

CONTENTS

E.1.0 INTRODUCTION	1
E.2.0 REFERENCES	73

FIGURES

Figure E-1. Plan View of the C Tank Farm Showing Borehole Locations from DOE-GJO 1998a.....	3
Figure E-2. 30-01-06 Man-Made Radionuclide Concentrations from DOE-GJO 1997h.....	4
Figure E-3. 30-01-09 Man-Made Radionuclide Concentrations from DOE-GJO 1997h.....	5
Figure E-4. 30-03-01 Man-Made Radionuclide Concentrations from DOE-GJO 1997e.....	6
Figure E-5. 30-03-01 Man-Made Radionuclide Concentrations from DOE-GJO 1997e.....	7
Figure E-6. 30-03-07 Man-Made Radionuclide Concentrations from DOE-GJO 1997e.....	8
Figure E-7. 30-03-09 Man-Made Radionuclide Concentrations from DOE-GJO 1997e.....	9
Figure E-8. 30-04-02 Man-Made Radionuclide Concentrations from DOE-GJO 1997j.....	10
Figure E-9. 30-04-03 Man-Made Radionuclide Concentrations from DOE-GJO 1997j.....	11
Figure E-10. 30-05-02 Man-Made Radionuclide Concentrations from DOE-GJO 1997f	12
Figure E-11. 30-05-03 Man-Made Radionuclide Concentrations from DOE-GJO 1997f	13
Figure E-12. 30-05-04 Man-Made Radionuclide Concentrations from DOE-GJO 1997f	14
Figure E-13. 30-05-05 Man-Made Radionuclide Concentrations from DOE-GJO 1997f	15
Figure E-14. 30-05-07 Summary of High Rate Logging Results for the C Tank Farm from DOE GJO 2000b.....	16
Figure E-15. 30-05-07 Man-Made Radionuclide Concentrations from DOE-GJO 1997f	17
Figure E-16. 30-05-08 Man-Made Radionuclide Concentrations from DOE-GJO 1997f	18
Figure E-17. 30-06-04 Man-Made Radionuclide Concentrations from DOE-GJO 1997g.....	19
Figure E-18. 30-06-10 Summary of Repeat Logging Results for the C Tank Farm from DOE-GJO 2000b.....	20
Figure E-19. 30-06-12 Man-Made Radionuclide Concentrations from DOE-GJO 1997g.....	21

Figure E-20. 30-07-11 Summary of High Rate Logging Results for the C Tank Farm from DOE-GJO 2000b.....	22
Figure E-21. 30-08-02 Man-Made Radionuclide Concentrations from DOE-GJO 1997l.....	23
Figure E-22. 30-09-02 Man-Made Radionuclide Concentrations from DOE-GJO 1997m.....	24
Figure E-23. 30-09-06 Man-Made Radionuclide Concentrations from DOE-GJO 1997m.....	25
Figure E-24. 30-09-07 Man-Made Radionuclide Concentrations from DOE-GJO 1997m.....	26
Figure E-25. 30-09-10 Man-Made Radionuclide Concentrations from DOE-GJO 1997m.....	27
Figure E-26. 30-10-02 Man-Made Radionuclide Concentrations from DOE-GJO 1997n.....	28
Figure E-27. 30-12-13 Man-Made Radionuclide Concentrations from DOE-GJO 1998b.....	29
Figure E-28. 30-12-13 Summary of High Rate Logging Results for the C Tank Farm from DOE-GJO 2000b.....	30
Figure E-29. Plan Map of the A Tank Farm Showing the Location of the Tank Monitoring Boreholes and Leak Detection Laterals from DOE-GJO 1999.	32
Figure E-30. 10-01-03 Man-Made Radionuclide Concentrations from DOE-GJO 1998c.....	33
Figure E-31. 10-01-03 Summary of High Rate Logging Results for the A Tank Farm from DOE-GJO 2000c.....	34
Figure E-32. 10-01-28 Man-Made Radionuclide Concentrations from DOE-GJO 1998c.....	35
Figure E-33. 10-01-39 Man-Made Radionuclide Concentrations from DOE-GJO 1998c.....	36
Figure E-34. 10-01-16 Man-Made Radionuclide Concentrations from DOE-GJO 1998c.....	37
Figure E-35. 10-01-04 Man-Made Radionuclide Concentrations from DOE-GJO 1998c.....	38
Figure E-36. 10-01-04 Man-Made Radionuclide Concentrations from DOE-GJO 1998c.....	39
Figure E-37. 10-02-08 Man-Made Radionuclide Concentrations from DOE-GJO 1998d.....	40
Figure E-38. Plan view of Tanks and Boreholes in the A Tank Farm from DOE-GJO 1998e. ..	41
Figure E-39. A-104 Lateral – Historical Gamma-Ray Correlations from DOE-GJO 1998e....	42
Figure E-40. 14-04-02 Lateral – Historical Gamma-Ray Correlations from DOE-GJO 1998e.....	43
Figure E-41. Plan View of Tanks and Boreholes in the A Tank Farm from DOE-GJO 1998f.	44

RPP-14430, Revision 0

Figure E-42. Lateral 14-05-01 Selected Historical Gamma-Ray Plots – Horizontal Segments from DOE-GJO 1998f.....	45
Figure E-43. Lateral 14-05-02 Selected Historical Gamma-Ray Log – Historical Segments from DOE-GJO 1998f.	46
Figure E-44. Lateral 14-05-03 Selected Historical Gamma-Ray Log - Horizontal Segment from DOE-GJO 1998f.	47
Figure E-45. Plan Map of the Hanford Site AX Tank Farm Showing the Tank Monitoring Boreholes from DOE-GJO 2000a.....	49
Figure E-46. 11-01-10 Man-Made Radionuclide Concentrations from DOE-GJO 1997a.....	50
Figure E-47. 11-01-10 Summary of High Rate Logging Results for the AX Tank Farm from DOE-GJO 2000a.....	51
Figure E-48. 11-02-12 Man-Made Radionuclide Concentrations from DOE-GJO 1997b.....	52
Figure E-49. 11-02-12 Summary of High Rate Logging Results for the AX Tank Farm from DOE-GJO 2000a.....	53
Figure E-50. 11-03-02 Man-Made Radionuclide Concentrations from DOE-GJO 1997c.....	54
Figure E-51. 11-04-10 Man-Made Radionuclide Concentrations from DOE-GJO 1997d.....	55

