

CAM-5 SITE-SPECIFIC INFORMATION

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A. CAM-5 Mackar Inlet

A.1 Introduction

The former CAM-5 (Mackar Inlet) DEW Line site is located on the western coast of Melville Peninsula on the mainland of Nunavut, adjacent to Committee Bay, at approximately 68° 18' 15" N and 85° 39' 46" W. CAM-5 is approximately 190 km southwest of Sanirajak (formerly Hall Beach) and is accessible via charter aircraft.

The former DEW Line station was located 400 m above sea level. The terrain is characterized by glacially scoured bedrock with rugged hills separated by narrow elongated valleys. Numerous small lakes, irregular in outline and typically interconnected by poorly defined drainage channels, are scattered throughout the area.

CAM-5 was an auxiliary site within the original DEW Line system. The station was constructed in the 1950s and was decommissioned in 1992, following construction of a more modern North Warning System (NWS) short range radar (SRR) site designated as CAM-5A, approximately 40 km north of the former DEW Line site.

The environmental clean-up and demolition of DEW Line facilities began in 2008 and were completed in 2010. All DEW Line structures at the site were demolished, with the exception of a storage building, which was relocated to the airstrip area. The clean-up included the complete excavation of three landfills (Upper Site Landfill, Airstrip Landfill and Lower Site Landfill – North), the remediation and closure of two existing landfills as well as the construction of two new engineered facilities consisting of a non-hazardous waste landfill for the disposal of site debris and demolition waste, and a Tier II Disposal Facility for the disposal of Tier II contaminated soil.

The landfills subject to long term monitoring are shown on the site plan, Figure CAM-5.1, and are listed below:

- Lower Site Landfill – South
- Non-Hazardous Waste Landfill
- USAF and Asbestos Landfill
- Tier II Disposal Facility

The monitoring schedule for CAM-5 is provided in Table A.1.

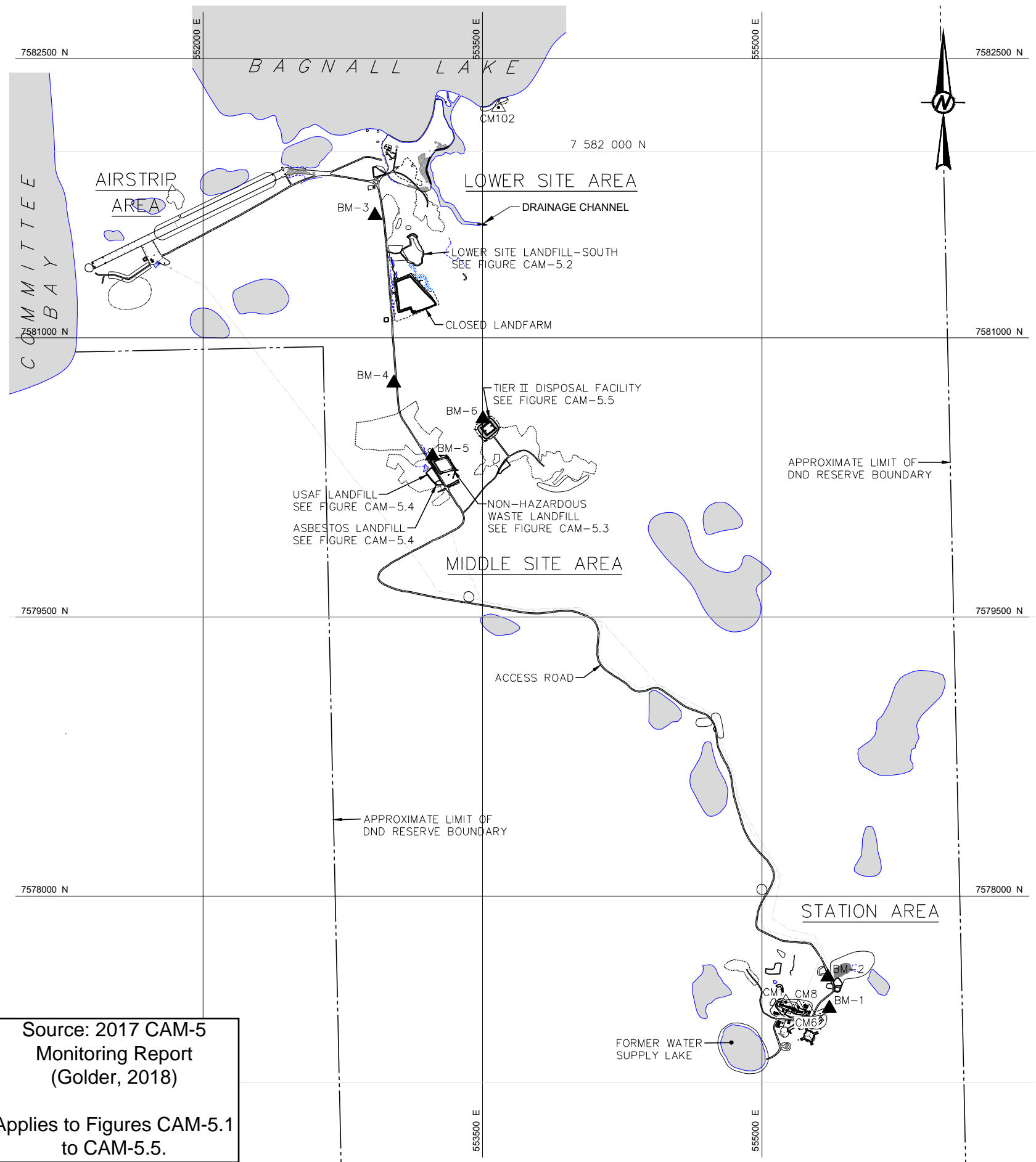
Table A.1: Monitoring Schedule		
Monitoring Event Name¹	Monitoring Event Number	Year
Year 1	1	2011
Year 2	2	2012
Year 3	3	2013
Year 4	4	2014
Year 5	5	2015
Year 7	6	2017
Year 8 ²	N/A – partial event	2018
Year 12 ³	7	2022
Year 15	8	2025
Year 25	9	2035
Notes: <ol style="list-style-type: none"> 1. The monitoring event name represents the number of years since site clean-up was completed. 2. A partial monitoring event was completed in Year 8 to address missed scope from the Year 7 event. 3. The Year 10 monitoring event was originally scheduled for 2020; due to COVID-19, the monitoring schedule has been adjusted and a Year 12 event took its place in 2022. 		

