

App E-  
Sub-Area 5.3- COC Forms

Page: \_\_\_\_\_ of \_\_\_\_\_  
 Project #:  
 GEL Quote #:  
 COC Number (1):  
 PO Number:

## GEL Chain of Custody and Analytical Request

\*\*See www.gel.com for GEL's Sample Acceptance SOP\*\*

GEL Laboratories, LLC  
 2040 Savage Road  
 Charleston, SC 29407  
 Phone: (843) 556-8171  
 Fax: (843) 766-1178

GEL Work Order Number:

Client Name: \_\_\_\_\_ Phone #: \_\_\_\_\_

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Project/Site Name: \_\_\_\_\_ Fax #: \_\_\_\_\_

Should this sample be considered

--- Preservative Type (6)

Address:

Collected by: \_\_\_\_\_ Send Results To: \_\_\_\_\_

Comments  
 Note: extra sample is required for sample specific QC

Sample ID <small>* For composites - indicate start and stop date/time</small>	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hh:mm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	TSC A Regulated	Rad active	ber of												
S.2.B.R.8.1	12/11/15																			
S.2.B.R.8.2	12/11/15																			
S.3.A.R.2.1	12/11/15																			
S.3.A.R.2.2	12/11/15																			
S.3.A.R.3.1	12/11/15																			
S.3.A.R.3.2	12/11/15																			
S.3.A.R.4.1	12/11/15																			
S.3.A.R.4.2	12/11/15																			
S.3.A.R.4.5	12/11/15																			

TAT Requested: Normal: \_\_\_\_\_ Rush: \_\_\_\_\_ Specify: \_\_\_\_\_ (Subject to Surchage) Fax Results: Yes / No

Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone

Eastern Pacific  
 Central Other \_\_\_\_\_  
 Mountain

### Chain of Custody Signatures

### Sample Shipping and Delivery Details

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1			1		
2			2		
3			3		

GEL PM:

Method of Shipment:

Date Shipped

Airbill #:

Airbill #:

1.) Chain of Custody Number - Client Determined

2.) QC Codes: N = Normal Sample, TB = Trip Blank, FB = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MYS = Matrix Spike Duplicate Sample, G = Grab, C = Composite

3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or - N - for sample was not field filtered

4.) Matrix Codes: DW = Drinking Water, GW = Groundwater, SW = Surface Water, WW = Waste Water, W = Water, ML = Misc Liquid, SO = Soil, SD = Sediment, SL = Sludge, SS = Solid Waste, O = Oil, F = Filter, P = Wipe, U = Urine, F = Fecal, N = Nails

5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010M/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010M/7470A - 1)

6.) Preservative Type: HA = Hydrochloric Acid, NA = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only

Custody Seal Intact?

YES NO

Cooler Temp

C

WHITE = LABORATORY

YELLOW = FILE

PINK = CLIENT

Page: \_\_\_\_\_ of \_\_\_\_\_  
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## GEL Chain of Custody and Analytical Request

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TAT Requested: Normal: Rush: Specify: (Subject to Surcharges) Fax Results: Yes / No Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
Eastern Pacific
Central Other _____
Mountain

Chain of Custody Signatures				Sample Shipping and Delivery Details	
Requested By (Signed)	Date	Time	Received by (signed)	Date	Time
1			1		
2			2		
3			3		

- 1) Chain of Custody Number - Client Determined
- 2) QC Codes: N - Normal Sample, TB - Trip Blank, ED - Field Duplicate, EB - Equipment Blank, MS - Matrix Spike Sample, MSD - Matrix Spike Duplicate Sample, IG - Grab, C - Composite
- 3) Field Filtered - For liquid matrices, indicate with a Y - for yes the sample was field filtered or - N - for sample was not field filtered
- 4) Matrix Codes: DW - Drinking Water, GW - Groundwater, SW - Surface Water, WW - Waste Water, W - Water, ML - Miscellaneous, SO - Soil, SD - Sediment, SL - Sludge, SS - Solid Waste, O - Oil, F - Filter, P - Wipe, U - Urine, F - Fecal, N - N/A
- 5) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1)
- 6) Preservative Type: HA - Hydrochloric Acid, NI - Nitric Acid, SH - Sodium Hydroxide, SA - Sulfuric Acid, AA - Ascorbic Acid, HX - Hexane, ST - Sodium Thiosulfate, If no preservative is added = leave field blank

*For Lab Receiving Use Only*

Custody Seal Intact?
YES      NO
Cauler Temp.
C.

