



## Guam Waterworks Authority (VP0989)

SDWA Sanitary Survey

Tumon, Guam

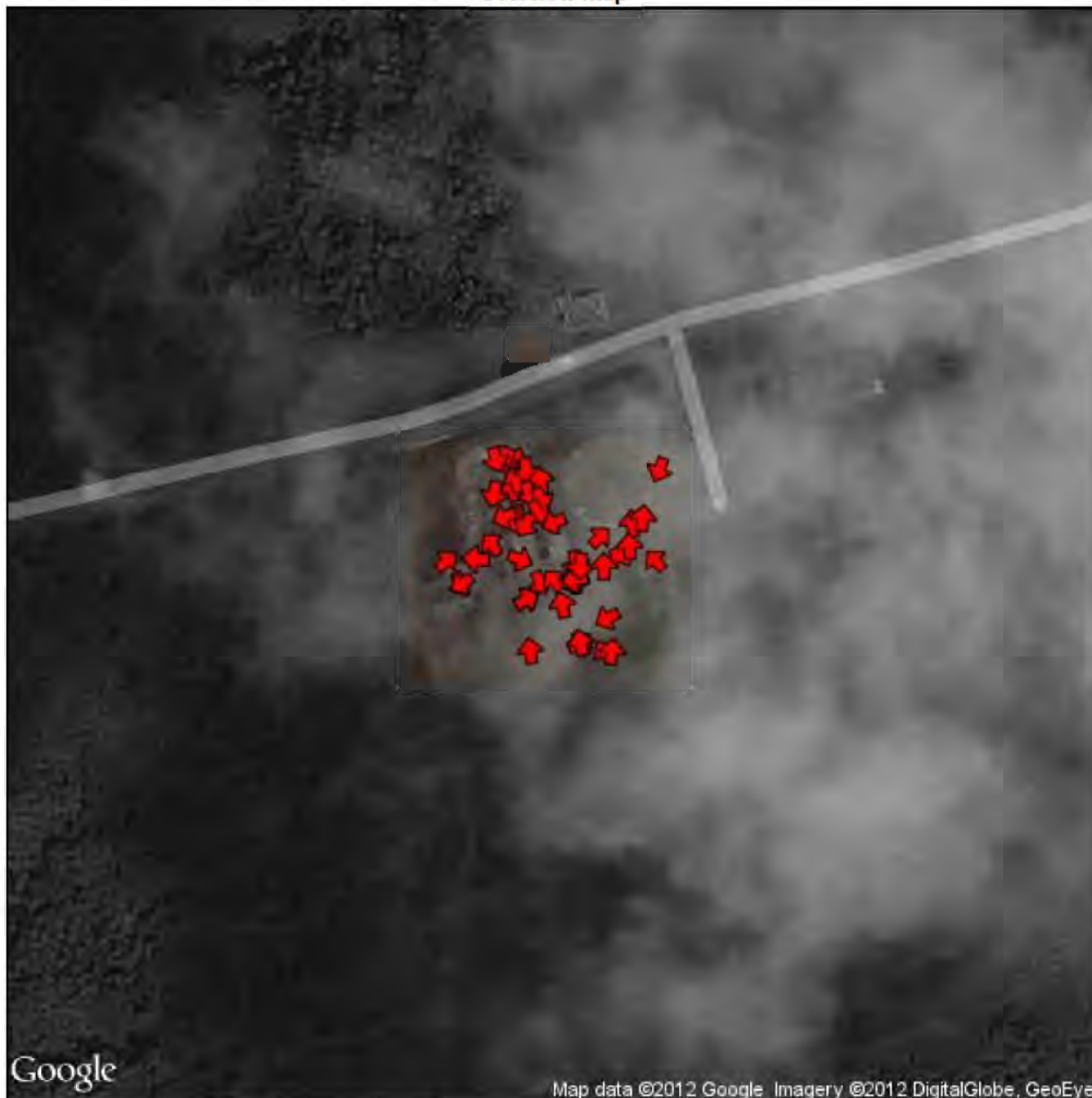
Ugum Water Treatment Plant

NEIC Field Investigation Photographs

April 25 and 26, 2012



### Overview Map



File Name: RIMG0019.JPG



**Attributes**

<b>Title</b>	Guam Waterworks Authority (VP0989)
<b>Subject</b>	Ugum Water Treatment Plant
<b>Latitude</b>	██████████
<b>Longitude</b>	██████████
<b>Photo Direction</b>	██████
<b>Elevation</b>	██████
<b>Date Time Stamp</b>	4/25/2012 1:39:36 PM
<b>Photographer</b>	K. Sable
<b>Description</b>	Sample tap for manual turbidity samples



File Name: RIMG0020.JPG



#### Attributes

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██████████
Elevation	██████
Date Time Stamp	4/25/2012 1:41:17 PM
Photographer	K. Sable
Description	Flash mix

File Name: RIMG0021.JPG



**Attributes**

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██████████
Elevation	██████████
Date Time Stamp	4/25/2012 1:41:45 PM
Photographer	K. Sable
Description	Flash mix



File Name: RIMG0022.JPG



**Attributes**

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██████████
Elevation	██████
Date Time Stamp	4/25/2012 1:50:21 PM
Photographer	K. Sable
Description	Flocculation motor A