A summary of the monitoring locations associated with each landfill is provided in Table A.2. Approximate locations are shown on Figures CAM-5.2 through CAM-5.5.

Table A.2: Summary of Landfill Monitoring Locations		
Monitoring Locations	Northing (m)	Easting (m)
Lower Site Landfill – South		
C5-1 (soil)	7581386.0	553167.6
C5-2 (soil)	7581492.7	553091.5
C5-3 (soil)	7581561.2	553132.1
C5-4 (soil)	7581519.7	553161.0
C5-5 (soil)	7581475.3	553277.2
Non-Hazardous Waste Landfill		
MW-09 (soil and groundwater)	7580364.1	553273.9
MW-10	N/A	N/A
MW-11 (soil and groundwater)	7580263.3	553317.3
MW-12 (soil and groundwater)	7580290.1	553361.2

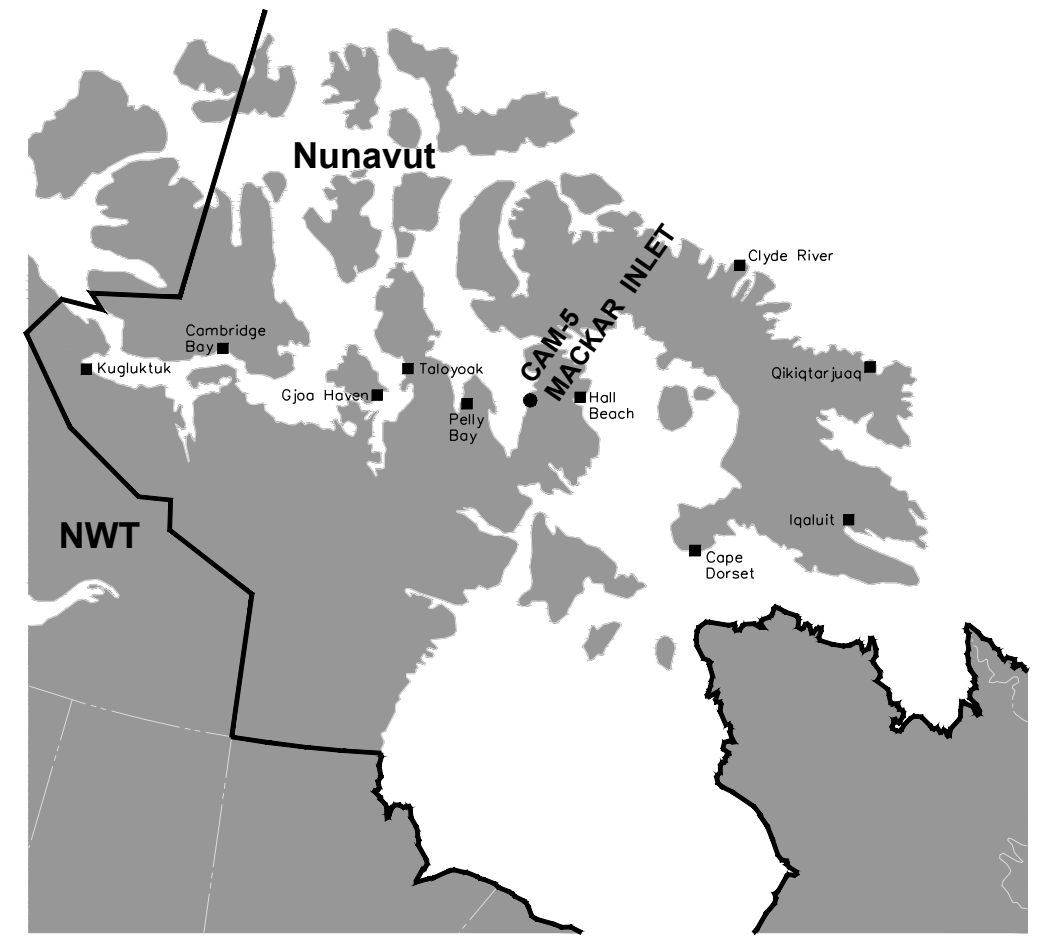
Table A.2: Summary of Landfill Monitoring Locations		
Monitoring Locations	Northing (m)	Easting (m)
USAF and Asbestos Landfill		
C5-6 (soil)	7580197.8	553277.2
C5-7 (soil)	7580237.7	553208.0
C5-8 (soil)	7580285.4	553539.1
Tier II Disposal Facility		
MW-05 (soil and groundwater)	7580574.5	553539.1
MW-06 (soil and groundwater)	7580505.6	553463.8
MW-07 (soil and groundwater)	7580469.7	553488.5
MW-08 (soil and groundwater)	7580445.4	553515.8
VT-1 (temperature)	7580525.5	553505.3
VT-2 (temperature)	7580525.5	553546.1
VT-3 (temperature)	7580502.6	553517.1
VT-4 (temperature)	7580502.6	553557.8
Projection: NAD83 – Zone 16		

Path: \\golder\gds\gdm\Mississauga\SM\Clients\Public\Works_Canada\Canada\09_PROD\1530908_P\W\GSC_Dev_Line_Mon_Program_2015_2018\40_PROD\0013_CAM_5_Field_Summary_Report_20171 File Name: 1530908CAM-5.1-0009.dwg








Source: 2017 CAM-5
Monitoring Report
(Golder, 2018)

Applies to Figures CAM-5.1
to CAM-5.5.



LOCATION OF MACKAR INLET WITHIN NUNAVUT TERRITORY
SCALE: NTS

LEGEND

-  CM1 SURVEY CONTROL MONUMENT
-  BM-1 PERMANENT BENCHMARK LOCATION (6)
-  APPROXIMATE LIMIT OF DND RESERVE BOUNDARY
-  ARCHAEOLOGICAL FEATURE
-  BODY OF WATER

NOTES

GRID PROJECTION IS NAD83 ZONE 16N.
ELEVATIONS ARE GEODETIC.

REFERENCE

ORIGINAL INSPECTION FIGURE PROVIDED BY
BIOGENIE, A DIVISION OF ENGLOBE
CORPORATION, PROJECT NO.CD2655_400_403,
DATED JUNE 2015.



