE
hene: 800-899-1794 FC AX: 863-648-1106 F contact Joel Cornwell 9 tampled By: Decele DAvis s um Around Time: Standard Rush AEL Profile # 65107 & SAMPLE ID SAMPLE DESCRIPTION MW-5R	DEP Facility No. DEP Facility Addr. IoII Little pecial Instructions DEP Grab Comp	EQUIS	es part	Ruchey	PL	REQUIRE	Total	1							2
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AEL Profile # 65107 & SAMPLE DESCRIPTION MW-5R	Grab Comp	EQuIS				AALY	X)	X) SSIM S010 S010			TOP				
SAMPLE ID SAMPLE DESCRIPTION MW-5R	Grab Comp	SAM	ADaPT EQuis Other				8260 BTE	8270	FLP	Pp-6	1				ORA
MW-5R	Comp	The sale	PLING	MATRIX	NO.	Preservation Field-	H	5	5	N		1	14000		ABC
1000-51		That	IME	1	1	Filtered?	X	X	X	X		1			m
NANA/ E	-	7/4/25	11:35	GU	6		- V	X	X	X		1	-		007
WW-6	-	7/15/20	12:25	GW	9		X	X	X	X				1	002
MWV-6R	-	11412	12.50	60	6			~ V	~ V	×			-		00
MW-9		7/15/20	13:35	GW	6		X	X	X	X	-		-	-	004
MW-11	Sec	115/24	13:08	GU	6		X	X	X	X	1	-		1	005
MW-12		715/6	14:07	GW	6		X	X	X	X					006
OW-1		7/14/20	14:00	GW	6		X	Х	Х	X	1.5	2.3		1.21	007
OW-3		7/15/20	11.03	Gw	4		X	Х	X	Х		1		1.	008
OW-4	0151	7/14/20	14:44	Gw	6		X	Х	Х	X	12	1	22.2		007
PZ-1	-	17/15/100	12:35	Gui	6		X	X	X	X	1.0	(0)	10.0	100	010

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# Report Text



# **Text Must Include:**

- B. A summary of work performed, sampling results, conclusions based on data collected and recommendations for modifications of subsequent tasks, including, as applicable: a description of any changes in land use, efforts made to locate missing wells, description of methods used to identify IDW and disposal, and any other relevant information related to the field activities and resultant data;
- C. For TSAR only, summary of work shall also include: estimated costs with breakdown to achieve closure by RMO 1 and RMO 2;
- D. If applicable, a recommendation and justification for No Further Action, well abandonment and site restoration;

#### **Other Report Items May Be Required**

- Permits for well installations, soil borings, abandonment (Water Management District, City, and/or County).
- Well Completion Reports.
- Photos.
- Contaminant Mass & Other Calculations.
- Subcontractor Invoices for Reimbursable Items.
- Manifests/Weight Tickets, etc.
- Check Required Documents Tab in Schedule of Pay Items (SPI) for complete list.

### **Final Considerations**

- Always keep closure in mind when reviewing Reports, specifically Tables and Figures.
- Add additional well sampling to the next field visit (if needed) and include any well installation (if needed) during the next drilling event.
  - Groundwater grab samples can be used in lieu of well installation if only one sample is needed.
- Before approving any Task, check the Required Documents tab in the SPI to ensure all Required Documents for Invoiced Items have been submitted with the Deliverable.
- Include missing items in a Deliverable Review letter requesting items.


## **Required Documents Tab in SPI**

## Check Report for Required Documentation against submitted Invoice Rate Sheet

PAY ITEM	PAY ITEM DESCRIPTION	UNIT OF MEASURE	REQUIRED DOCUMENTATION FOR INVOICING	
1.	OFFICE ACTIVITIES			
1-1.	File Review	Per Review	Historical Summary Worksheet	
1-2.	Site Health & Safety Plan	Per Site	Complete HASP	
1-2.a.	Site Health & Safety Plan for Continued Work (no cost to FDEP)	Per Site	Complete HASP	
1-3.	Notice of Discovery of Contamination Package (Initial or TPOC)	Per Package	Complete noticing package	
1-4.	Permit Fees (actual fee only, cost to obtain permit is included in applicable pay items)	Reimbursable*	Copy of permit and receipt	
1-5.	Off-Site Property Access Agreement	Per Agreement	Copy of executed access agreement	
1-5.a.	Site Property Access Agreement for Source Property (no cost to FDEP)	Per Agreement	Copy of executed access agreement	
1-6.	Project Specific Financial Guarantee Bond (if required by FDEP)	Reimbursable*	Documentation of paid bond	
1-7.	6% Handling Fee for Cost Reimbursable Items	Reimbursable*	Approval for payment of Reimbursable Items	
2.	FIELD ACTIVITIES - GENERAL			
<b>2-1</b> .	Site Reconnaissance/Field Measurement Visit	Per Visit	Area survey table, location map, area map, site map, photo documentation and field notes	
2-2.	Receptor Survey and Exposure Pathway Identification (excludes report)	Per Survey	Receptor Survey Worksheet, DOH map and well data	
<b>2-3</b> .	Professional Land Survey subject to FDEP authorization to perform and the SPI displaying the cost not to exceed as supported by quote(s) prior to performance	Reimbursable*	Surveyor invoice and electronic and hard copy of PLS	
2-4.	Contractor Oversight for Non-Price Schedule Activities	Per Day	Field Notes	
3.	MOBILIZATION			
3-1.	Mobilization, Light Duty Vehicle (car or 1/2 ton truck) - ≤ 100 miles each way	Per Round Trip	Field notes - documenting vehicle type	
3-2.	Mobilization, Light Duty Vehicle (car or 1/2 ton truck) - > 100 miles each way	Per Round Trip	Field notes - documenting vehicle type	
3-3.	Heavy Duty/Stakebed Truck (3/4 ton +) - ≤ 100 miles each way	Per Round Trip	Field notes - documenting vehicle type	
3-4.	Heavy Duty/Stakebed Truck (3/4 ton +) - > 100 miles each way	Per Round Trip	Field notes - documenting vehicle type	
3-5.	Work Trailer - ≤ 100 miles each way	Per Round Trip	Field notes - documenting vehicle type	
3-6.	Work Trailer - > 100 miles each way	Per Round Trip	Field notes - documenting vehicle type	
< >	RFC Invoice Invoice Instructions Subcontractor Utilization Form Required Documents Release of Claims + :			



## **THANK YOU**

## Melissa M. Del Masto

Contact Information: 813-684-4400 ext. 4813 mdelmasto@northstar.com