File Name: RIMG0023.JPG



**Attributes**

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██████
Elevation	████
Date Time Stamp	4/25/2012 1:50:33 PM
Photographer	K. Sable
Description	Flocculation motor B



File Name: RIMG0024.JPG



**Attributes**

<b>Title</b>	Guam Waterworks Authority (VP0989)
<b>Subject</b>	Ugum Water Treatment Plant
<b>Latitude</b>	██████████
<b>Longitude</b>	██████████
<b>Photo Direction</b>	██████████
<b>Elevation</b>	██████
<b>Date Time Stamp</b>	4/25/2012 1:51:30 PM
<b>Photographer</b>	K. Sable
<b>Description</b>	Contact basin # 2

File Name: RIMG0025.JPG



#### Attributes

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██████████
Elevation	██████
Date Time Stamp	4/25/2012 1:51:48 PM
Photographer	K. Sable
Description	Contact basin # 1



File Name: RIMG0026.JPG



**Attributes**

<b>Title</b>	Guam Waterworks Authority (VP0989)
<b>Subject</b>	Ugum Water Treatment Plant
<b>Latitude</b>	██████████
<b>Longitude</b>	██████████
<b>Photo Direction</b>	██████
<b>Elevation</b>	██████
<b>Date Time Stamp</b>	4/25/2012 1:53:23 PM
<b>Photographer</b>	K. Sable
<b>Description</b>	Contact basin # 1

File Name: RIMG0027.JPG



**Attributes**

<b>Title</b>	Guam Waterworks Authority (VP0989)
<b>Subject</b>	Ugum Water Treatment Plant
<b>Latitude</b>	██████████
<b>Longitude</b>	██████████
<b>Photo Direction</b>	██████
<b>Elevation</b>	██████
<b>Date Time Stamp</b>	4/25/2012 1:54:19 PM
<b>Photographer</b>	K. Sable
<b>Description</b>	Backwash clarifier # 1



File Name: RIMG0028.JPG



**Attributes**

<b>Title</b>	Guam Waterworks Authority (VP0989)
<b>Subject</b>	Ugum Water Treatment Plant
<b>Latitude</b>	██████████
<b>Longitude</b>	██████████
<b>Photo Direction</b>	██████
<b>Elevation</b>	████
<b>Date Time Stamp</b>	4/25/2012 2:02:24 PM
<b>Photographer</b>	K. Sable
<b>Description</b>	Entrance to sedimentation basin

File Name: RIMG0029.JPG



**Attributes**

<b>Title</b>	Guam Waterworks Authority (VP0989)
<b>Subject</b>	Ugum Water Treatment Plant
<b>Latitude</b>	██████████
<b>Longitude</b>	██████████
<b>Photo Direction</b>	██████
<b>Elevation</b>	████
<b>Date Time Stamp</b>	4/25/2012 2:03:20 PM
<b>Photographer</b>	K. Sable
<b>Description</b>	Sedimentation basin/backwash clarifier # 1





Attributes	
Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██████████
Elevation	██████
Date Time Stamp	4/25/2012 2:05:53 PM
Photographer	K. Sable
Description	V-notch weir in sedimentation basin/backwash clarifier # 1



Attributes	
Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██████████
Elevation	██████
Date Time Stamp	4/25/2012 2:07:45 PM
Photographer	K. Sable
Description	Sedimentation basin # 1



File Name: RIMG0032.JPG



**Attributes**

<b>Title</b>	Guam Waterworks Authority (VP0989)
<b>Subject</b>	Ugum Water Treatment Plant
<b>Latitude</b>	██████████
<b>Longitude</b>	██████████
<b>Photo Direction</b>	██████
<b>Elevation</b>	██████
<b>Date Time Stamp</b>	4/25/2012 2:08:45 PM
<b>Photographer</b>	K. Sable
<b>Description</b>	Sedimentation basin # 2

