

# veriDART™: Quick Start Training Guide for Survey Project Plans



January 2021

v2

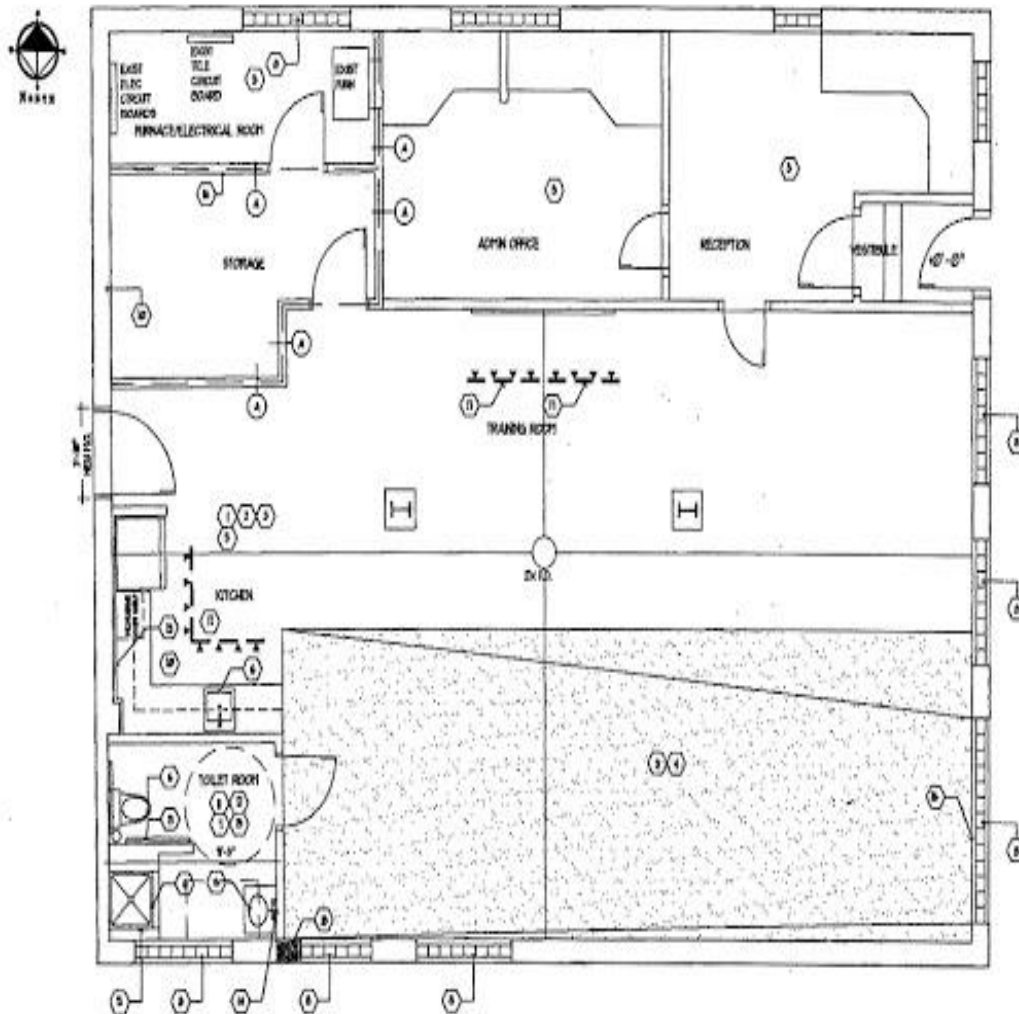


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## 1. Create the Project Plan for a Survey Test

### Obtain the Facility Map



### Describe the Scenario

#### Definitions

**Scenario:** The test conditions.

(Ex., Normal HVAC Settings, Changed HVAC Settings, With HEPA-Filter, W/O HEPA-Filter, etc.)

