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Tanks 17 - 20 Volume Histories

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Introduction

The purpose of this report is to document the volumetric waste histories of Tanks 17, 18, 19, and 20. These tanks are Type IV underground waste storage tanks in the F-Area Tank Farm. The cylindrical-shaped, carbon steel tanks have a diameter of 85 feet and a wall height of 34.25 feet. Atop each tank is an 11-foot tall domed concrete roof. These four tanks have been used to store low-heat sludge waste, evaporator concentrate, and supernate since the late 1950's and early 1960's. The bulk of the waste in these tanks was removed in the 1980's, and more waste was removed in the late 1990's and early 2000's. Tank 20 was closed (grouted in place) on July 31, 1997, and Tank 17 was closed on December 15, 1997. The residual inventory in Tanks 18 and 19 has been characterized and these tanks are awaiting closure.

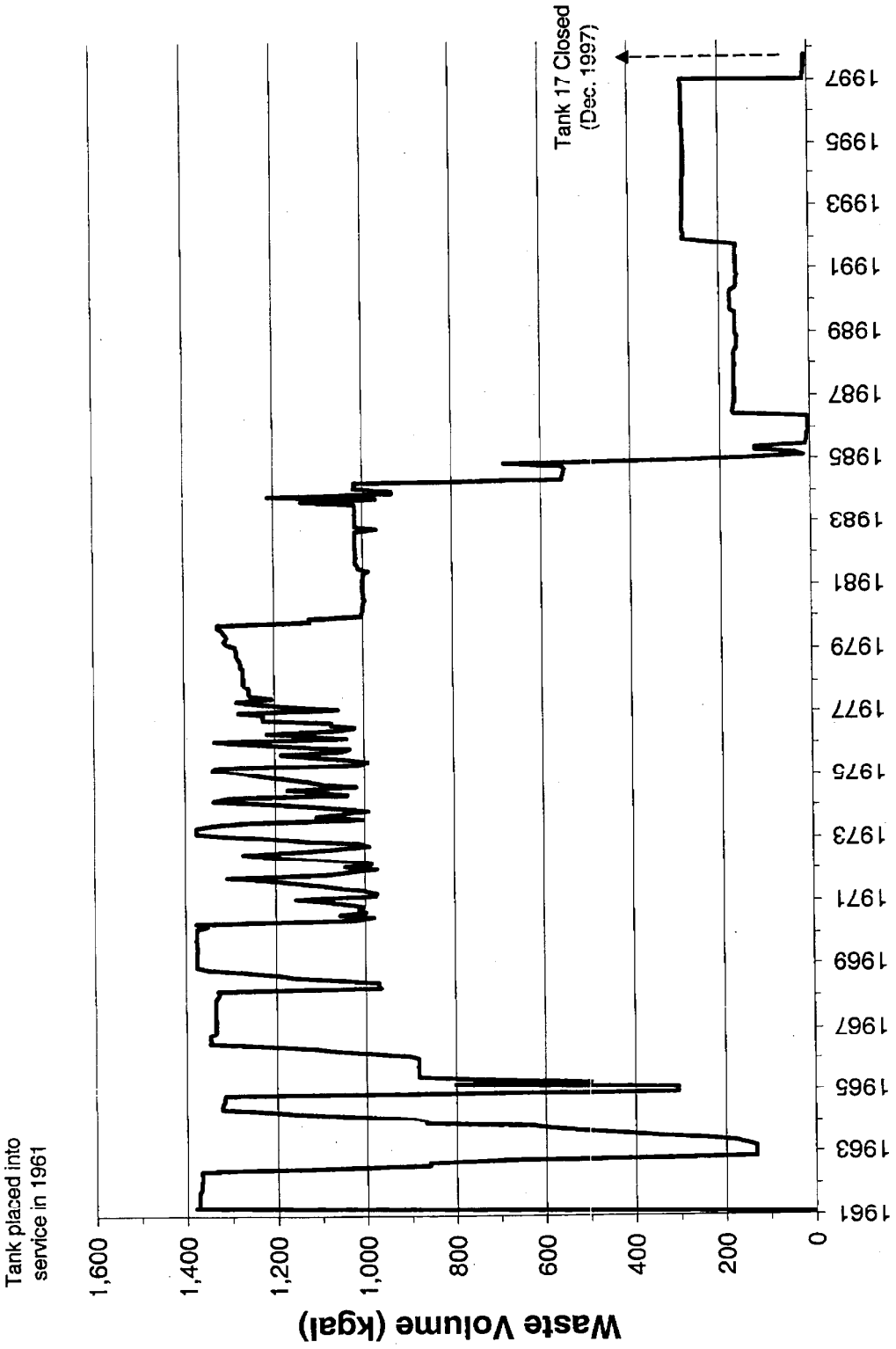
Data and Results

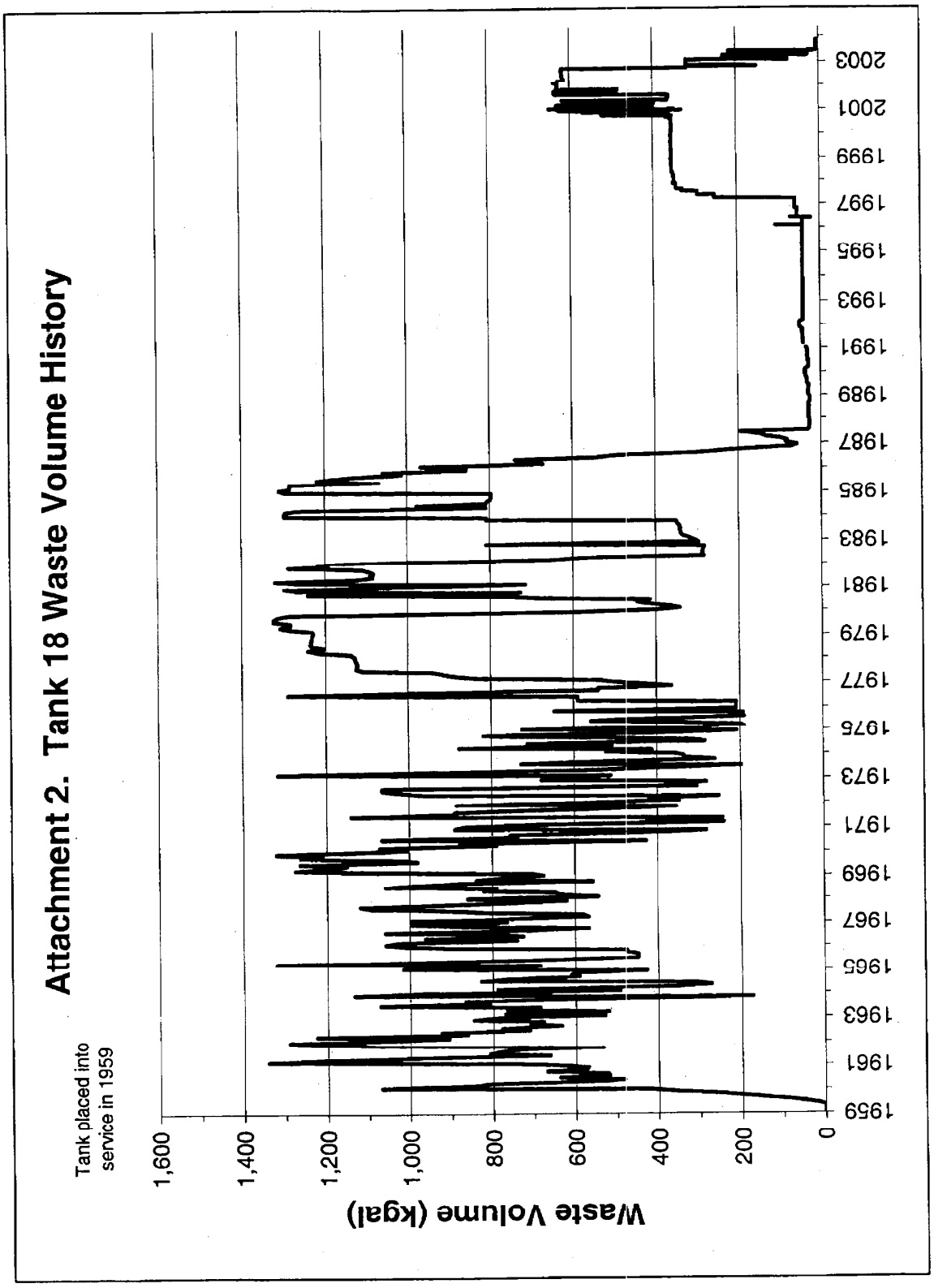
The historical waste volume data for Tanks 17 – 20 was compiled from several files (References 1 - 4) that logged the volume or height of waste in each tank. The total volumes reported include supernate, and were computed from daily readings of liquid level (plus unsubmerged salt in some tanks). Salt and sludge volumes reported were estimated from soundings, visual inspection, and/or pumpdown data. Where only waste height data was available, the heights were converted to volumes using the fill factor for Type IV waste tanks (3,540 gal/in.). Attachments 1 – 4 graphically depict the waste volumes in Tanks 17 – 20 throughout their operational histories. As these graphs show, the level in these tanks fluctuated during their operational history.