File Name: RIMG0033.JPG



**Attributes**

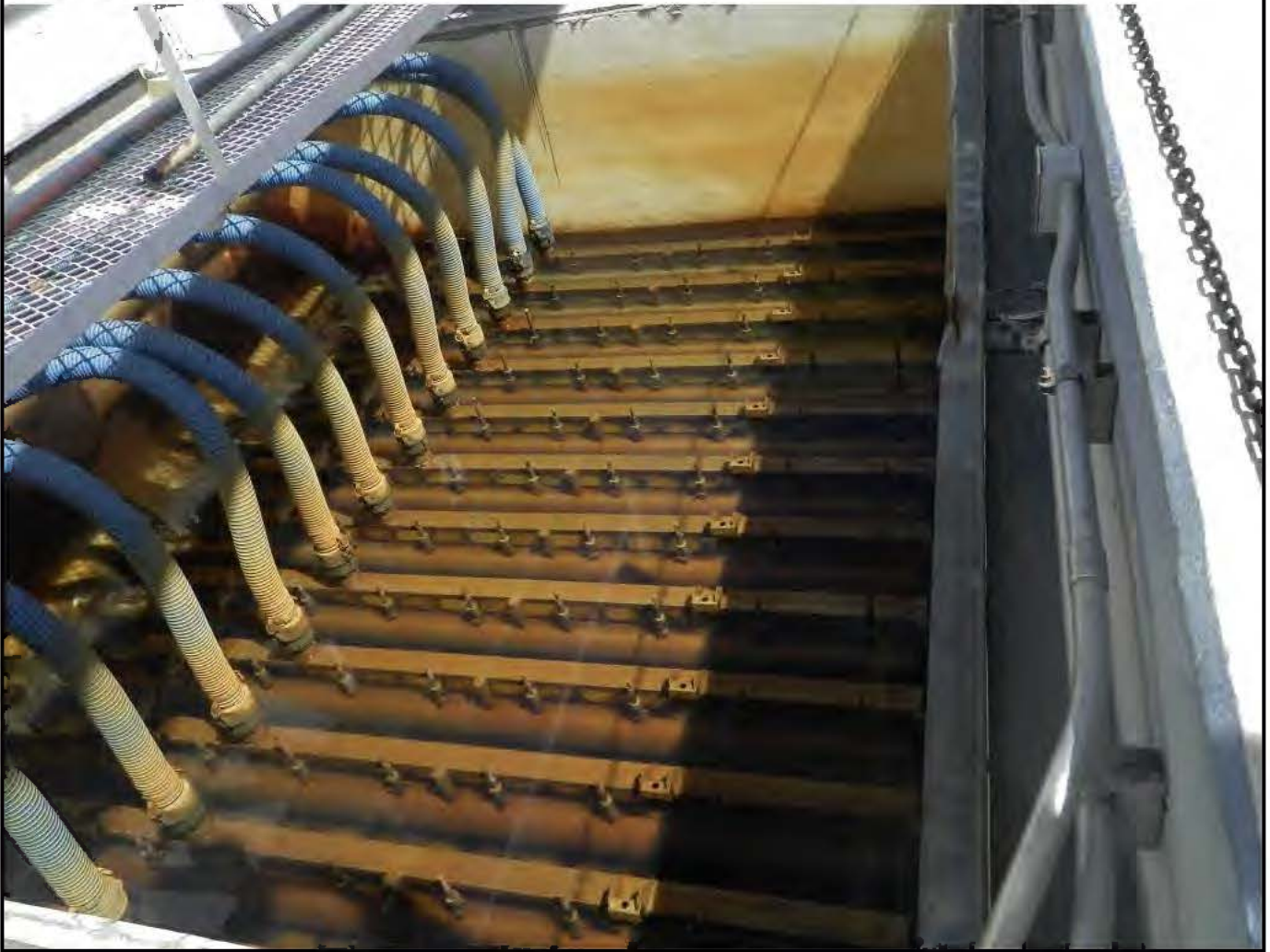
<b>Title</b>	Guam Waterworks Authority (VP0989)
<b>Subject</b>	Ugum Water Treatment Plant
<b>Latitude</b>	██████████
<b>Longitude</b>	██████████
<b>Photo Direction</b>	██████
<b>Elevation</b>	██████
<b>Date Time Stamp</b>	4/25/2012 2:09:09 PM
<b>Photographer</b>	K. Sable
<b>Description</b>	Close-up in sedimentation basin # 2 of floc entering holes toward membrane filters



Attributes	
Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	[REDACTED]
Longitude	[REDACTED]
Photo Direction	[REDACTED]
Elevation	[REDACTED]
Date Time Stamp	4/25/2012 2:13:45 PM
Photographer	K. Sable
Description	Close-up in sedimentation basin # 2 of floc entering holes toward membrane filters



File Name: RIMG0035.JPG



**Attributes**

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	[REDACTED]
Longitude	[REDACTED]
Photo Direction	[REDACTED]
Elevation	[REDACTED]
Date Time Stamp	4/25/2012 2:26:29 PM
Photographer	K. Sable
Description	Membrane cell # 2



Attributes	
Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██████████
Elevation	██████
Date Time Stamp	4/25/2012 2:48:12 PM
Photographer	K. Sable
Description	Backwash clarifier # 2



File Name: RIMG0037.JPG



**Attributes**

<b>Title</b>	Guam Waterworks Authority (VP0989)
<b>Subject</b>	Ugum Water Treatment Plant
<b>Latitude</b>	[REDACTED]
<b>Longitude</b>	[REDACTED]
<b>Photo Direction</b>	[REDACTED]
<b>Elevation</b>	[REDACTED]
<b>Date Time Stamp</b>	4/25/2012 2:49:53 PM
<b>Photographer</b>	K. Sable
<b>Description</b>	Backwash pit (background), with sludge pit and neutralization tank (foreground)



File Name: RIMG0038.JPG



**Attributes**

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	[REDACTED]
Longitude	[REDACTED]
Photo Direction	[REDACTED]
Elevation	[REDACTED]
Date Time Stamp	4/25/2012 2:51:43 PM
Photographer	K. Sable
Description	Off-spec chemical storage area with no containment

File Name: RIMG0039.JPG



**Attributes**

<b>Title</b>	Guam Waterworks Authority (VP0989)
<b>Subject</b>	Ugum Water Treatment Plant
<b>Latitude</b>	██████████
<b>Longitude</b>	██████████
<b>Photo Direction</b>	██████
<b>Elevation</b>	██████
<b>Date Time Stamp</b>	4/25/2012 2:58:25 PM
<b>Photographer</b>	K. Sable
<b>Description</b>	Thickener