E.1.0 INTRODUCTION

Appendix E contains the drywell spectral gamma logging profiles generated in the 1990s for the C, A and AX tank farms. These profiles are a subset of a comprehensive database generated to measure vadose zone contamination in the single shell tank farms. Spectral gamma data are provided only from those drywells that plausibly indicate the presence of tank waste in the vadose zone. Almost all drywells show surface contamination linked with tank farm operations, but individual drywells are not shown if minimal surface contamination is the only gamma data measured. This appendix also includes summaries of historical gamma logging that was collected between 1974 and 1995 for the drywells in each of the tank farms. These data provide some indication of gamma-emitting radionuclide migration during the data collection time frame.

RPP-14430, Revision 0

C TANK FARM DRYWELL SPECTRAL GAMMA LOGGING PLOTS

Figure E-1. Plan View of the C Tank Farm Showing Borehole Locations from DOE-GJO 1998a.

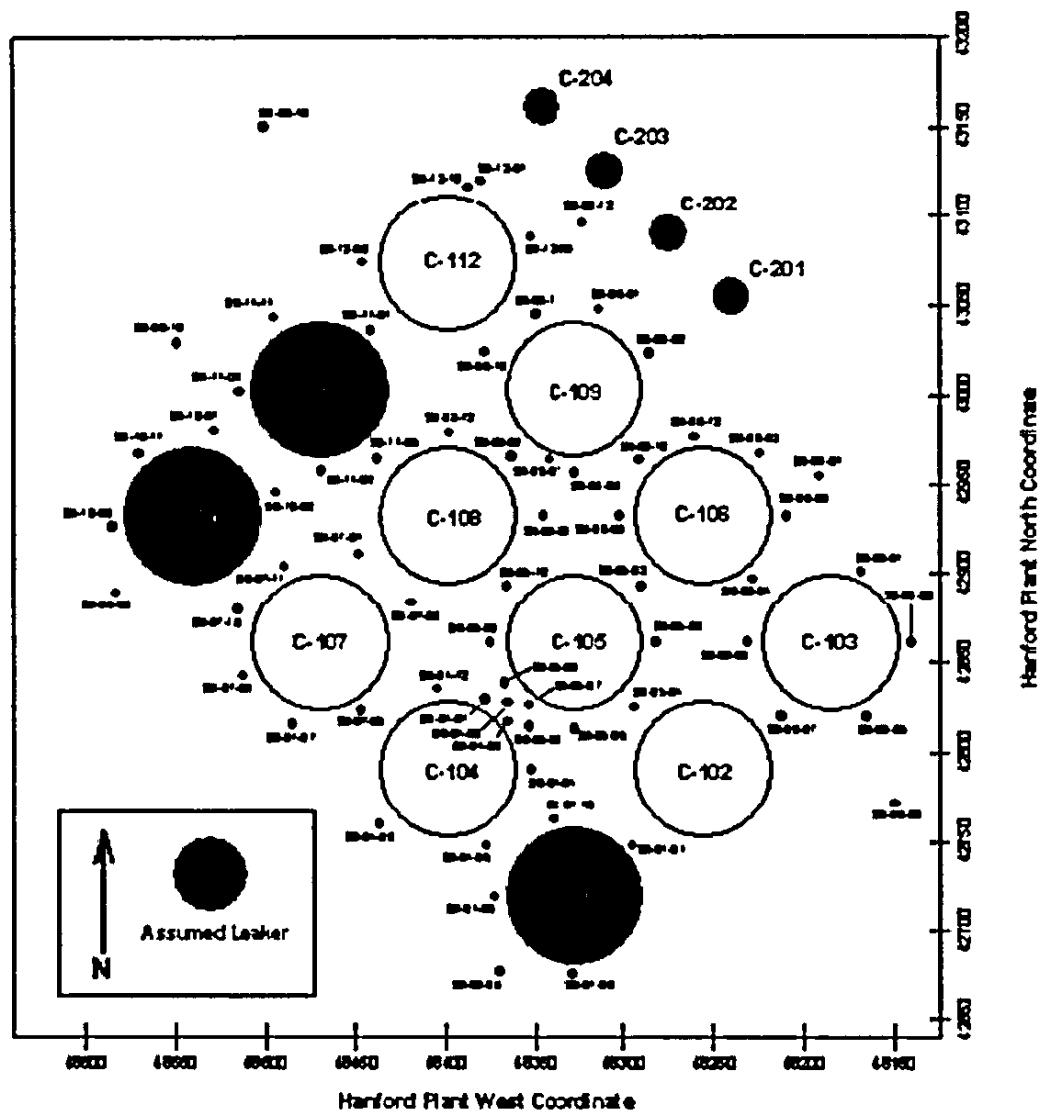


Figure 14-11. Plan View of the C Tank Farm Showing Borehole Locations

Figure E-2. 30-01-06 Man-Made Radionuclide Concentrations from DOE-GJO 1997h.