References

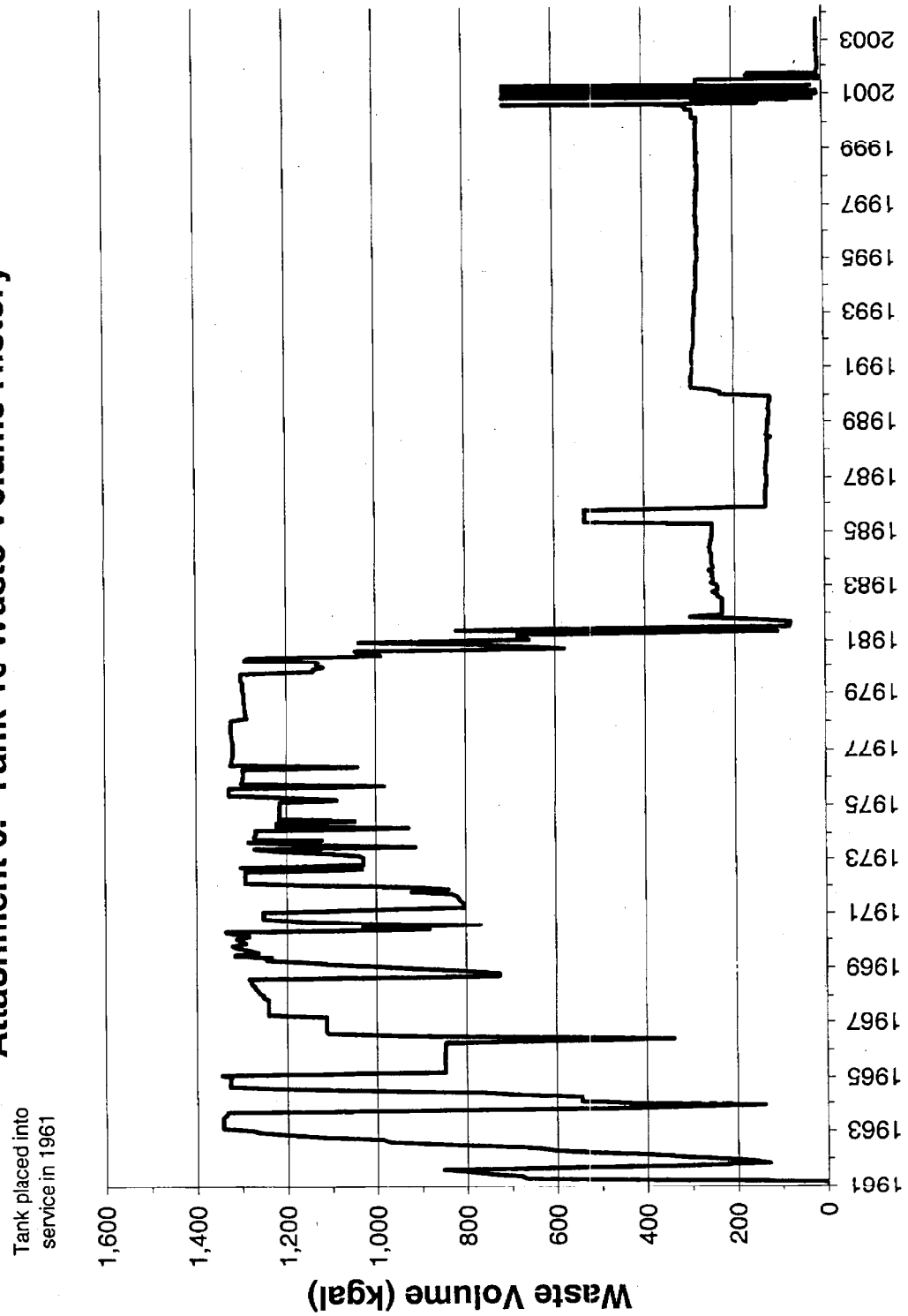
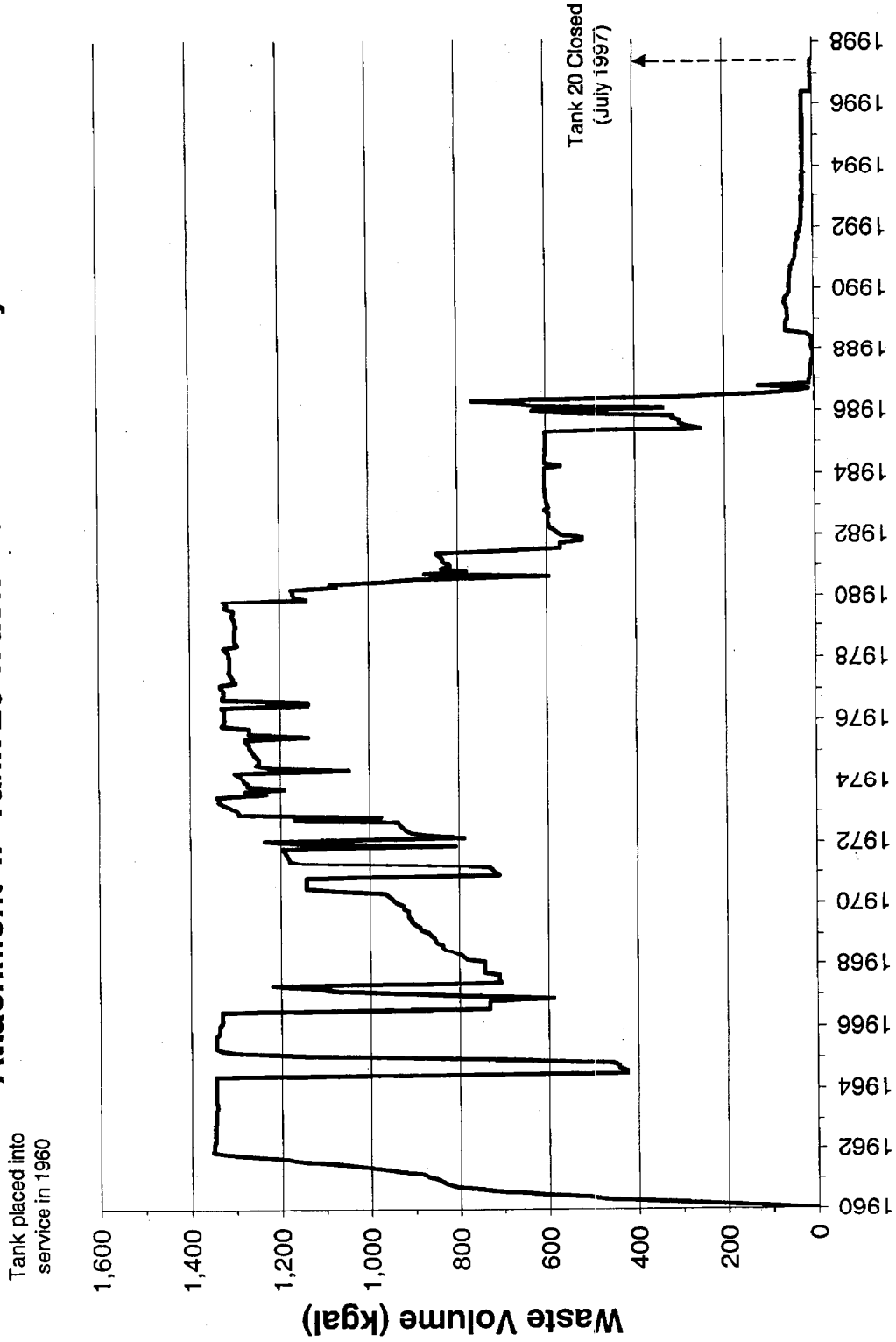
1. *Levels.xls*, WG08:\Waste8\Archives\Georgeto\HLW\TankHist\Crummfil\
2. *Level FTF 9_86 – 2_94.xls*, WG08:\Waste8\Tank Data\
3. *Tank Trending.xls*, WG08:\Waste8\Tank Data\
4. *Tk18_19Lvls.xls*, WG08:\Waste8\Tank Data\

Attachment 1. Tank 17 Waste Volume History




Attachment 2. Tank 18 Waste Volume History
Tank placed into service in 1959
Waste Volume (kgal)
1,600
1,400
1,200
1,000
800
600
400
200
0
1959
1961
1963
1965
1967
1969
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003

Attachment 3. Tank 19 Waste Volume History



Attachment 4. Tank 20 Waste Volume History