

**Summary Report of Stormwater Management Activities
Marjol Battery Site
July 30 through August 3, 2009**

On Friday, July 31, 2009 accumulated stormwater overtopped the Containment Area (CA) Berm and flowed into the South Swale leading into the sediment basin. Battery casings and sediment were visible on the top of the berm and along the slope of the South Swale at several locations (see pictures below). According to the on-site weather station a total of 1.19" of rain was received July 31, 2009. The following text outlines the approximate timeline of the events that preceded and followed the overflow.

Chronology of Events

On Thursday July 30, 2009 AGC observed a minor trickle of flow out of the basin discharge pipe into the discharge channel. The water accumulated in the outlet apron. As there was no flow off-site (outside the perimeter fence in the channel), no samples were collected or turbidity readings taken. AGC requested SCE raise the skimmer above the current water surface level as the minor flow was attributed to water seeping into the skimmer head.

At approximately 1000 on Friday morning AGC field personnel were at the Sediment Basin raising the skimmer in preparation for the forecasted storm event. The skimmer was raised several additional feet to rest on the top of the baffle. The purpose of raising the skimmer was to prevent leakage through the skimmer into the outlet structure and discharge. No flow was observed out of the discharge pipe. After the skimmer was in place, field staff returned to the support zone and heavy rain started began. All water, at that point, was being controlled within the Containment Area. Heavy flow, generated from non-contaminated areas, was noted in the South Swale.

At approximately 1100, Gannet Fleming's representative notified AGC that water was topping the berm in several locations along the south and southwestern sides of the CA. AGC notified SCE immediately and reported to the area to assess the situation. See pictures provided. The pump placed at the west end of the CA was running at the time and had been running for the 24+ hours prior to the rain event. The water elevation within the CA was level with the berm or topping it and flowing into the sediment basin via the South Swale. The water elevation within the Sediment Basin was approximately six and a half feet in depth. The skimmer was above the water surface however, there was minimal flow from the discharge pipe. Upon inspection, AGC observed discharge off-site through the discharge channel.

Actions:

At AGC's request, SCE mobilized an additional pump to the discharge channel in order to pump the water accumulating in the channel back into the sediment basin. SCE also placed a plug within the skimmer's interior outlet structure to prevent further discharge into the channel. Flow out of the discharge pipe was discontinued at this time. Prior to leaving the Site for the day SCE resealed the top of the outlet box with poly and plywood

and the metal grate was replaced to prevent direct rainfall from entering the outlet structure. Additionally, SCE graded along the CA berm to add additional berm height to prevent additional flow out of the CA.

Sampling

At 1145 AGC collected a water sample from the discharge point of the channel on the exterior side of the fence near HV-4. A duplicate sample as well as an MS/MSD was collected from the same location. An additional sample was collected at 1300 from the water in the Sediment Basin at the entry point of CD-15. All samples were sent to the laboratory for total and dissolved lead analysis. The preliminary data is attached. The acute and chronic National Recommended Water Quality Criteria for dissolved lead are 650 ug/L and 25 ug/L respectively. Results of the analysis are below:

<u>Location</u>	<u>Total Lead (ug/L)</u>	<u>Dissolved Lead (ug/L)</u>
Discharge (DW)	31.8	1.5
Discharge* (DWD)	32.6	3.6
Basin (BW)	73.8	4.4

* Duplicate

At 1309, a turbidity reading was taken of the discharge water as it was leaving the Site. The turbidity meter was calibrated using the 200 Nephelometric Turbidity Units (NTUs) standard prior to testing. The turbidity of the discharge water was 120 NTUs, below the 250 NTU performance standard under the NPDES permit.

XRF Testing of Areas Affected by the Overflow

On Monday August 3, 2009 AGC collected sediment samples from the South Swale, where sediment was visible, and the discharge pipe and performed XRF analysis. The sediment was collected and dried prior to testing. All readings were below the performance standard of 500 mg/kg and in most cases below the detection limit. Additionally, AGC performed XRF analysis along the CA berm beginning east of the overflow areas and continuing around the berm. Similarly, the XRF readings were all below the performance standard. Please see attached sketch of the collected sediment and XRF reading locations. The reference point P-25 is a stake point along the CA berm and was used to determine distances around the berm and swale.

Site Inspections

Over the weekend following the overflow, personnel from AGC and SCE were on-site each day to perform Site inspections and to ensure that storm water management was under control. No evidence of additional overflow was observed during inspections.