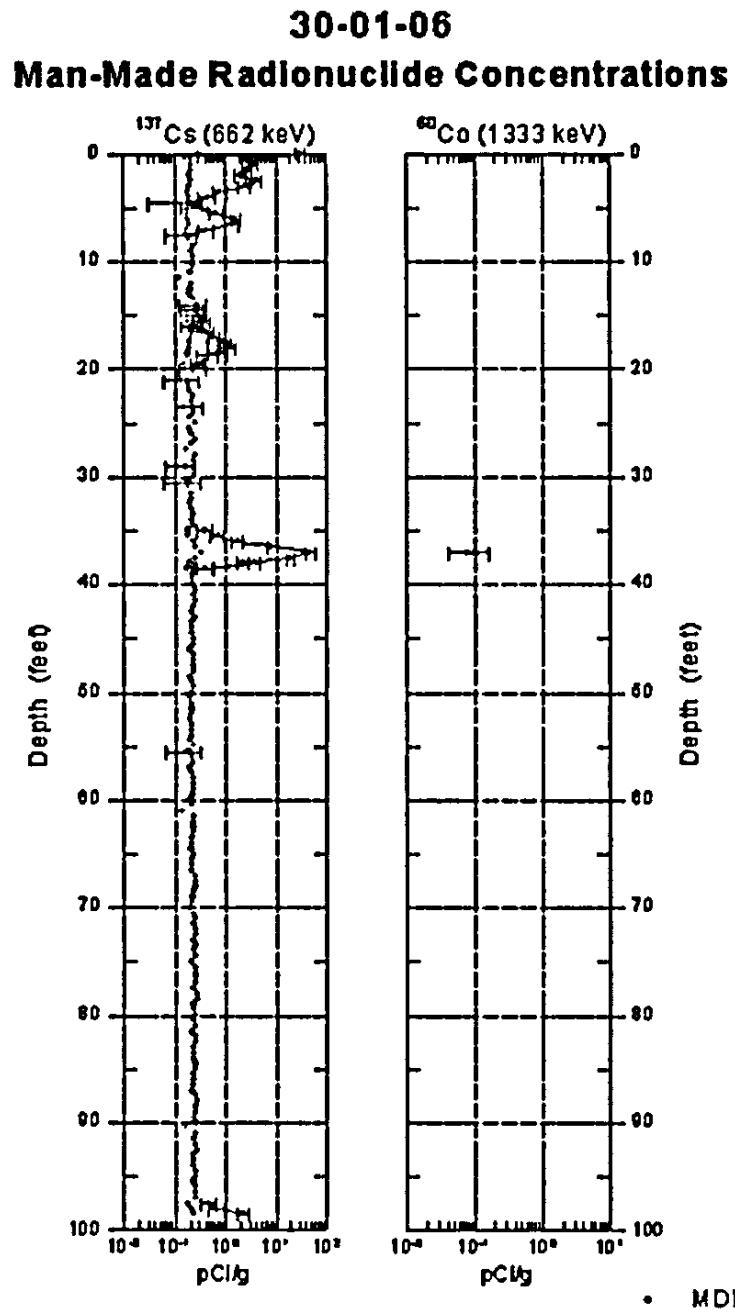


Figure E-3. 30-01-09 Man-Made Radionuclide Concentrations from DOE-GJO 1997h.

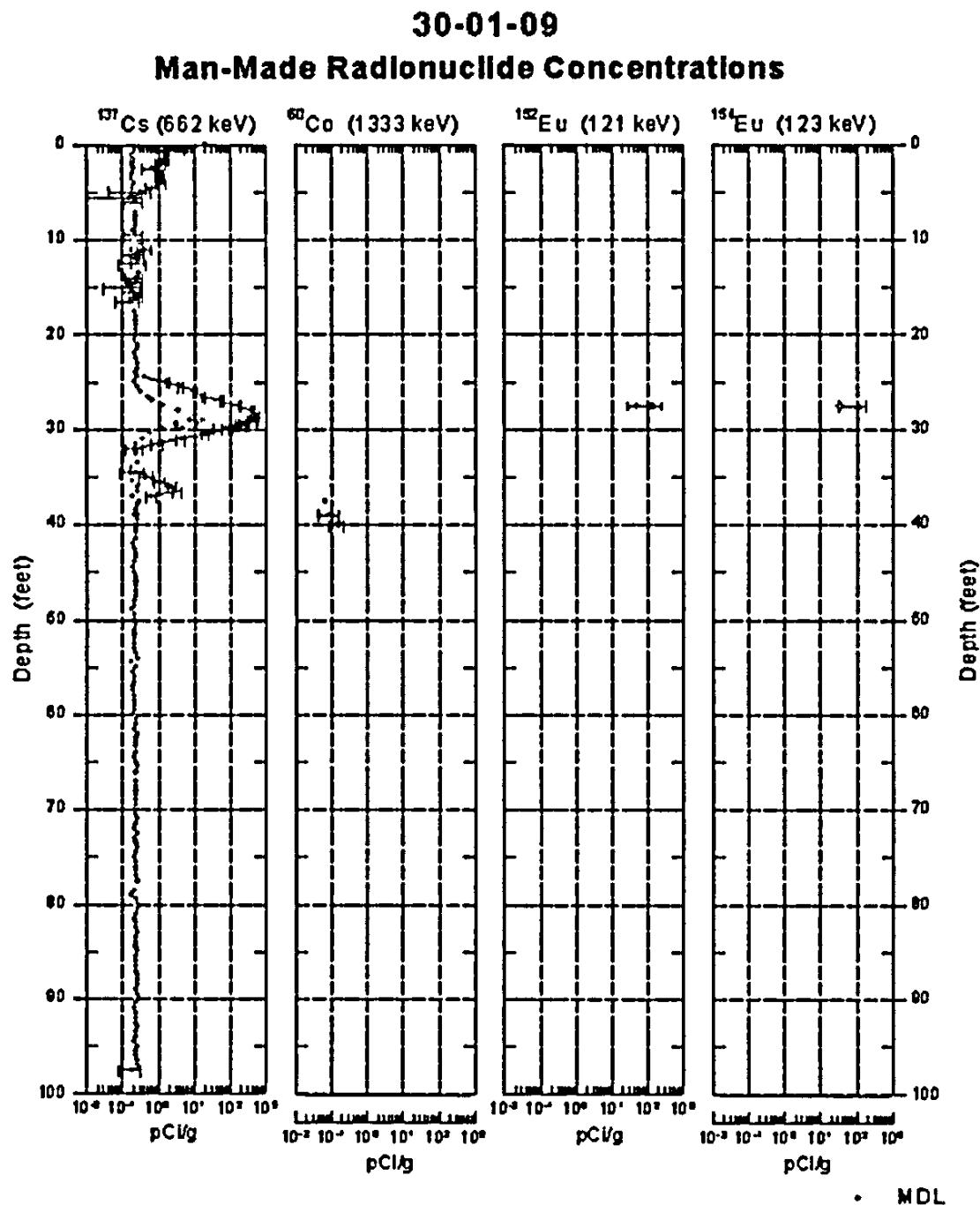


Figure E-4. 30-03-01 Man-Made Radionuclide Concentrations from DOE-GJO 1997e.