WHITE = LABORATORY      YELLOW = FILE      PINK = CLIENT

App E –  
Sub-Area 5.3 - Field Survey Checklists

The MJW Companies  
GPS Field Survey Checklist

The following field survey checklist is used once the survey team has walked to the location that they will begin a GPS survey. This checklist is intended to verify none of the cables or settings changed or cables came loose between the initial setup location and the field survey location. Complete step 9 once the current walkover segment is complete

1. AB Verify the Ludlum Meter is in Rate mode
2. AB Verify that the Ludlum Meter is alternating display of "DUP" and "Value"
3. AB Set Menu 1 to "Status" and Menu 2 to "Receiver"
4. AB Verify that Antenna states "External"
5. AB Set Menu 1 to "Data"
6. AB Name a file to start the current survey and start the data logger

Filename: 12 15 15 5 - 3 b

7. AB Set Menu 1 to "Status" and Menu 2 to "Sensor" 12 15 15 5 3 a 12 15 15 5 4 a
8. AB Verify that the sensor field is reading the same as the display on the Ludlum
9. AB When finished, set Menu 1 to "Data" and close the current file.

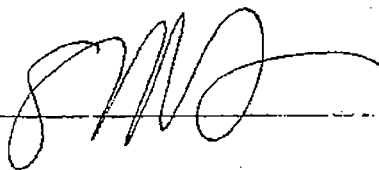
Name: J. H. Ba

Date: 12/15/15

The MJW Companies  
GPS Initial Setup Checklist

1.  Complete source check of Ludlum Meter
2.  Power off Ludlum Meter
3.  Verify Trimble is shutdown (not in suspend mode)
4.  Connect the Serial Interface Adapter (SIA) to the Trimble Unit
5.  Connect the Serial cable to the Ludlum Meter
6.  Connect the Serial cable to the Trimble SIA
7.  Connect external GPS antenna cable to the Trimble
8.  Power on Ludlum Meter to Rate mode
9.  Verify that the Ludlum Meter is alternating display of "DUP" and "Value"
10.  Power on the Trimble and wait for it to completely boot
11.  Launch TerraSync and wait for it to load and acquire satellites
12.  Set Menu 1 to "Status" and Menu 2 to "Receiver"
13.  Verify that Antenna states "External"
14.  Set Menu 1 to "Data"
15.  Name a test file and start the data logger
16.  Set Menu 1 to "Status" and Menu 2 to "Sensor"
17.  Verify that the sensor field is reading the same as the display on the Ludlum
18.  Set Menu 1 to "Data" and close the current file.

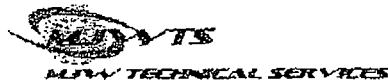
Name: \_\_\_\_\_



Date: \_\_\_\_\_

12.15.15  
8:21am

App E –  
Sub-Area 5.3 - Sample Data Sheets



**SAMPLE LOCATION DATA SHEET**

Date: 12/15/15 Project: MSERDA Name: J. Brown

Weather: windy, rainy, upper 40's

**1. Sample Area (SA):**

SA Designation: S.3.A Description: Wooded lot  
 SA Origin Location: \_\_\_\_\_ Coord. System: \_\_\_\_\_  
 SA Land Mark Description: \_\_\_\_\_ Coord: \_\_\_\_\_

**2. Sample Location Data:**

Sample Area ID: S.3.A.R.1 Matrix: Soil  
 Location Coord: 42° 31' 2.15" N 78° 58' 32.35" W

Alternate Location Measurements (distance from SA origin and Local Coord.)  
 X Dist. from Origin (0,0) \_\_\_\_\_ Y Dist. from Origin: \_\_\_\_\_

Site Sketch Attached (Yes)  (NO)

Sample Location Description: flat ground next to path, some trees, dead leaves (cleared)

Canopy Type: partially open Land Use: hiking, etc Soil Moisture (Wet, dry, etc.): dry

**3. Location Radiation Readings:**

Count time (min)	2x2 NaI (cpm)		Bicron (uRem/hr)		Notes
	1 cm	1m	1 cm	1m	
	8891	8735	6	5	Bicron Micro Rem #1487 cal due 6/18/16
	8947	8493			Ludlum 2241-2 #206098 with probe 44-10# PR112642 cal due 9/1/16