File Name: RIMG0040.JPG



#### Attributes

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	[REDACTED]
Longitude	[REDACTED]
Photo Direction	[REDACTED]
Elevation	[REDACTED]
Date Time Stamp	4/25/2012 3:00:21 PM
Photographer	K. Sable
Description	Sludge repository



File Name: RIMG0041.JPG



**Attributes**

<b>Title</b>	Guam Waterworks Authority (VP0989)
<b>Subject</b>	Ugum Water Treatment Plant
<b>Latitude</b>	[REDACTED]
<b>Longitude</b>	[REDACTED]
<b>Photo Direction</b>	[REDACTED]
<b>Elevation</b>	[REDACTED]
<b>Date Time Stamp</b>	4/25/2012 3:01:03 PM
<b>Photographer</b>	K. Sable
<b>Description</b>	Close-up in sludge repository

File Name: RIMG0042.JPG



(ACH) ALUMINUM CHLORHYDATE

**Attributes**

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	[REDACTED]
Longitude	[REDACTED]
Photo Direction	[REDACTED]
Elevation	[REDACTED]
Date Time Stamp	4/25/2012 3:03:56 PM
Photographer	K. Sable
Description	Aluminum chlorhydrate in chemical storage building

File Name: RIMG0043.JPG

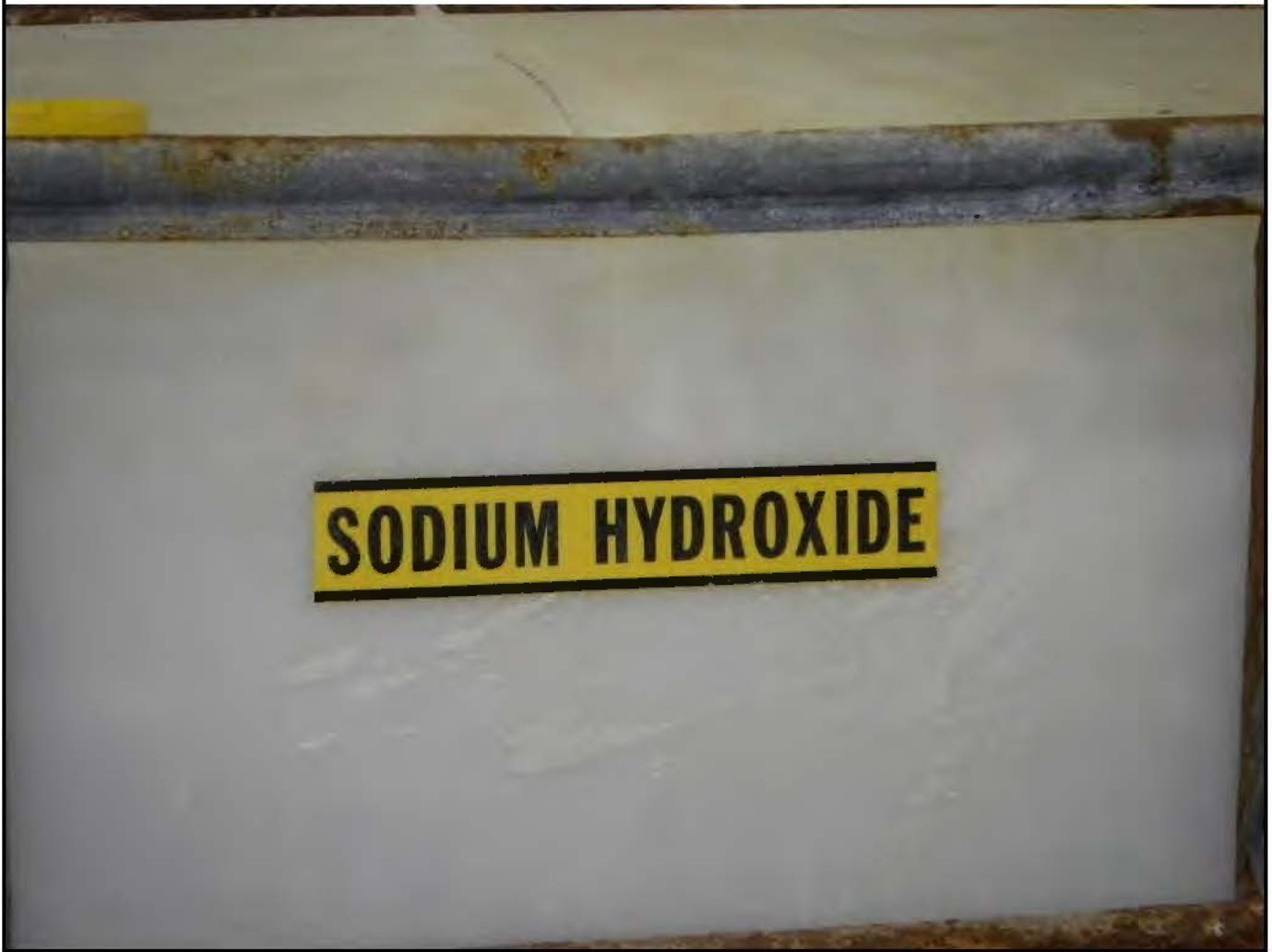


**Attributes**

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	[REDACTED]
Longitude	[REDACTED]
Photo Direction	[REDACTED]
Elevation	[REDACTED]
Date Time Stamp	4/25/2012 3:04:10 PM
Photographer	K. Sable
Description	Citric acid in chemical storage building