30-03-01
Man-Made Radionuclide Concentrations

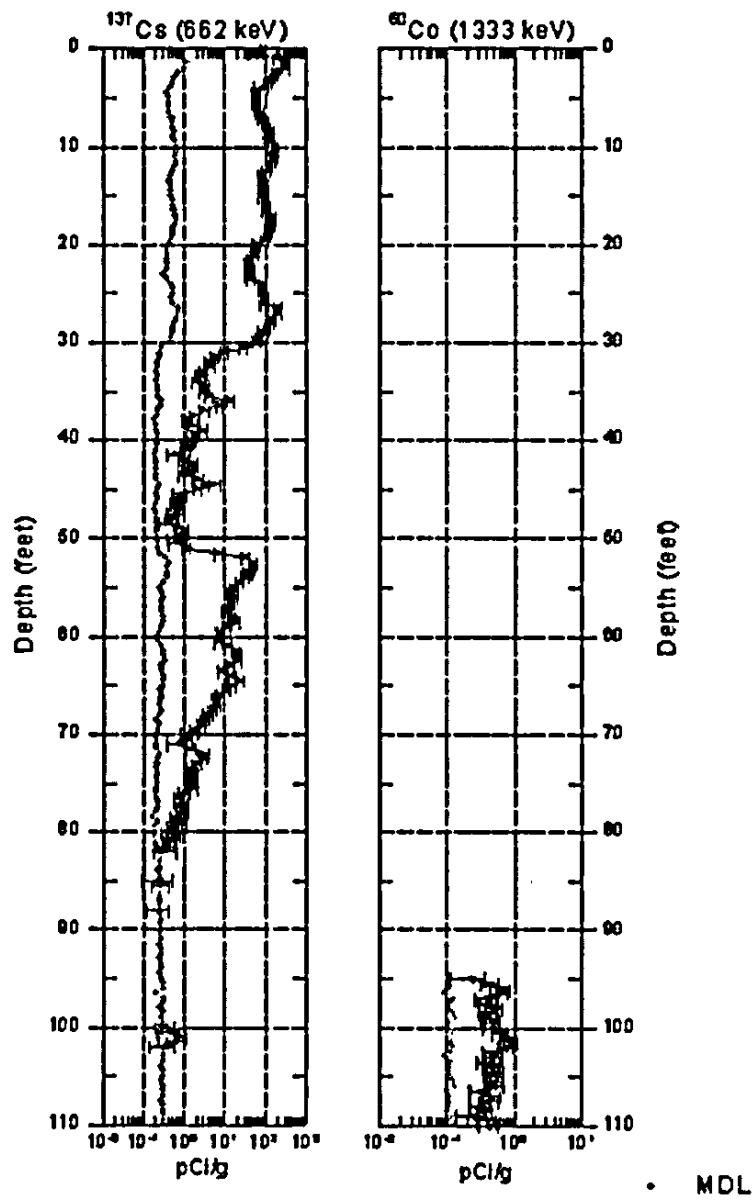


Figure E-5. 30-03-01 Man-Made Radionuclide Concentrations from DOE-GJO 1997e.