## Use the Facility Map to Select and Pinpoint 8 Origin Points

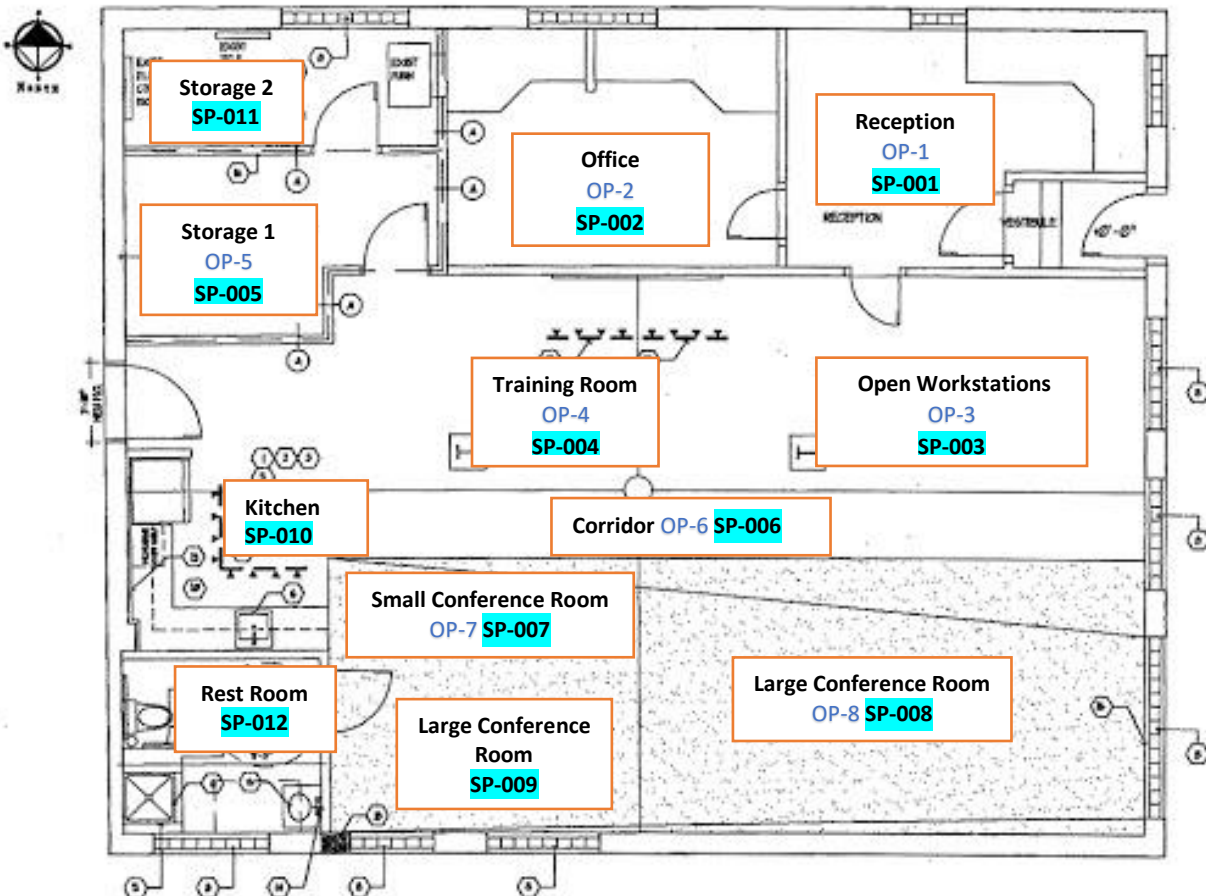
### Definitions

**Origin Point:** The location that the Tag solution is released.  
(OP-1 to OP-8)

## Use the Facility Map to Select and Pinpoint 12 Sample Points

### Definitions

**Sample Point:** The location where the air sampler pump collects the sample.  
(SP-001 to SP-012)



## Create the Project Plan Overview

### Definitions

**Origin Point Tag:** The unique DNA Sequence released at each Origin Point.

Tags (A1-A8; B1-B8, C1-C8) are typically used in multiples of eight.