File Name: RIMG0044.JPG



**Attributes**

<b>Title</b>	Guam Waterworks Authority (VP0989)
<b>Subject</b>	Ugum Water Treatment Plant
<b>Latitude</b>	[REDACTED]
<b>Longitude</b>	[REDACTED]
<b>Photo Direction</b>	[REDACTED]
<b>Elevation</b>	[REDACTED]
<b>Date Time Stamp</b>	4/25/2012 3:04:17 PM
<b>Photographer</b>	K. Sable
<b>Description</b>	Sodium hydroxide in chemical storage building

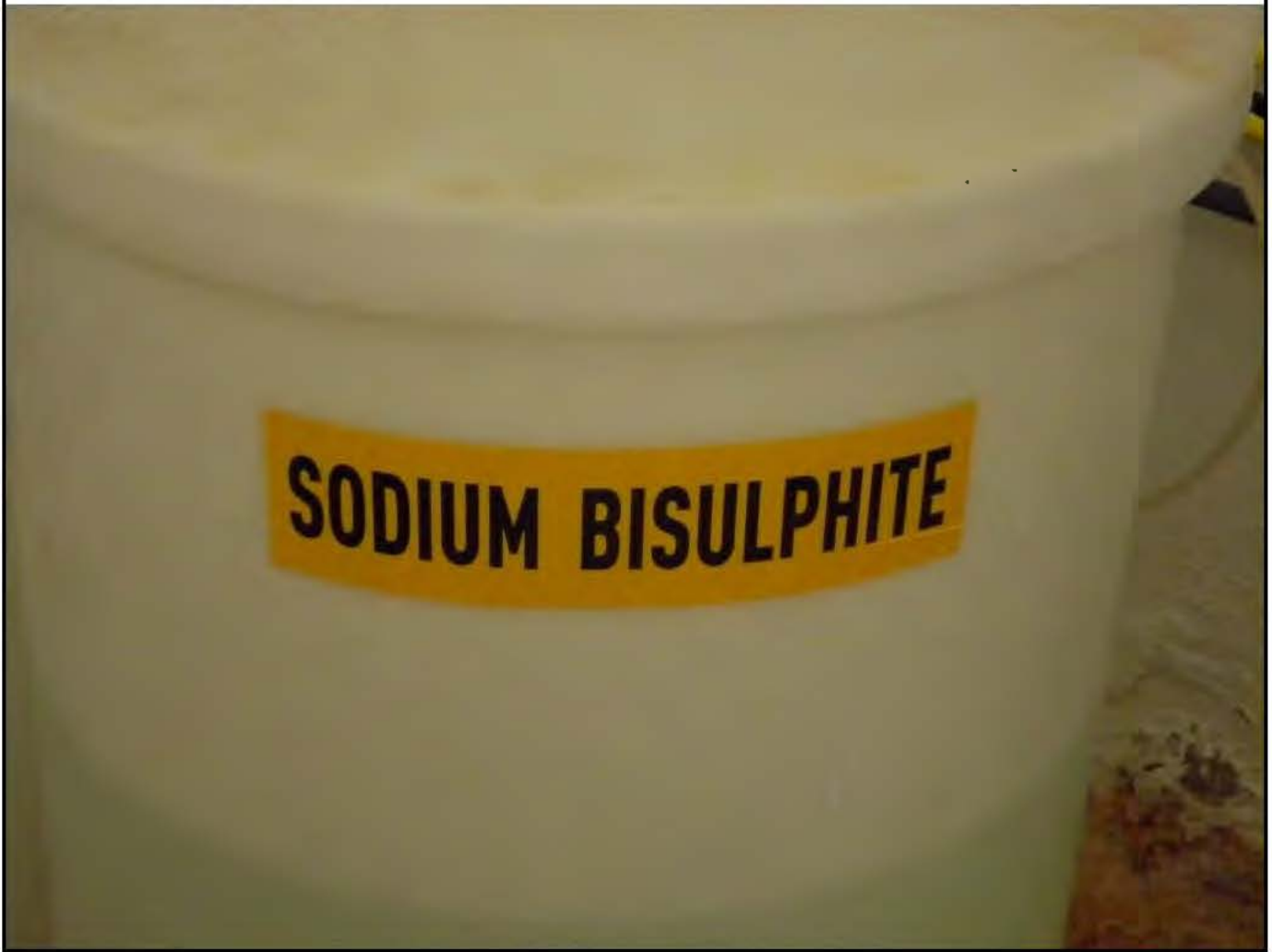
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**Attributes**

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██████
Elevation	██████
Date Time Stamp	4/25/2012 3:04:27 PM
Photographer	K. Sable
Description	Sodium hypochlorite in chemical storage building