30-03-01
Man-Made Radionuclide Concentrations

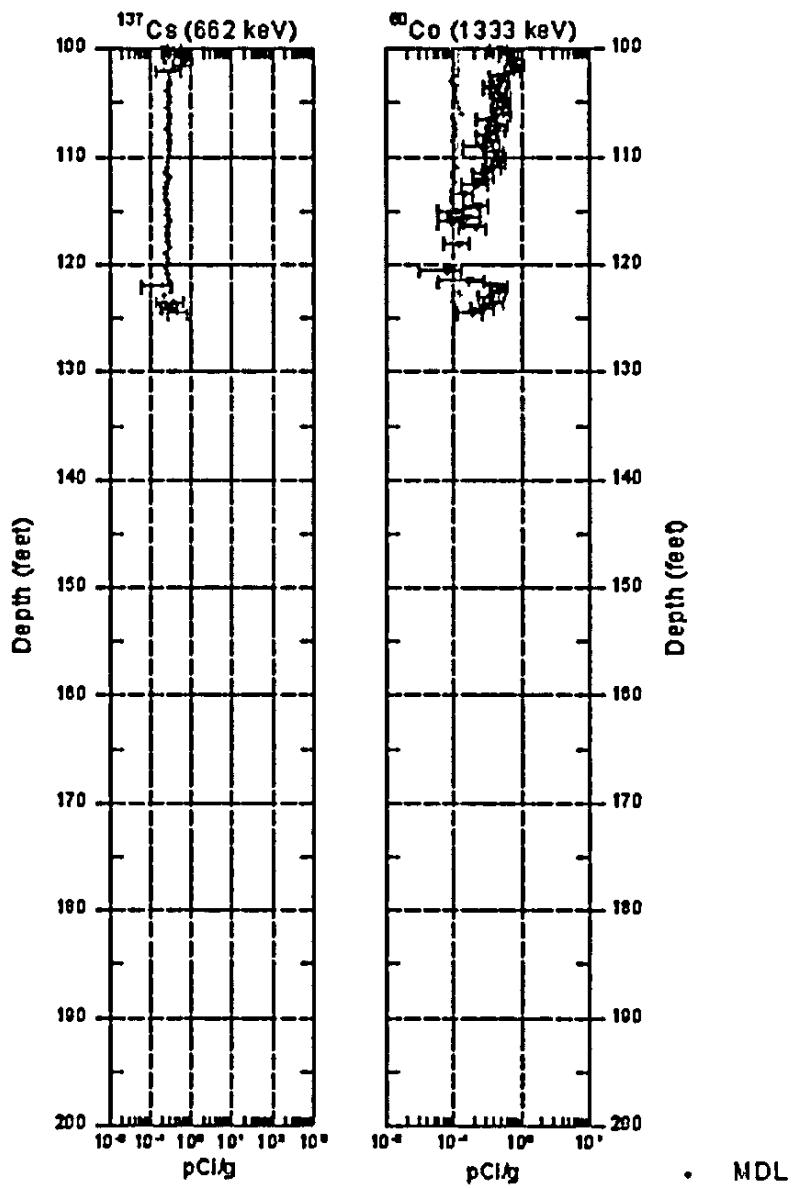


Figure E-6. 30-03-07 Man-Made Radionuclide Concentrations from DOE-GJO 1997e.

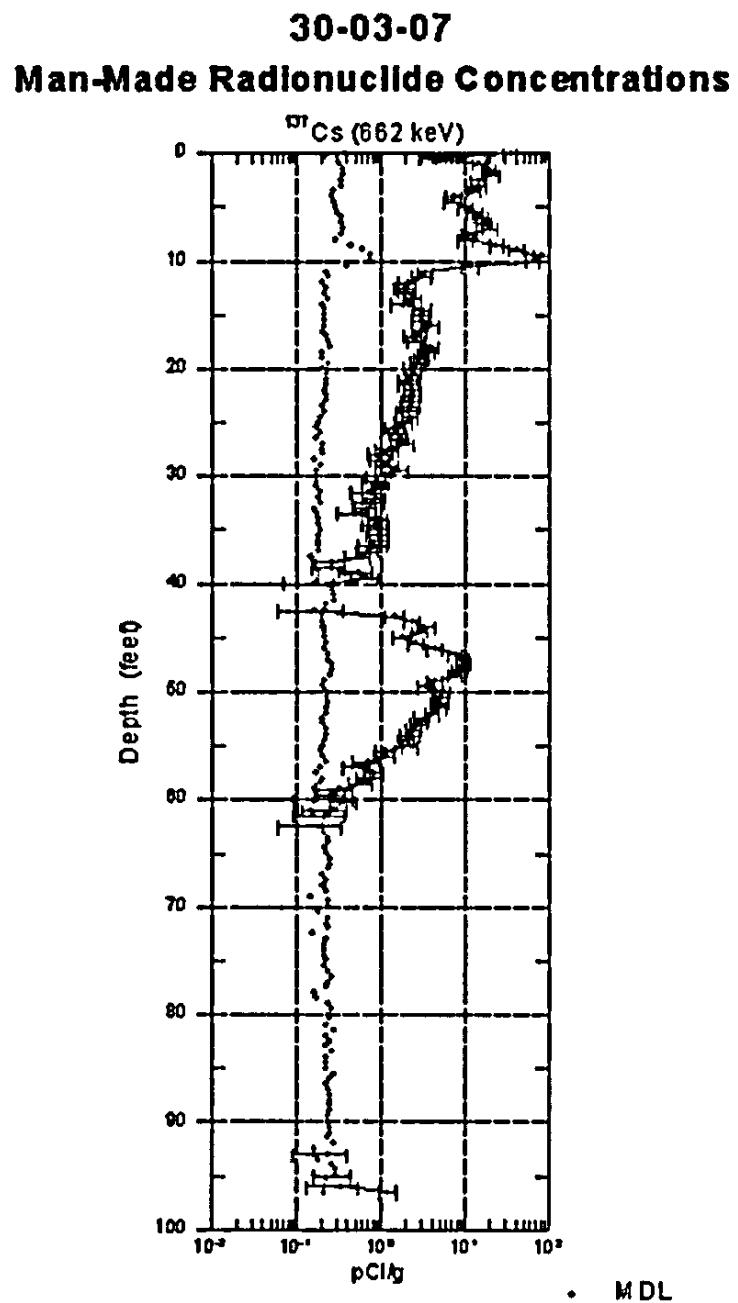


Figure E-7. 30-03-09 Man-Made Radionuclide Concentrations from DOE-GJO 1997e.