CLIENT
DEPARTMENT OF NATIONAL DEFENCE CANADA

PROJECT
2017 CAM-5 MONITORING REPORT

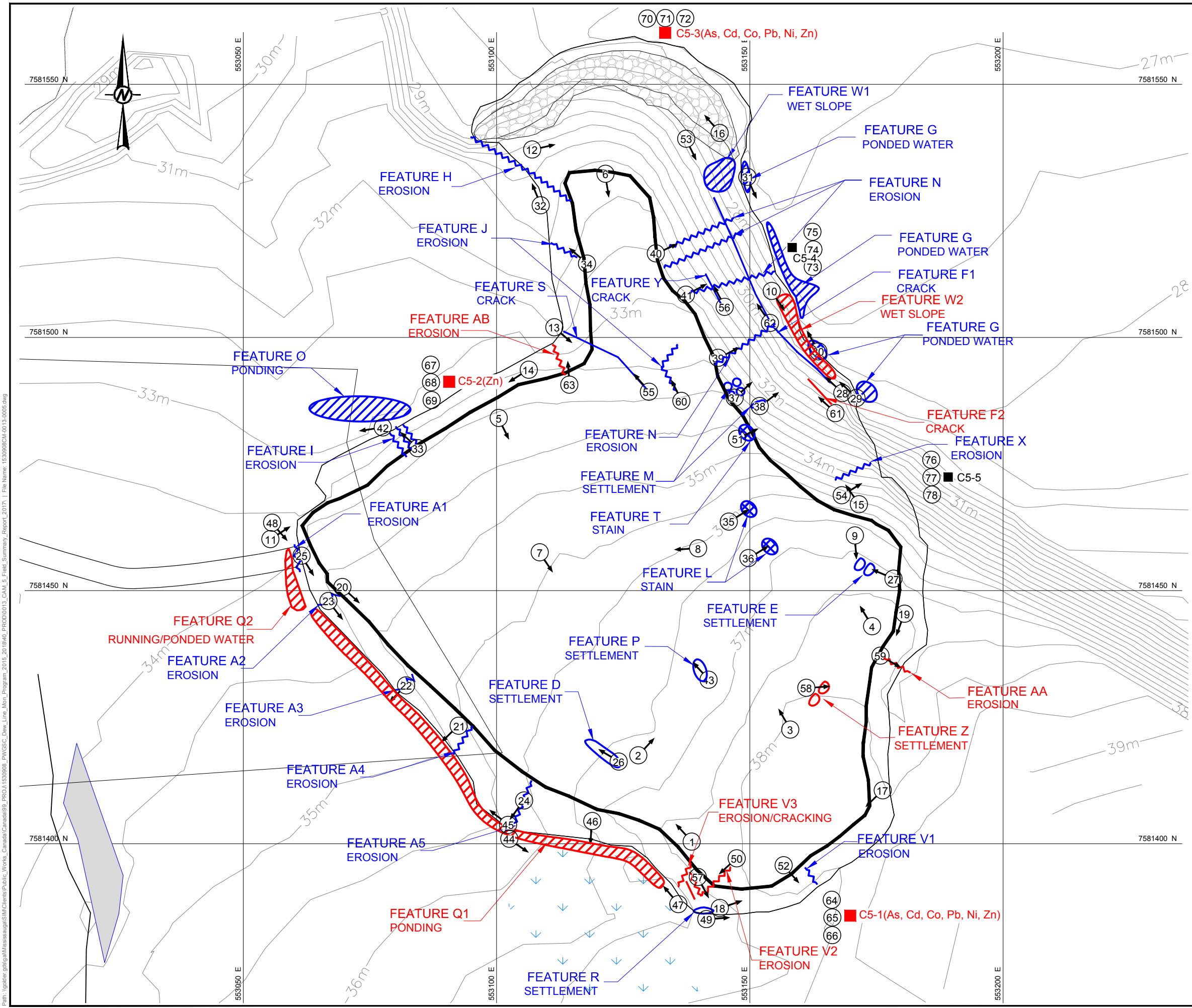
TITLE
OVERALL SITE PLAN

CONSULTANT	YYYY-MM-DD	2018-03-13
	DESIGNED	RM
	PREPARED	TDR
	REVIEWED	DCJ
	APPROVED	DP



PROJECT NO. 1530908	PHASE 3000	REV. A	FIGURE CAM-5.1
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LEGEND

BODY OF WATER

SOIL SAMPLE LOCATION

SOIL SAMPLE LOCATION WITH EXCEEDANCE OF BASELINE MEAN PLUS 3σ

PHOTOGRAPH LOCATION

SETTLEMENT

EROSION

STAINING

PONDING

CRACK

ELEVATION CONTOUR (0.5m INT)

SWAMP

LANDFILL RIP RAP

- NOTES
1.