File Name: RIMG0046.JPG



**Attributes**

<b>Title</b>	Guam Waterworks Authority (VP0989)
<b>Subject</b>	Ugum Water Treatment Plant
<b>Latitude</b>	██████████
<b>Longitude</b>	██████████
<b>Photo Direction</b>	██████████
<b>Elevation</b>	██████
<b>Date Time Stamp</b>	4/25/2012 3:04:37 PM
<b>Photographer</b>	K. Sable
<b>Description</b>	Sodium bisulphite in chemical storage building



File Name: RIMG0047.JPG



**Attributes**

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	[REDACTED]
Longitude	[REDACTED]
Photo Direction	[REDACTED]
Elevation	[REDACTED]
Date Time Stamp	4/25/2012 3:04:46 PM
Photographer	K. Sable
Description	Sulfuric acid in chemical storage building

File Name: RIMG0048.JPG



#### Attributes

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	[REDACTED]
Longitude	[REDACTED]
Photo Direction	[REDACTED]
Elevation	[REDACTED]
Date Time Stamp	4/25/2012 3:05:05 PM
Photographer	K. Sable
Description	Alum feed pumps in chemical storage building



Attributes	
Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██████████
Elevation	██████
Date Time Stamp	4/25/2012 3:07:43 PM
Photographer	K. Sable
Description	ACH secondary containment in chemical storage building



File Name: RIMG0050.JPG



**Attributes**

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	[REDACTED]
Longitude	[REDACTED]
Photo Direction	[REDACTED]
Elevation	[REDACTED]
Date Time Stamp	4/25/2012 3:09:09 PM
Photographer	K. Sable
Description	Sulfuric acid drum and sodium hydroxide drum in chemical storage building

File Name: RIMG0051.JPG



Attributes	
Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	[REDACTED]
Longitude	[REDACTED]
Photo Direction	[REDACTED]
Elevation	[REDACTED]
Date Time Stamp	4/25/2012 3:09:20 PM
Photographer	K. Sable
Description	Close-up of sulfuric acid drum in chemical storage building

File Name: RIMG0052.JPG



#### Attributes

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	[REDACTED]
Longitude	[REDACTED]
Photo Direction	[REDACTED]
Elevation	[REDACTED]
Date Time Stamp	4/25/2012 3:14:19 PM
Photographer	K. Sable
Description	Upstairs mixture of chemical drums placed side by side



File Name: RIMG0053.JPG



#### Attributes

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	[REDACTED]
Longitude	[REDACTED]
Photo Direction	[REDACTED]
Elevation	[REDACTED]
Date Time Stamp	4/25/2012 3:14:30 PM
Photographer	K. Sable
Description	Close-up of sulfuric acid drum

File Name: RIMG0054.JPG



#### Attributes

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	[REDACTED]
Longitude	[REDACTED]
Photo Direction	[REDACTED]
Elevation	[REDACTED]
Date Time Stamp	4/25/2012 3:14:39 PM
Photographer	K. Sable
Description	Close-up of sodium bisulfite drum

File Name: RIMG0055.JPG



**Attributes**

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██████
Elevation	██████
Date Time Stamp	4/25/2012 3:17:26 PM
Photographer	K. Sable
Description	Chlorine room



File Name: RIMG0056.JPG



**Attributes**

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	[REDACTED]
Longitude	[REDACTED]
Photo Direction	[REDACTED]
Elevation	[REDACTED]
Date Time Stamp	4/25/2012 3:17:38 PM
Photographer	K. Sable
Description	Chlorine room



Attributes	
Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██████████
Elevation	██████
Date Time Stamp	4/25/2012 3:20:13 PM
Photographer	K. Sable
Description	Operational side of pipe room



Attributes	
Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██████
Elevation	██████
Date Time Stamp	4/25/2012 3:20:26 PM
Photographer	K. Sable
Description	Non-operational side of pipe room



File Name: RIMG0059.JPG



**Attributes**

<b>Title</b>	Guam Waterworks Authority (VP0989)
<b>Subject</b>	Ugum Water Treatment Plant
<b>Latitude</b>	██████████
<b>Longitude</b>	██████████
<b>Photo Direction</b>	██████
<b>Elevation</b>	████
<b>Date Time Stamp</b>	4/25/2012 3:22:18 PM
<b>Photographer</b>	K. Sable
<b>Description</b>	Wiring in pipe room below door

File Name: RIMG0060.JPG



#### Attributes

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██████████
Elevation	██████
Date Time Stamp	4/25/2012 3:23:47 PM
Photographer	K. Sable
Description	Temperature and pH meter in pipe room

File Name: RIMG0061.JPG



**Attributes**

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██████████
Elevation	██████
Date Time Stamp	4/26/2012 10:40:22 AM
Photographer	K. Sable
Description	Main plant generator



File Name: RIMG0062.JPG



**Attributes**

<b>Title</b>	Guam Waterworks Authority (VP0989)
<b>Subject</b>	Ugum Water Treatment Plant
<b>Latitude</b>	[REDACTED]
<b>Longitude</b>	[REDACTED]
<b>Photo Direction</b>	[REDACTED]
<b>Elevation</b>	[REDACTED]
<b>Date Time Stamp</b>	4/26/2012 10:41:02 AM
<b>Photographer</b>	K. Sable
<b>Description</b>	Water and oil sheen on floor in generator room