**Intervals:** The number of samples taken at a Sample Point.

**Sample Number:** The unique number assigned to each sample.

1. **What is the test name?** Survey
2. **What is the Test Number?** 1
3. **How many Scenario(s)?** 1
4. **What is the Scenario?** Baseline, normal HVAC settings, test to determine air migration pattern(s) within the facility.
5. **How many Origin Points in the plan? (8)** OP-1, OP-2, OP-3, OP-4, OP-5, OP-6, OP-7, OP-8
6. **What Origin Point Tags will be used? (A1-A8)** A1, A2, A3, A4, A5, A6, A7, A8
7. **How many Sample Points in the plan? (12)** SP-001, SP-002, SP-003, SP-004, SP-005, SP-006, SP-007, SP-008, SP-009, SP-010, SP-011, SP-012
8. **How many Intervals at each Sample Point?** 1
9. **What is the Interval Duration in minutes?** 30
10. **What is the total number of samples in the plan?** 12
11. **What are the Sample Numbers?** SN-001, SN-002, SN-003, SN-004, SN-005, SN-006, SN-007, SN-008, SN-009, SN-010, SN-011, SN-012

## Document Project Plan Overview

Test Name <sup>1</sup>	Test Number <sup>2</sup>	Scenarios <sup>3</sup>	OP Count <sup>5</sup>	OP Tag <sup>6</sup>	Tag Lot Number(s)
Survey	1	1	8	A1-A8	See Tag Label
SP Count <sup>7</sup>	Interval Count <sup>8</sup>	Interval Duration <sup>9</sup>	Sample Count <sup>10</sup>	Sample Number Starts <sup>11</sup>	Sample Number Ends <sup>11</sup>
12	1	30 min	12	SN-001	SN-012

**Test #1 Scenario and OP Information**

Scenario	OP**	OP Name	OP Tag	Tag Lot #
1	OP-1	Reception	A1	See Tag Label
1	OP-2	Office	A2	See Tag Label
1	OP-3	Open Workstations	A3	See Tag Label
1	OP-4	Training Room	A4	See Tag Label
1	OP-5	Storage 1	A5	See Tag Label
1	OP-6	Corridor	A6	See Tag Label
1	OP-7	Small Conference Room	A7	See Tag Label
1	OP-8	Large Conference Room (Back)	A8	See Tag Label

**Test #1 Scenario and SP Information**

Airflow L/min	SP Count	Interval Count (I)	Samples Count	Interval Duration	Interval Times
2.5	12	1	12	30 min	0-30 min

Scenario	Sample Point	Sample Point Name	I1	I2	I3	I4
1	SP-001	Reception	SN-001			
1	SP-002	Office	SN-002			
1	SP-003	Open Workstations	SN-003			
1	SP-004	Training Room	SN-004			
1	SP-005	Storage 1	SN-005			
1	SP-006	Corridor	SN-006			
1	SP-007	Small Conference Room	SN-007			
1	SP-008	Large Conference Room (Back)	SN-008			
1	SP-009	Large Conference Room (Front)	SN-009			
1	SP-010	Kitchen	SN-010			
1	SP-011	Storage 2	SN-011			
1	SP-012	Men's Restroom	SN-012			

\*\*OP Tags are typically used in multiples of eight and Sample Points are typically multiples of 12 which allows 96 samples to be analyzed at one time.

## 2. Determine What Equipment is Needed to Complete the Project Plan

Equipment	Quantity
Labeled Bucko Sprayers with Tags (A1-A8) (B1, B2?)	8 (20 ml Each)
Air Sample Pumps (2.5 L/min)	12
Cassette, 25mm, 3 Piece, Clear Styrene	12
Grade A-E Glass Microfiber Filter Media 2.5 cm Diameter	12
Labels (Origin Points, Sample Points and Samples)	8OP/SP12/SN: 1-12