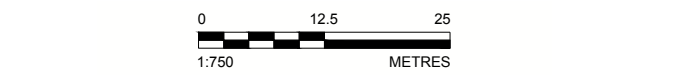
GRID PROJECTION IS NAD83 ZONE 16N. ELEVATIONS ARE GEODETIC.
2.

LOCATIONS AND SCALE OF FEATURES ARE APPROXIMATE AND SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.
3.

FEATURES DRAWN IN RED ARE EITHER NEW OR EXPANDED.

REFERENCE

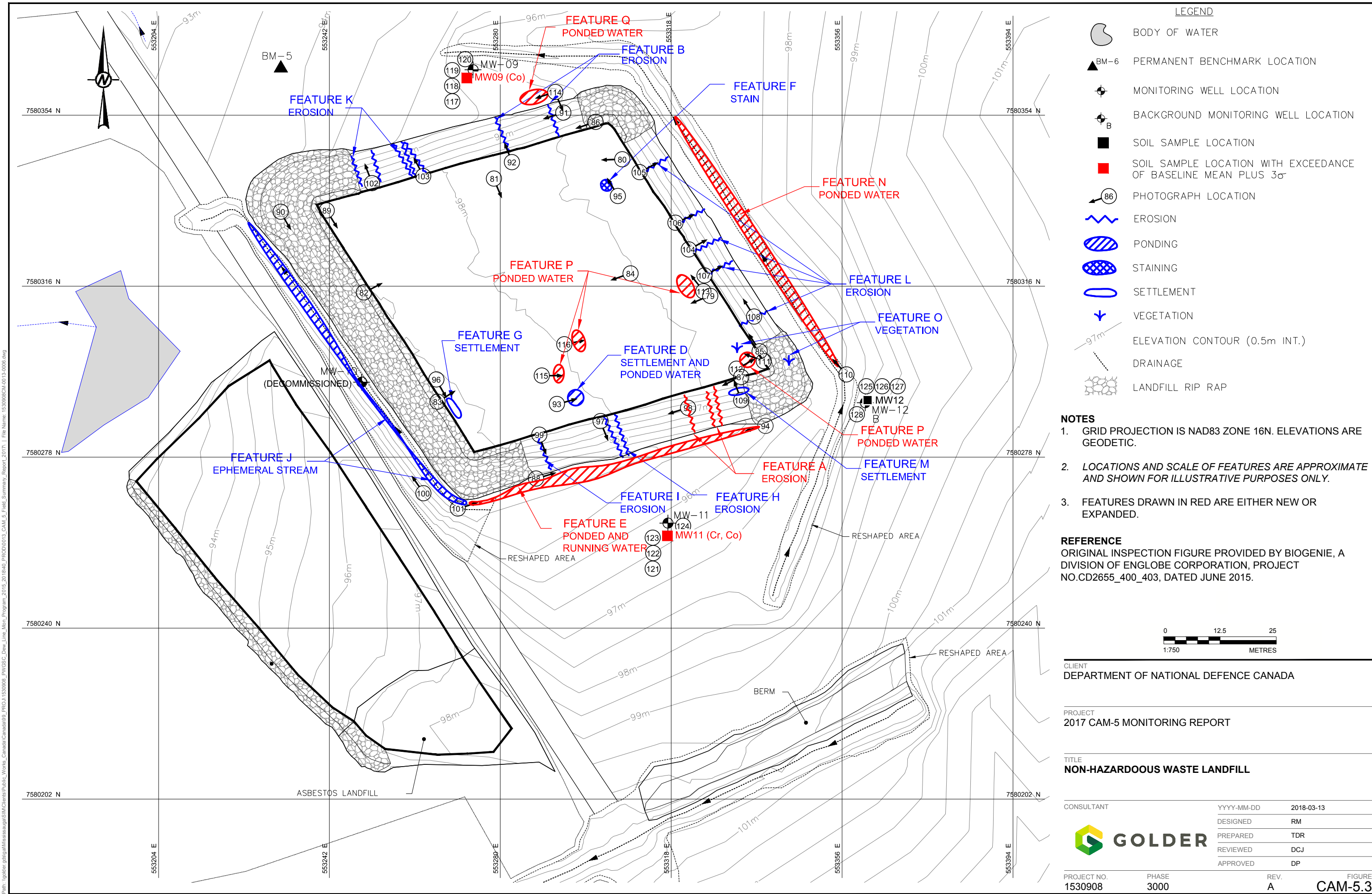
ORIGINAL INSPECTION FIGURE PROVIDED BY BIOGENIE, A DIVISION OF ENGLOBE CORPORATION, PROJECT NO.CD2655_400_403, DATED JUNE 2015.