File Name: RIMG0063.JPG



**Attributes**

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██████
Elevation	████
Date Time Stamp	4/26/2012 10:42:25 AM
Photographer	K. Sable
Description	Broken conduit elbow on floor in generator room

File Name: RIMG0064.JPG



**Attributes**

<b>Title</b>	Guam Waterworks Authority (VP0989)
<b>Subject</b>	Ugum Water Treatment Plant
<b>Latitude</b>	██████████
<b>Longitude</b>	██████████°
<b>Photo Direction</b>	██████████
<b>Elevation</b>	██████
<b>Date Time Stamp</b>	4/26/2012 10:44:34 AM
<b>Photographer</b>	K. Sable
<b>Description</b>	Outside generator building



File Name: RIMG0065.JPG



**Attributes**

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	[REDACTED]
Longitude	[REDACTED]
Photo Direction	[REDACTED]
Elevation	[REDACTED]
Date Time Stamp	4/26/2012 10:50:41 AM
Photographer	K. Sable
Description	Diesel fuel tank for main plant generator



Attributes	
Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	[REDACTED]
Longitude	[REDACTED]
Photo Direction	[REDACTED]
Elevation	[REDACTED]
Date Time Stamp	4/26/2012 10:57:13 AM
Photographer	K. Sable
Description	Ugum storage tank access ladder

File Name: RIMG0067.JPG

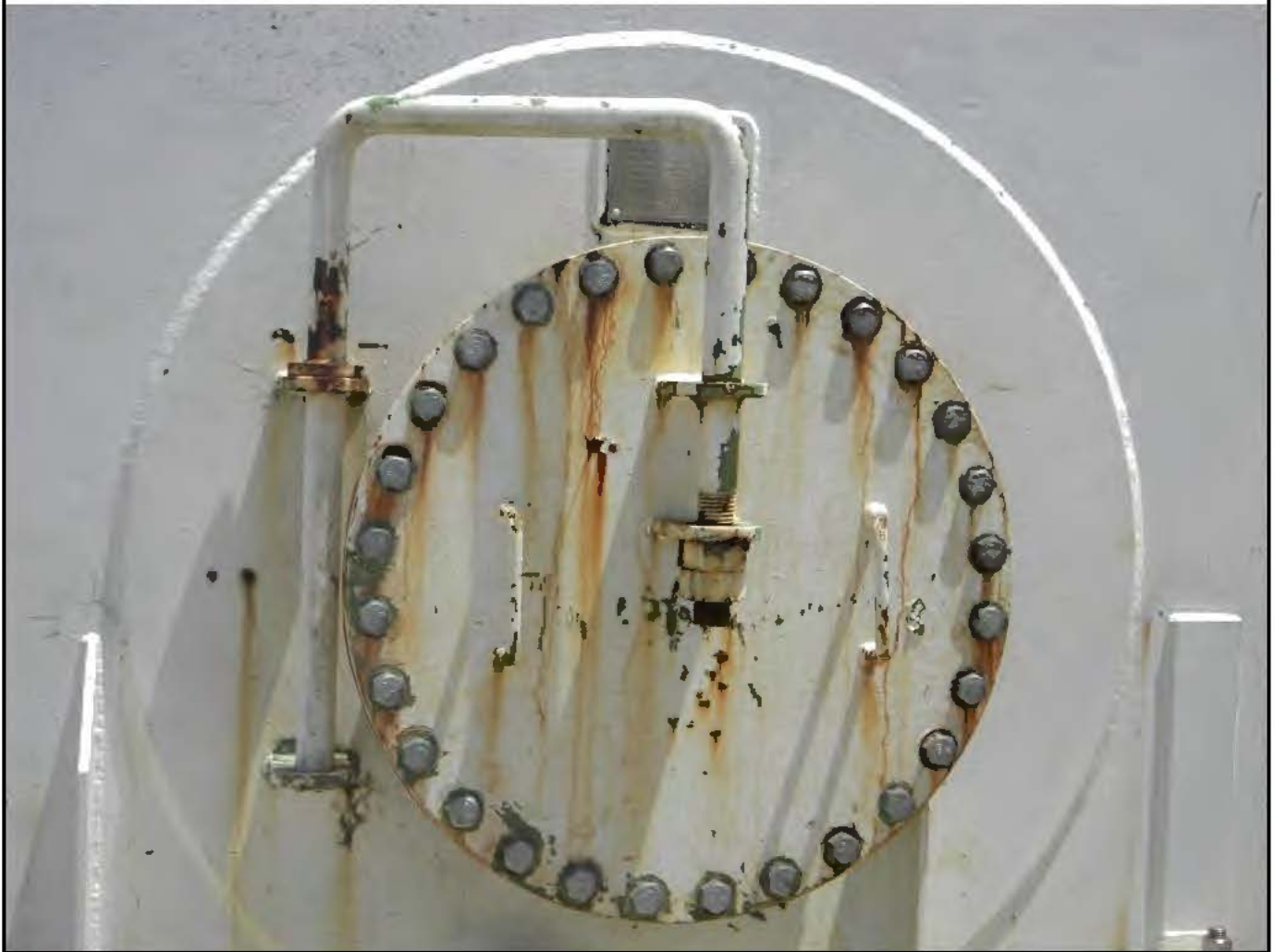


**Attributes**

<b>Title</b>	Guam Waterworks Authority (VP0989)
<b>Subject</b>	Ugum Water Treatment Plant
<b>Latitude</b>	██████████
<b>Longitude</b>	██████████
<b>Photo Direction</b>	██████
<b>Elevation</b>	██████
<b>Date Time Stamp</b>	4/26/2012 11:10:12 AM
<b>Photographer</b>	K. Sable
<b>Description</b>	Ugum storage tank intake valve