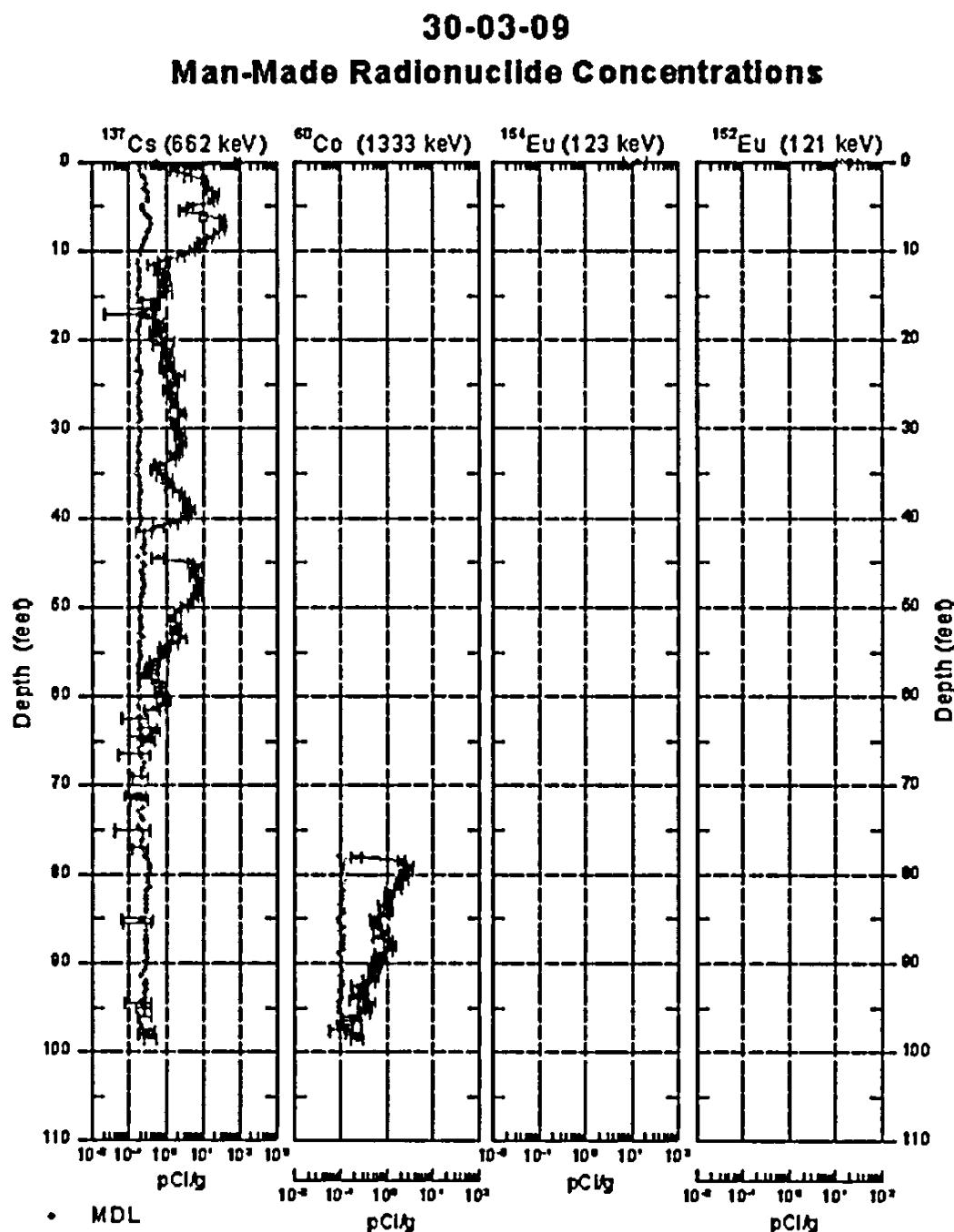


Figure E-8. 30-04-02 Man-Made Radionuclide Concentrations from DOE-GJO 1997j.

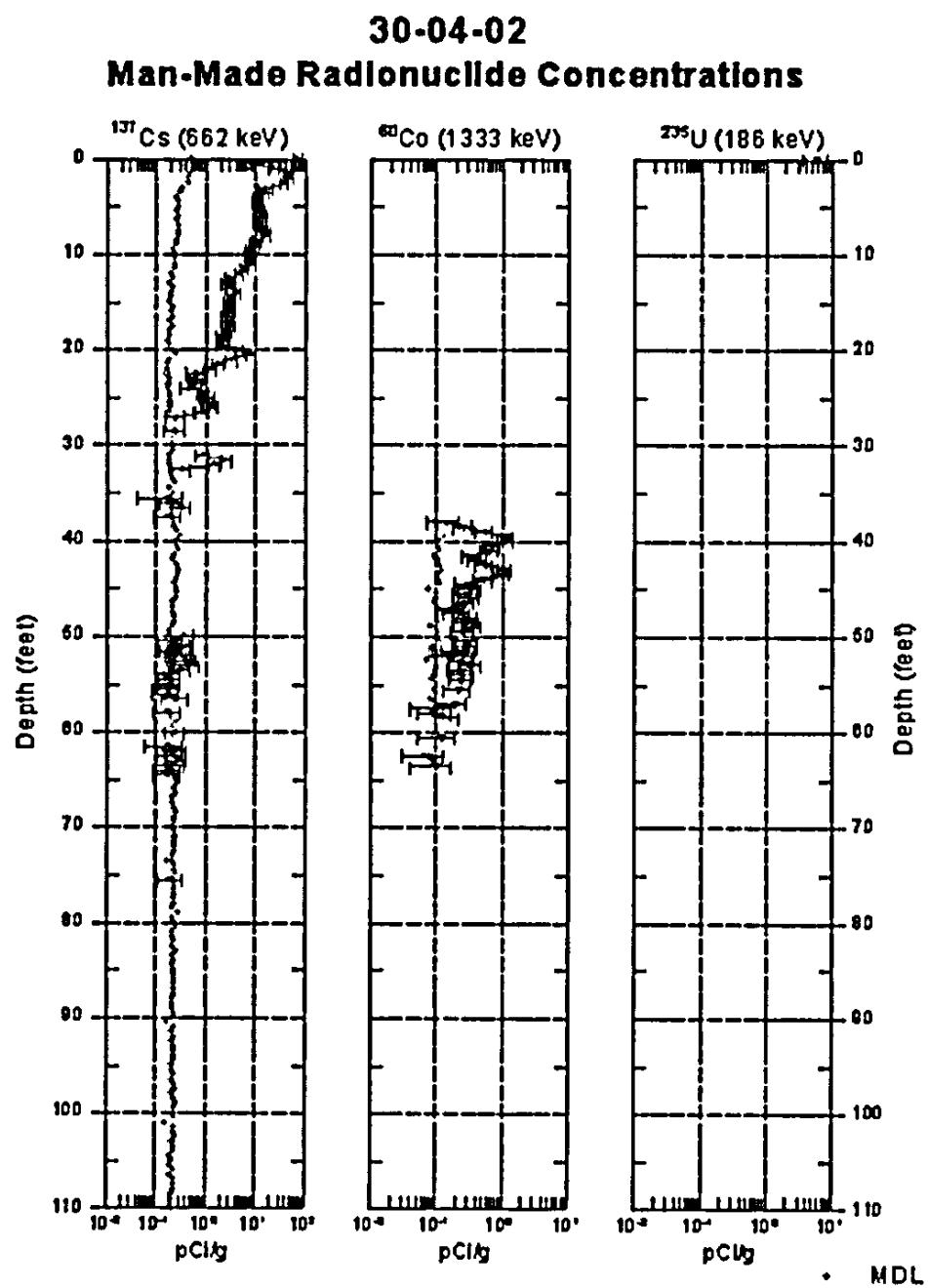


Figure E-9. 30-04-03 Man-Made Radionuclide Concentrations from DOE-GJO 1997j.