2.5 L/Min



Filter & Cassette



Spray Bucko with Tag-A01



OP, SP and Sample Labels

**Complete the Materials and Equipment Needs Checklist**

<b>Tagging System</b>			
<b>Item</b>	<b>Need</b>	<b>Confirmed</b>	<b>Checked By</b>
Labeled Tag Spray Bottles	A1-A8	Yes	MC
Labeled Tag Spray Bottles	B1-B2	Yes	MC
SDS	1	Yes	MC
<b>Air Sample Pumps</b>			
Air Sample Pumps	14	Yes	MC
<b>Energy Supply</b>			
AA Batteries (3 each pump)	48	Yes	MC
<b>Laboratory Materials</b>			
Filters	14	Yes	MC
Filter Cassettes	14	Yes	MC
Filter Caps (Red) and Bottoms (Blue)	14 Each	Yes	MC
Ziplock Bags for Samples (Large)	Box	Yes	MC
<b>Cleaning Supplies</b>			
Clean Gloves Large (Size Depends)	Box	Yes	MC
Chlorine Bleach Wipes	Bottle	Yes	MC
<b>Printed Materials</b>			
Clean Floor Plans	4	Yes	MC
Annotated Floor Plan	4	Yes	MC
Data Collection Form	4	Yes	MC
Materials and Equipment Checklist	1	Yes	MC
QC Checklist	1	Yes	MC
Chain of Custody Form	1	Yes	MC
Origin Point Labels	8	Yes	MC
Sample Point Labels	12	Yes	MC
Sample Number Labels	12	Yes	MC
Extra Set of OP/SP/SN Labels	1 Set Each	Yes	MC
<b>Office Supplies</b>			
Sharpies	2	Yes	MC
Pens	TBD	Yes	MC
Post-it-Notes	1 Pack	Yes	MC
Face Masks	TBD	Yes	MC
Clip Board(s)	TBD	Yes	MC