CLIENT DEPARTMENT OF NATIONAL DEFENCE CANADA			
PROJECT 2017 CAM-5 MONITORING REPORT			
TITLE LOWER SITE LANDFILL SOUTH			
CONSULTANT GOLDER	YYYY-MM-DD	2018-03-13	
	DESIGNED	RM	
	PREPARED	TDR	
	REVIEWED	DCJ	
	APPROVED	DP	
PROJECT NO. 1530908	PHASE 3000	REV. A	FIGURE CAM-5.2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM A3S-B

Path: \\golder\gis\Mississauga\GIS\Projects\Public\Work_Canada\Canada\09_PROD\1530908_PW\GSC_Dev_Line_Mon_Program_2015_2018\40_PROD\0013_CAM_5_Field_Summary_Report_20171 File Name: 1530908CAM-0013-0006.png



LEGEND

- BODY OF WATER
- PERMANENT BENCHMARK LOCATION
- MONITORING WELL LOCATION
- BACKGROUND MONITORING WELL LOCATION
- SOIL SAMPLE LOCATION
- SOIL SAMPLE LOCATION WITH EXCEEDANCE OF BASELINE MEAN PLUS 3σ
- PHOTOGRAPH LOCATION
- EROSION
- PONDING
- STAINING
- SETTLEMENT
- VEGETATION
- ELEVATION CONTOUR (0.5m INT.)
- DRAINAGE
- LANDFILL RIP RAP

NOTES

- GRID PROJECTION IS NAD83 ZONE 16N. ELEVATIONS ARE GEODETIC.
- LOCATIONS AND SCALE OF FEATURES ARE APPROXIMATE AND SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.
- FEATURES DRAWN IN RED ARE EITHER NEW OR EXPANDED.

REFERENCE

ORIGINAL INSPECTION FIGURE PROVIDED BY BIOGENIE, A DIVISION OF ENGLOBE CORPORATION, PROJECT NO.CD2655_400_403, DATED JUNE 2015.