On Saturday (08/01/09) there was a slight discharge from the outlet structure into the rip rap apron but the water was pooling at the apron and a puddle within the channel. No flow was leaving the Site and therefore, no turbidity reading was taken. SCE was on-site to refuel the pump in anticipation of forecasted rain for Sunday.

Additional rain fell on Sunday August 2, 2009, and SCE reported to the Site immediately as requested to refuel and restart the pump. The rainfall on Sunday totaled 0.59". There was a slight flow from the outlet structure into the rip rap apron. Water was pooling at the apron and within the channel. A very low and slow flow was observed at the Site discharge point. A turbidity reading of the flow at the discharge point was taken. The turbidity was 69.2 NTUs.

Permit Compliance

The flow discharges will be noted on the Monthly Discharge Report beginning on Thursday, July 30, 2009. No discharge from the basin occurred prior to that date. The sampling that took place on July 31, 2009 satisfies the requirement for monthly sampling for total and dissolved lead. Additional samples will be taken on a monthly basis in accordance with the permit and the Sampling and Analysis Plan. The sample results for both turbidity and dissolved lead in the discharge water were in compliance with the permit. All actions taken at the site to address the overflow condition were in compliance with the permit, and no permit violations were noted.

Future Actions

On Monday, August 3, 2009, a meeting between AGC, SCE and agency oversight representatives was held to discuss stormwater management until the cap is completed to minimize the potential impact from future overflows from the CA if they occur. A copy of the minutes of that meeting is attached. Also on Monday, August 3, 2009, a flocculant, Pond Clear ® was added to the basin to assist in settling the suspended sediment in preparation for dropping the skimmer and discharging water from the basin beginning on August 5, 2009. The water in the basin will be tested for turbidity in accordance with Design Addendum #5 as well as the discharge water in accordance with the NPDES permit.



Picture 1: Battery casings, sediment, and debris washed over CA berm



Picture 2: Water overflow along south section of CA berm



Picture 3: Overflow and water level at Southwest corner of CA berm



Picture 4: View of Sediment Basin and outlet structure. Skimmer was raised above waterline prior to storm event.



Picture 5: Flow into discharge channel from outlet structure



Picture 6: Discharge sampling location for total and dissolved lead (outside of fence line, southwest corner of Site)



Picture 7: Flow in discharge channel



Picture 8: View of discharge channel looking toward outlet structure from Site discharge point near HV-1



Picture 9: Pumping station set up at west end of CA

**XRF Testing Results
Marjol Battery Site
August 3, 2009**

CA Berm		
Sample ID	Result (mg/kg)	Distance Between (ft)
P25	Reference Point	
1	BDL < 130	52
2	BDL < 100	50
3	BDL < 91	50
4	BDL < 120	50
5	BDL < 91	50
6	BDL < 98	50
7	BDL < 110	50
8	BDL < 100	50
9	BDL < 100	50
10	BDL < 100	50
11	BDL < 140	50
12	BDL < 130	50

Sediment Samples Collected from South Swale		
Sample ID	Result (mg/kg)	Distance Between (ft)
P25	Reference Point	
13	BDL < 120	88
14	BDL < 150	101
15	BDL < 120	34
16	BDL < 100	82
17	150 +/- 75	96
18	172 +/- 71	118

South Swale Southern Bank		
Sample ID	Result (mg/kg)	Distance Between (ft)
P25	Reference Point	
19	BDL < 95	222
20	BDL < 170	82
21	BDL < 110	96