### 3. Origin Point Station Set-Up



**Labeled Bucko Sprayer with Tag Solution must be placed at each Origin Point**



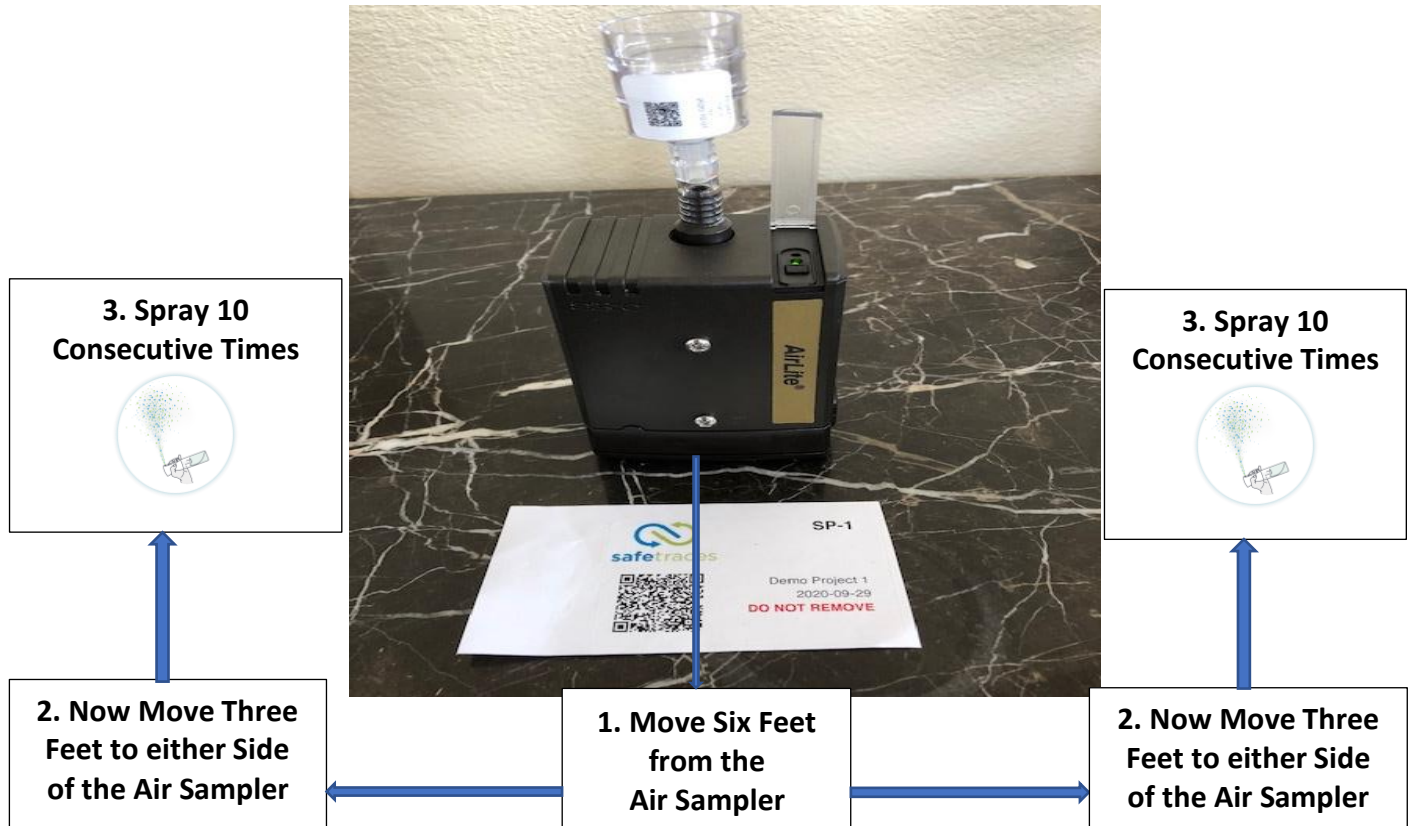
**Origin Point Station Set-Up**

## 4. Sample Point Station Set-Up for Survey Test



**Sample Point Set-Up**  
**Note: Green Light Indicator for “On”**

## 5. Tag Release Technique



### Technical Information Questions and Answers

**1. Why do we spray the tracers 10 times/OP?**

**Answer:** During development we found the signal improved over longer distances by doing this. We get a ~4 log spread over ~80' this way. It is roughly equivalent to sneezing 10x times.

**2. Why is the total release volume 10-12 ml important?**

**Answer:** This is the same as 10x trigger pulls.

**3. Why is the first Sample Point approximately 6 ft away and 3 ft to the side of the Origin Point?**

**Answer:** This is somewhat arbitrary. Helps to keep airflow from drifting over the air sampler pumps as well as preventing saturation of the filters.

**4. What is the most important consideration when determining release direction at different Origin Points?**

**Answer:** Wind direction. You should avoid drifting the cloud over the air samplers and yourself.

## 6. Sample Collection for Filter Cassettes



**Turn Air Sampler Pump Off**



**Place Cassette Top on Sample Cassette**



**Plug the top cap with the Red Plug and bottom with the Blue Plug**



## Complete the QC Checklist

**Project Name: Survey Test**

**Facility Name: Davis Office**

**Address: 123 - 4<sup>th</sup> St. Anyplace, CA 12345**

**Date of Samples: Jan. 4<sup>th</sup>, 2021**

**Total Number of Samples: 12**

**Completed by (Print): Steve Johnson**

**Send Copy with COC and Samples**

Compare and verify sample quantity, locations, labels and integrity at each Sample Point.

Sample Point	Sample Number	Sample Point Location	Sampled By	Verified By	Comments
SP-001	SN-001	Reception	VE	SJ	
SP-002	SN-002	Office	VE	SJ	
SP-003	SN-003	Open Workstations	VE	SJ	
SP-004	SN-004	Training Room	VE	SJ	No Filter
SP-005	SN-005	Storage 1	LC	SJ	
SP-006	SN-006	Corridor	LC	SJ	
SP-007	SN-007	Small Conference Room	LC	SJ	
SP-008	SN-008	Large Conference Room (Back)	LC	SJ	Pump Stopped
SP-009	SN-009	Large Conference Room (Front)	DH	SJ	
SP-010	SN-010	Kitchen	DH	SJ	
SP-011	SN-011	Storage 2	DH	SJ	No Label
SP-012	SN-012	Men's Restroom	DH	SJ	Label Illegible



### Complete the Chain of Custody

Ship To: SGS Laboratory

Attn: Laboratory

Shipped By: UPS, Fed-Ex, USPS, Other:

Shipping/Tracking Number:

Phone:

Lab Contact: TBD

QC Checklist Attached: Yes

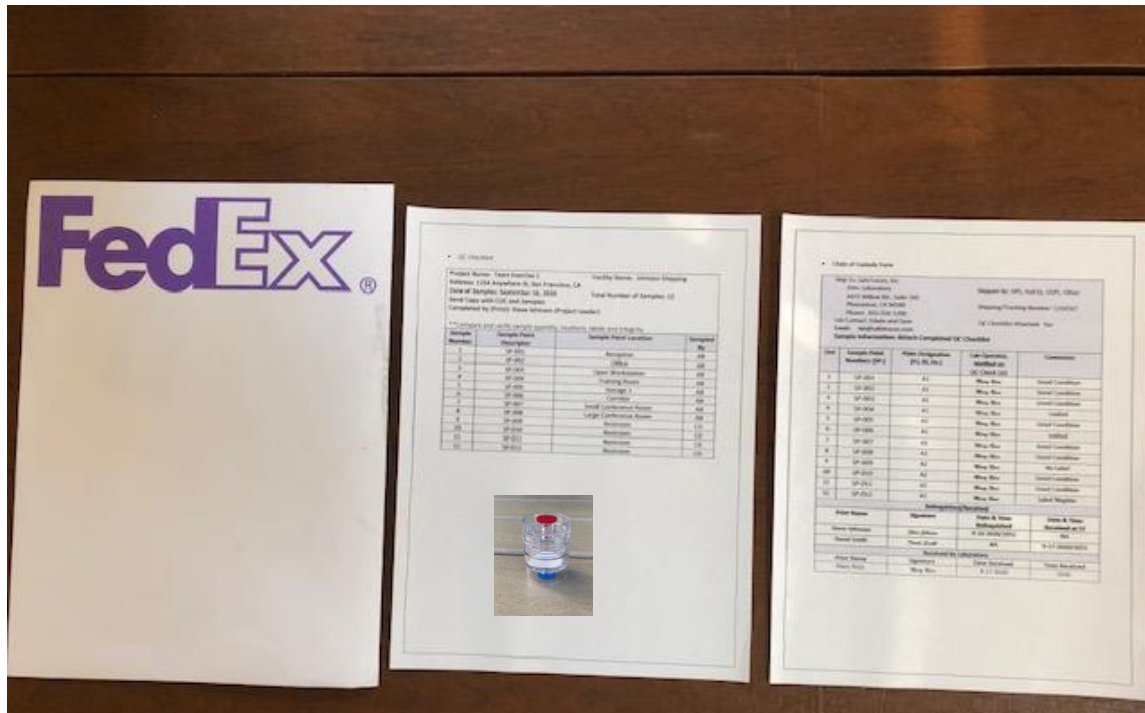
Email:

**Sample Information: Attach Completed QC Checklist**

Line	Sample Number	Plate Designation (A, B, Etc.)	QC Check List Verifier	Comments
1	SN-001	A	SJ	
2	SN-002	A	SJ	
3	SN-003	A	SJ	
4	SN-004	A	SJ	No Filter
5	SN-005	A	SJ	
6	SN-006	A	SJ	
7	SN-007	A	SJ	
8	SN-008	A	SJ	Pump Stopped
9	SN-009	A	SJ	
10	SN-010	A	SJ	
11	SN-011	A	SJ	No Label
12	SN-012	A	SJ	Label Illegible

Relinquished/Received at SafeTraces By			
Print Name	Signature	Date & Time Relinquished	Date & Time Received
Steve Johnson	Steve Johnson	1-4-2021 @ 1645	NA
Cindy Hayes	Cindy Hayes	NA	1-5-2021 @ 1218
Received at Laboratory By			
Print Name	Signature	Date Received	Time Received
Mary Stevens	Mary Stevens	1-5-2021	1300

## 7. Shipping Samples



- 1. Correct Address Label on Envelope**
- 2. Completed Copy of QC Checklist in Envelope**
- 3. Completed Copy of Chain of Custody in Envelope**
- 4. Samples and Data Collection Information in Envelope**