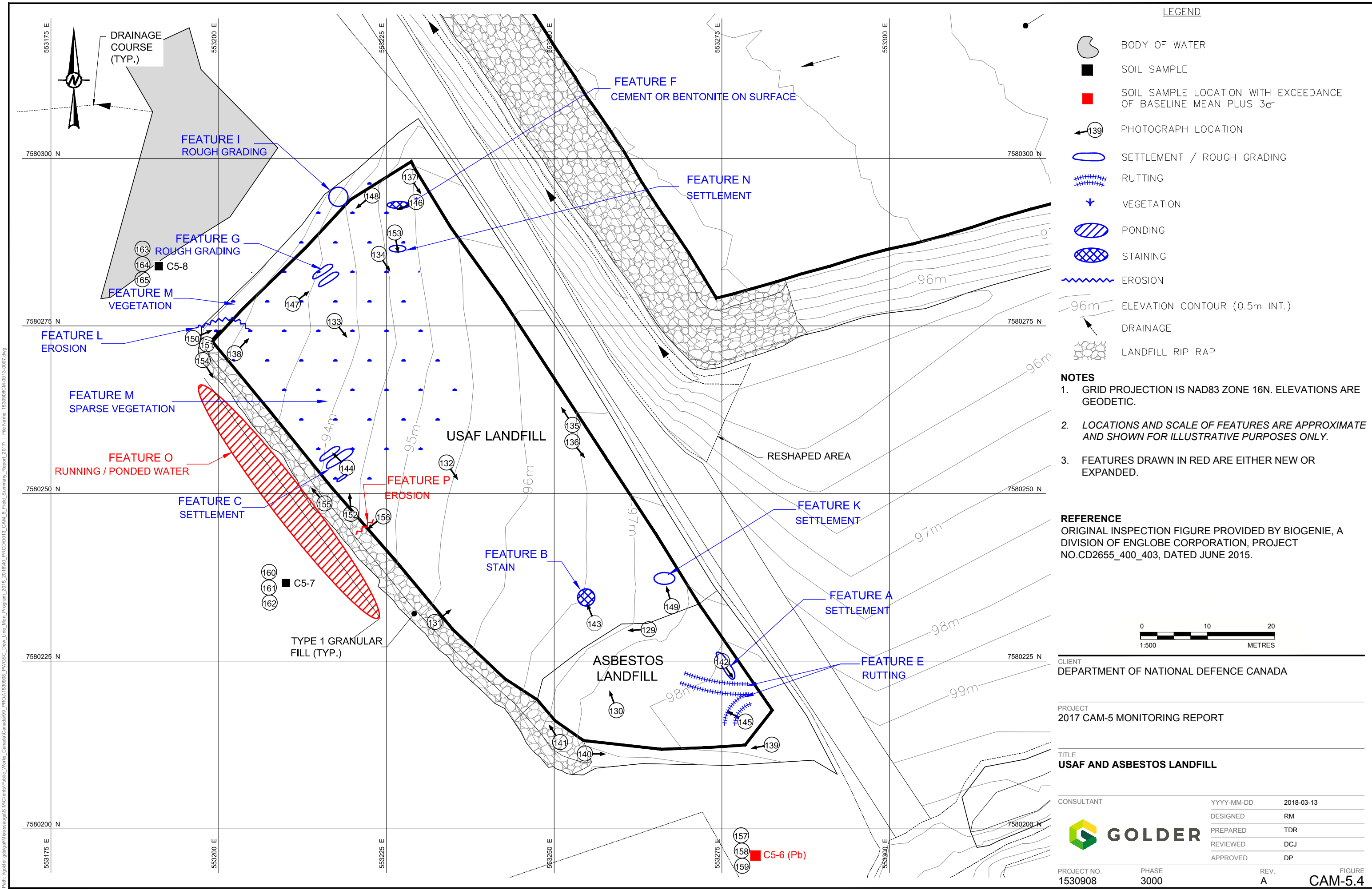


CLIENT DEPARTMENT OF NATIONAL DEFENCE CANADA		
PROJECT 2017 CAM-5 MONITORING REPORT		
TITLE NON-HAZARDOOUS WASTE LANDFILL		
CONSULTANT	YYYY-MM-DD	2018-03-13
	DESIGNED	RM
	PREPARED	TDR
	REVIEWED	DCJ
	APPROVED	DP
PROJECT NO. 1530908	PHASE 3000	REV. A
		FIGURE CAM-5.3