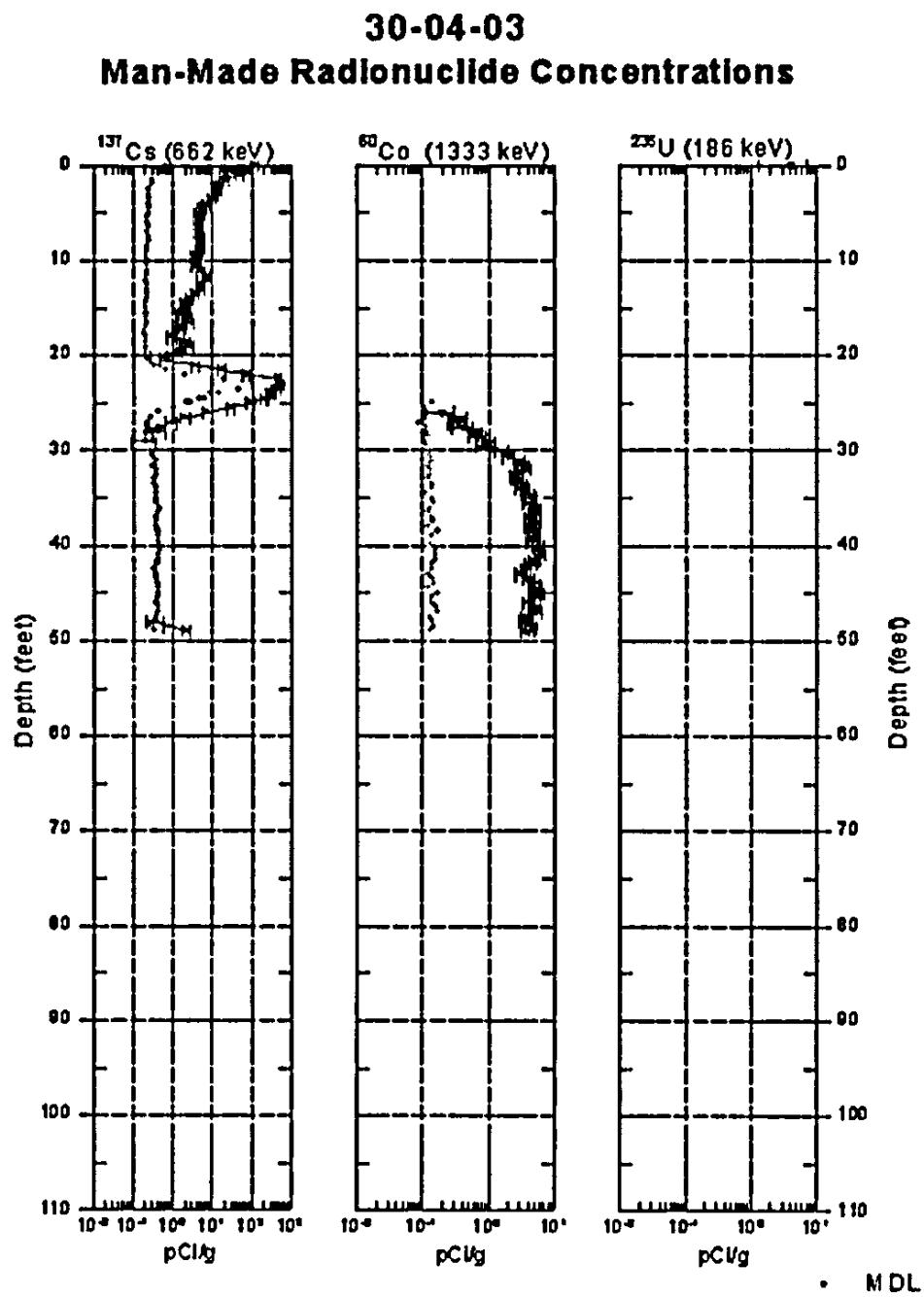


Figure E-10. 30-05-02 Man-Made Radionuclide Concentrations from DOE-GJO 1997f.