File Name: RIMG0068.JPG



**Attributes**

<b>Title</b>	Guam Waterworks Authority (VP0989)
<b>Subject</b>	Ugum Water Treatment Plant
<b>Latitude</b>	██████████
<b>Longitude</b>	██████████
<b>Photo Direction</b>	██████
<b>Elevation</b>	██████
<b>Date Time Stamp</b>	4/26/2012 11:11:36 AM
<b>Photographer</b>	K. Sable
<b>Description</b>	Ugum storage tank access hatch

File Name: RIMG0069.JPG



**Attributes**

Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██
Elevation	██
Date Time Stamp	4/26/2012 11:12:05 AM
Photographer	K. Sable
Description	Ugum storage tank pressure guage

File Name: RIMG0070.JPG



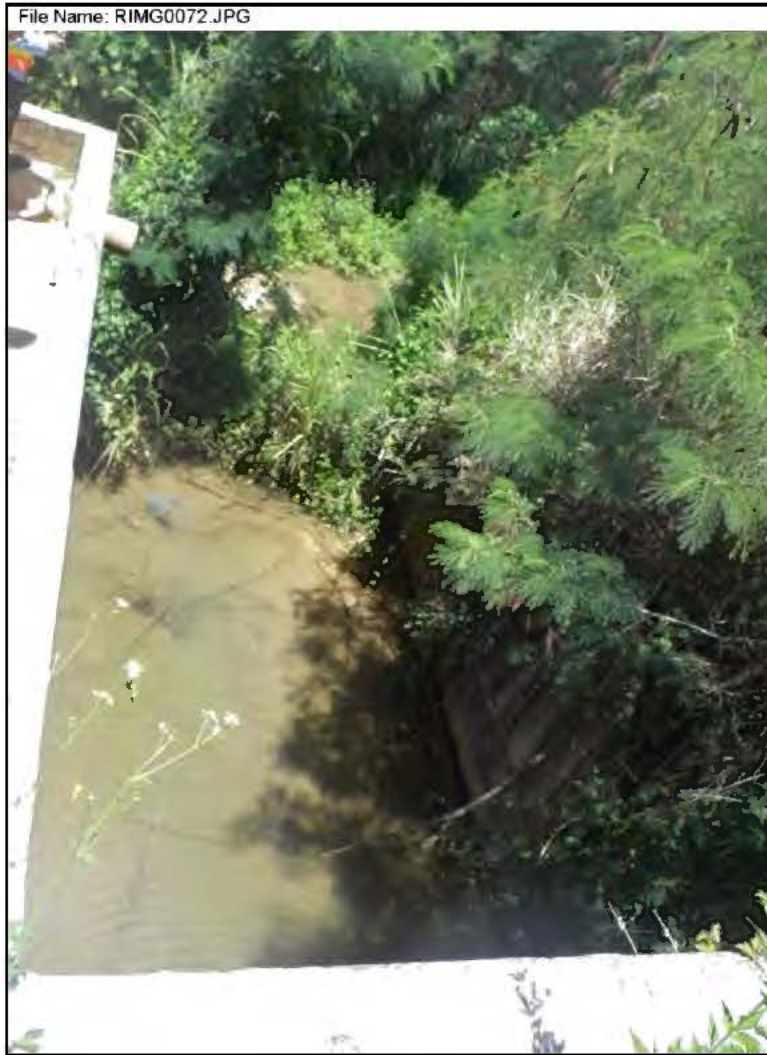
**Attributes**

<b>Title</b>	Guam Waterworks Authority (VP0989)
<b>Subject</b>	Ugum Water Treatment Plant
<b>Latitude</b>	██████████
<b>Longitude</b>	██████████
<b>Photo Direction</b>	██
<b>Elevation</b>	██
<b>Date Time Stamp</b>	4/26/2012 11:13:03 AM
<b>Photographer</b>	K. Sable
<b>Description</b>	Ugum storage tank





Attributes	
Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██████
Elevation	██████
Date Time Stamp	4/26/2012 11:22:04 AM
Photographer	K. Sable
Description	Ugum storage tank air vent



Attributes	
Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██████
Elevation	████
Date Time Stamp	4/26/2012 11:24:27 AM
Photographer	K. Sable
Description	Ugum storage tank designated overflow area facing receiving stream



Attributes	
Title	Guam Waterworks Authority (VP0989)
Subject	Ugum Water Treatment Plant
Latitude	██████████
Longitude	██████████
Photo Direction	██████
Elevation	██████
Date Time Stamp	4/26/2012 11:24:51 AM
Photographer	K. Sable
Description	Ugum storage tank designated overflow area facing discharge pipe