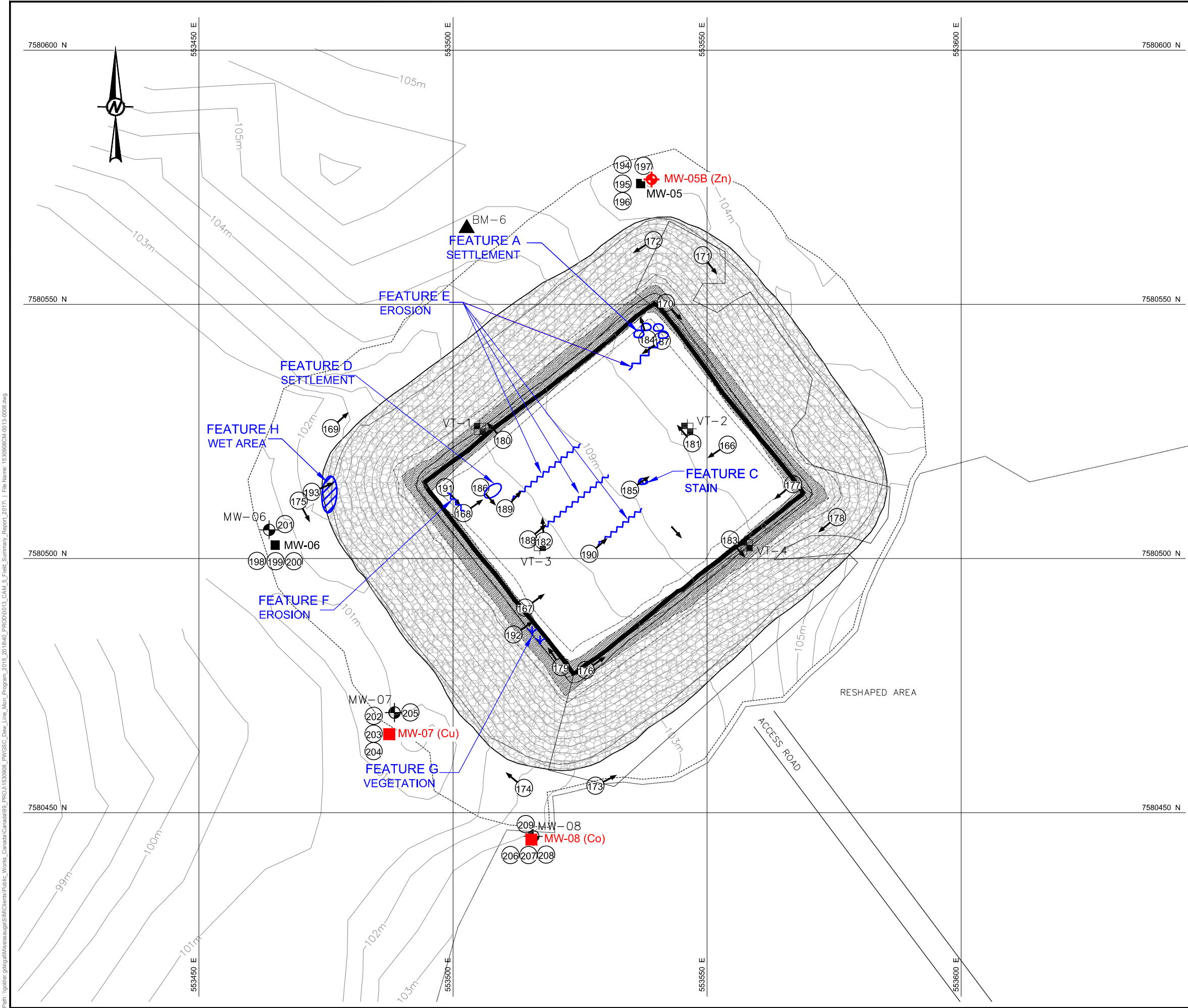


IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM A4S B 25 mm

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LEGEND


- ▲ BM-6 PERMANENT BENCHMARK LOCATION
- ⊕ MONITORING WELL LOCATION
- ⊕ MONITORING WELL LOCATION WITH EXCEEDANCE OF BASELINE MEAN PLUS 3σ
- ⊕_B BACKGROUND MONITORING WELL LOCATION
- ⊕ GROUND TEMPERATURE CABLE LOCATION
- SOIL SAMPLE LOCATION
- SOIL SAMPLE LOCATION WITH EXCEEDANCE OF BASELINE MEAN PLUS 3σ
- ⊕ PHOTOGRAPH LOCATION
- SETTLEMENT
- ⊕ STAINING
- ⊕ EROSION
- ⊕ PONDING
- ⊕ VEGETATION
- ELEVATION CONTOUR (0.5m INT.)
- ⊕ LANDFILL RIP RAP

- NOTES**
- GRID PROJECTION IS NAD83 ZONE 16N. ELEVATIONS ARE GEODETIC.
 - LOCATIONS AND SCALE OF FEATURES ARE APPROXIMATE AND SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.
 - FEATURES DRAWN IN RED ARE EITHER NEW OR EXPANDED.

REFERENCE

ORIGINAL INSPECTION FIGURE PROVIDED BY BIOGENIE, A DIVISION OF ENGLOBE CORPORATION, PROJECT NO.CD2655_400_403, DATED JUNE 2015.

0 12.5 25
1:750 METRES

CLIENT DEPARTMENT OF NATIONAL DEFENCE CANADA		
PROJECT 2017 CAM-5 MONITORING REPORT		
TITLE TIER II DISPOSAL FACILITY		
CONSULTANT 	YYYY-MM-DD	2018-03-13
	DESIGNED	RM
	PREPARED	TDR
	REVIEWED	DCJ
	APPROVED	DP
PROJECT NO. 1530908	PHASE 3000	REV. A
		FIGURE CAM-5.5

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM A3S18 TO A3S18