Discharge Pipe	
Sample ID	Result (ppm)
22	BDL < 80

BDL - Below Detection Limit

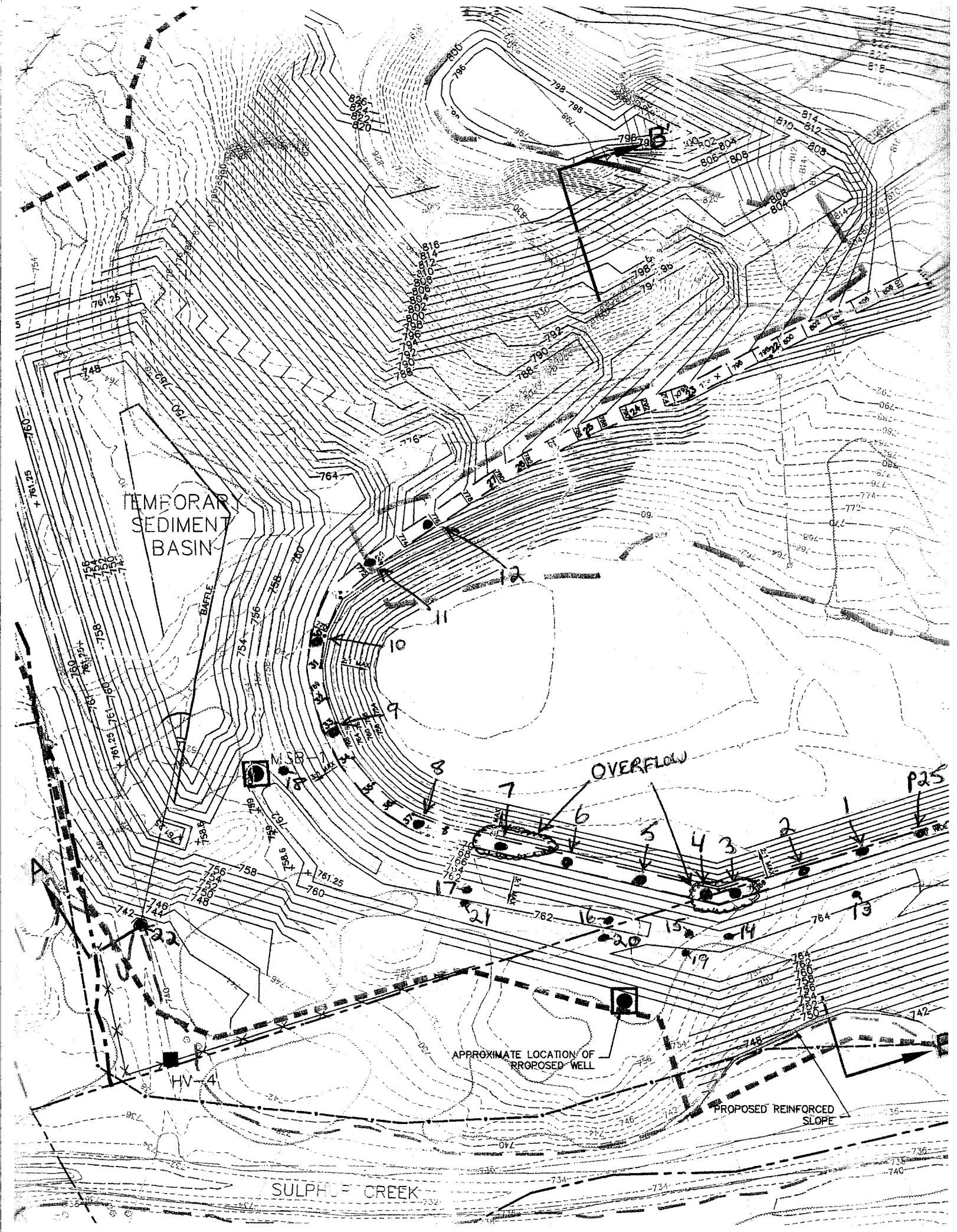
TEMPORARY
SEDIMENT
BASIN

OVERFLOW

APPROXIMATE LOCATION OF
PROPOSED WELL

PROPOSED REINFORCED
SLOPE

SULPHUR CREEK



TESTAMERICA LABORATORIES, INC.

PRELIMINARY DATA SUMMARY

The results shown below may still require additional laboratory review and are subject to change. Actions taken based on these results are the responsibility of the data user.

Lot #: C9H010106 **Advanced GeoServices Corporation** PAGE 1
AGC - Marjol Scranton, PA Date Reported: 8/04/09

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
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Client Sample ID: 073109-DW

Sample #: 001 Date Sampled: 07/31/09 11:45 Date Received: 08/01/09 Matrix: WATER

ICP-MS (6020)					In Review
Lead	31.8	1.0	ug/L	SW846 6020	
Lead	Dissolved 1.5	1.0	ug/L	SW846 6020	

Client Sample ID: 073109-DWD

Sample #: 002 Date Sampled: 07/31/09 12:15 Date Received: 08/01/09 Matrix: WATER

ICP-MS (6020)					In Review
Lead	32.6	1.0	ug/L	SW846 6020	
Lead	Dissolved 3.6	1.0	ug/L	SW846 6020	

Client Sample ID: 073109-BW

Sample #: 003 Date Sampled: 07/31/09 13:00 Date Received: 08/01/09 Matrix: WATER

ICP-MS (6020)					In Review
Lead	73.8	1.0	ug/L	SW846 6020	
Lead	Dissolved 4.4	1.0	ug/L	SW846 6020	