**4. Sample Information:**

Sample Area ID: S.3.A.R.1.1-6

**Description by Depth:**

Depth Interval (cm)	Soil Type (Org; clay; sand, etc.)	Soil Color	Sample ID	Sampling Description (Surface litter type/depth, sample depth retention, refusal, stone or rock, topography, erosion features)
0-5	topsoil	dk. brown	S.3.A.R.1.1	few roots
15-30	topsoil	brown	S.3.A.R.1.2	some roots
30-60	topsoil	lt. brown	S.3.A.R.1.3	some roots
60-100	topsoil/sand	lt. brown	S.3.A.R.1.4	heavy roots / rocks
0-15	topsoil	dk. brown	S.3.A.R.1.5	few roots
60-100	topsoil/sand	lt. brown	S.3.A.R.1.6	heavy roots / rocks

Sample Recorded on Laboratory COC form and Container Labeled:  (Y)  (N)



**SAMPLE LOCATION DATA SHEET**

Date: 12/11/15 Project: NUSERDA Name: J. Brown

Weather: Sunny, low 60's!

**1. Sample Area (SA):**

SA Designation: S.3.A Description: Wooded lot  
 SA Origin Location: \_\_\_\_\_ Coord. System: \_\_\_\_\_  
 SA Land Mark Description: \_\_\_\_\_ Coord: \_\_\_\_\_

**2. Sample Location Data:**

Sample Area ID: S.3.A.R.2 Matrix: Soil  
 Location Coord: 42° 31' 1.73" N 78° 58' 32.13" W

Alternate Location Measurements (distance from SA origin and Local Coord.)  
 X Dist. from Origin (0,0) \_\_\_\_\_ Y Dist. from Origin: \_\_\_\_\_

Site Sketch Attached (Yes)  (NO)

Sample Location Description: flat ground, some trees, dead leaves (cleared)

Canopy Type: partially open Land Use: hiking etc. Soil Moisture (Wet, dry, etc.): slightly damp

**3. Location Radiation Readings:**

Count time (min)	2x2 NaI (cpm)		Bicron (uRem/hr)		Notes
	1 cm	1m	1 cm	1m	
1	7330	6888	5	4	Bicron Micro Rem # 1487 cal due 6/12/16 Ludlum 2241-2 # 201098 with probe 44-10 # PA112047 cal due 9/16/16
1	7508	6790			

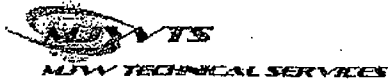
**4. Sample Information:**

Sample Area ID: S.3.A.R.2.1-2

**Description by Depth:**

Depth Interval (cm)	Soil Type (Org; clay; sand, etc.)	Soil Color	Sample ID	Sampling Description (Surface litter type/depth, sample depth retention, refusal, stone or rock, topography, erosion features)
0-15	topsoil	dark brown	S.3.A.R.2.1	
15-30	topsoil lean	dark brown	S.3.A.R.2.2	few roots

Sample Recorded on Laboratory COC form and Container Labeled:  (Y)  (N)



## SAMPLE LOCATION DATA SHEET

Date: 12/11/15 Project: NYSE.R.D.# Name: J. Brown

Weather: Sunny, low 60's

### 1. Sample Area (SA):

SA Designation: S.3.A Description: Wooded lot  
 SA Origin Location: \_\_\_\_\_ Coord. System: \_\_\_\_\_  
 SA Land Mark Description: \_\_\_\_\_ Coord: \_\_\_\_\_

### 2. Sample Location Data:

Sample Area ID: S.3.A.R.3 Matrix: Soil  
 Location Coord: 42°31'1.77" N 78°58'32.82" W

Alternate Location Measurements (distance from SA origin and Local Coord.)  
 X Dist. from Origin (0,0) \_\_\_\_\_ Y Dist. from Origin: \_\_\_\_\_

Site Sketch Attached (Yes)  (NO)

Sample Location Description: flat ground, some trees, dead leaves (cleared)

Canopy Type: partially open Land Use: hiking, etc Soil Moisture (Wet, dry, etc.): slightly damp

### 3. Location Radiation Readings:

Count time (min)	2x2 NaI (cpm)		Bicron (uRem/hr)		Notes
	1 cm	1m	1 cm	1m	
1	8129	7433	6	5	Bicron Micro Rem # 1487 cal/die 6/2/16
1	8098	7446			Ludlum 2241-2# 206098 with probe 44-10# PR112042 cal/die 9/1/16

### 4. Sample Information:

Sample Area ID: S.3.A.R.3.1-2

#### Description by Depth:

Depth Interval (cm)	Soil Type (Org; clay; sand, etc.)	Soil Color	Sample ID	Sampling Description (Surface litter type/depth, sample depth retention, refusal, stone or rock, topography, erosion features)
0-15	turf soil	dark brown	S.3.A.R.3.1	
15-30	turf soil	dark brown	S.3.A.R.3.2	few roots

Sample Recorded on Laboratory COC form and Container Labeled:  (Y)  (N)



## SAMPLE LOCATION DATA SHEET

Date: 12/11/15 Project: N-SEK DA Name: J. Brown

Weather: sunny, low CO's

### 1. Sample Area (SA):

SA Designation: S.3.A Description: wooded lot  
 SA Origin Location: \_\_\_\_\_ Coord. System: \_\_\_\_\_  
 SA Land Mark Description: \_\_\_\_\_ Coord: \_\_\_\_\_

### 2. Sample Location Data:

Sample Area ID: S.3.A.R.4 Matrix: Soil  
 Location Coord: 42° 31' 1.89" N 78° 58' 32.46" W

Alternate Location Measurements (distance from SA origin and Local Coord.)  
 X Dist. from Origin (0,0) \_\_\_\_\_ Y Dist. from Origin: \_\_\_\_\_

Site Sketch Attached (Yes)  (NO)

Sample Location Description: flat ground, some trees, dead leaves (cleared)

Canopy Type: partial open Land Use: hiking, etc. Soil Moisture (Wet, dry, etc.): slightly damp

### 3. Location Radiation Readings:

Count time (min)	2x2 NaI (cpm)		Bicron (uRem/hr)		Notes
	1 cm	1m	1 cm	1m	
1	7612	7098	5	5	Bicron Microbeam # 1487 cal. due 6/13/16
1	7773	7109			Ludlum 2241-2 <sup>nd</sup> 206098
					with probe 44-16 <sup>th</sup> 112642 cal. due

### 4. Sample Information:

Sample Area ID: S.3.A.R.4.1-2 9/1/16

#### Description by Depth:

Depth Interval (cm)	Soil Type (Org; clay; sand, etc.)	Soil Color	Sample ID	Sampling Description (Surface litter type/depth, sample depth retention, refusal, stone or rock, topography, erosion features)
0-15	top soil	dark brown	S.3.A.R.4.1	some roots
15-30	top soil	dark brown	S.3.A.R.4.2	heavy roots

Sample Recorded on Laboratory COC form and Container Labeled:  (Y)  (N)

App E-  
Sub-Area 5.3- Static Survey Tables

### AREA 5.3A

Date					Elevation				Coordinates	
Collected	Sample				0-15 cm	15-30 cm	30-60 cm	60-100c cm		
12-15-15	5.3A	R	1	1	X				42°31'2.15"N	78°58'32.35"W
12-15-15	5.3A	R	1	2		X				
12-15-15	5.3A	R	1	3			X			
12-15-15	5.3A	R	1	4				X		
12-15-15	5.3A	R	1	5	X					
12-15-15	5.3A	R	1	6				X		
12-11-15	5.3A	R	2	1	X				42°31'1.73"N	78°58'32.13"W
12-11-15	5.3A	R	2	2		X				
12-11-15	5.3A	R	3	1	X				42°31'1.79"N	78°58'32.82"W
12-11-15	5.3A	R	3	2		X				
12-11-15	5.3A	R	4	1	X				42°31'1.89"N	78°58'32.46"W
12-11-15	5.3A	R	4	2		X				
12-11-15										



### AREA 5.3A

Date Collected	Sample				Elevation				Coordinates		
					0-15 cm	15-30 cm	30-60 cm	60-100c cm			
12/15/15	5.3A	R	1	1	X					42°31'2.15"N	78°58'32.35"W
12/15/15	5.3A	R	1	2		X					
12/15/15	5.3A	R	1	3			X				
12/15/15	5.3A	R	1	4				X			
12/15/15	5.3A	R	1	5	X						
12/15/15	5.3A	R	1	6				X			
12/11/15	5.3A	R	2	1	X					42°31'1.73"N	78°58'32.13"W
12/11/15	5.3A	R	2	2		X					
12/11/15	5.3A	R	3	1	X					42°31'1.79"N	78°58'32.82"W
12/11/15	5.3A	R	3	2		X					
12/11/15	5.3A	R	4	1	X					42°31'1.89"N	78°58'32.46"W
12/11/15	5.3A	R	4	2		X					

*[Handwritten mark]*