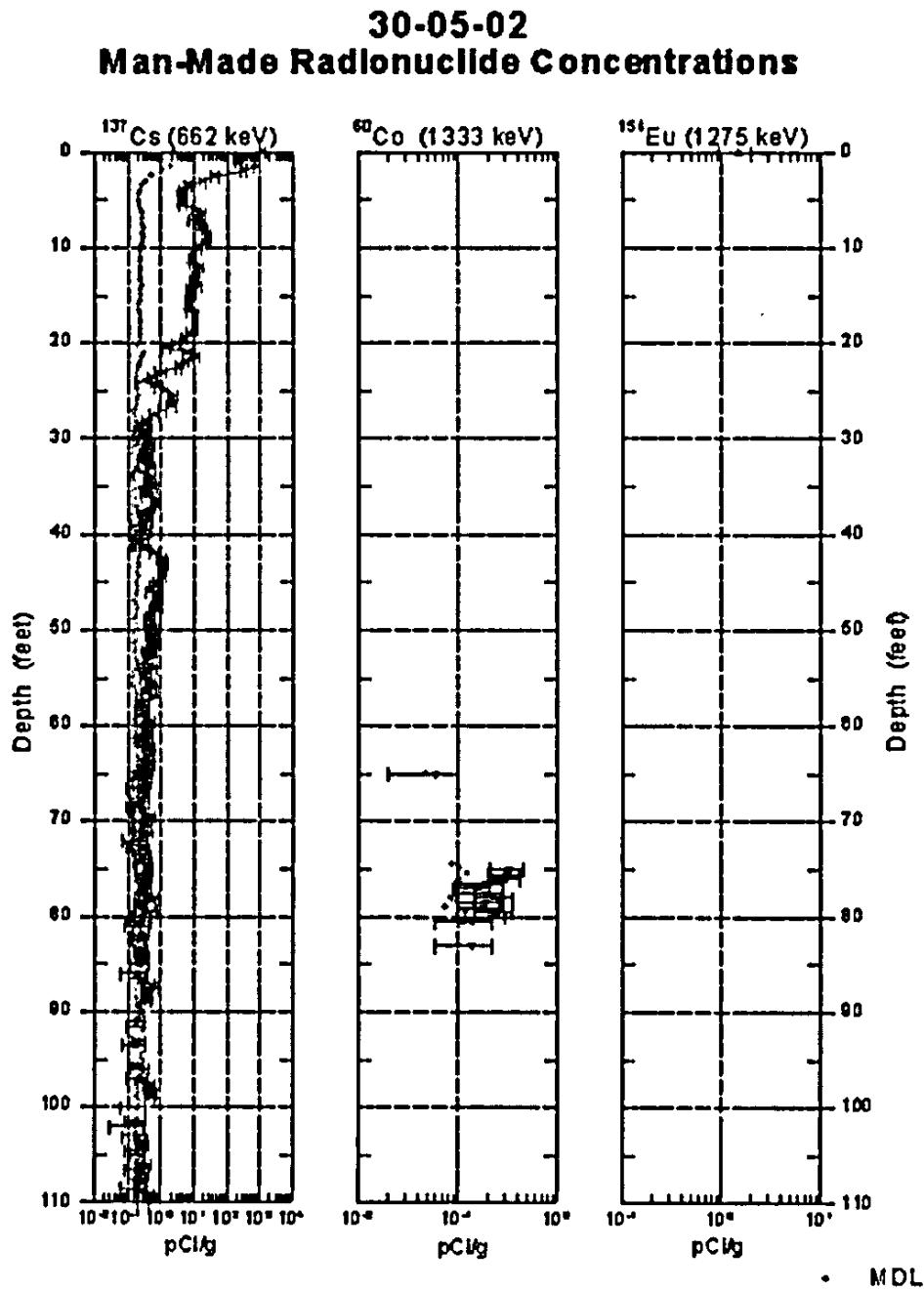


Figure E-11. 30-05-03 Man-Made Radionuclide Concentrations from DOE-GJO 1997f.

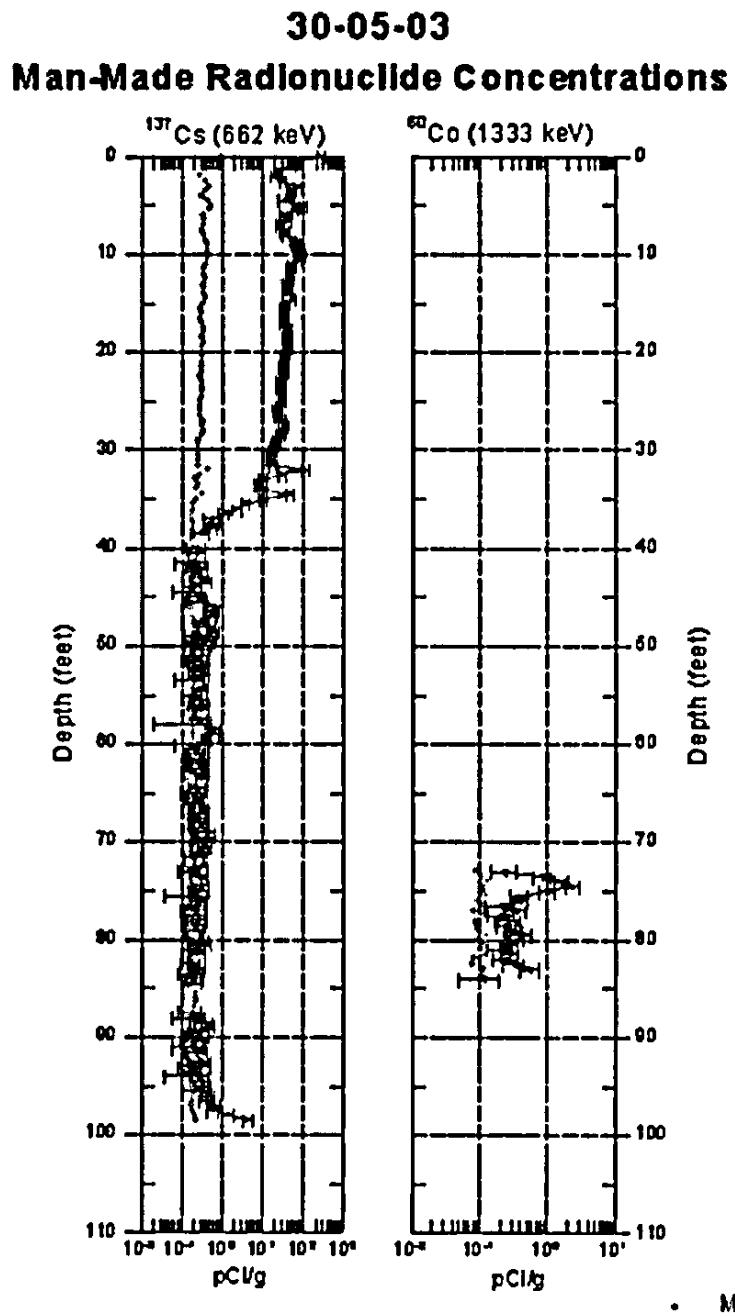


Figure E-12. 30-05-04 Man-Made Radionuclide Concentrations from DOE-GJO 1997f.

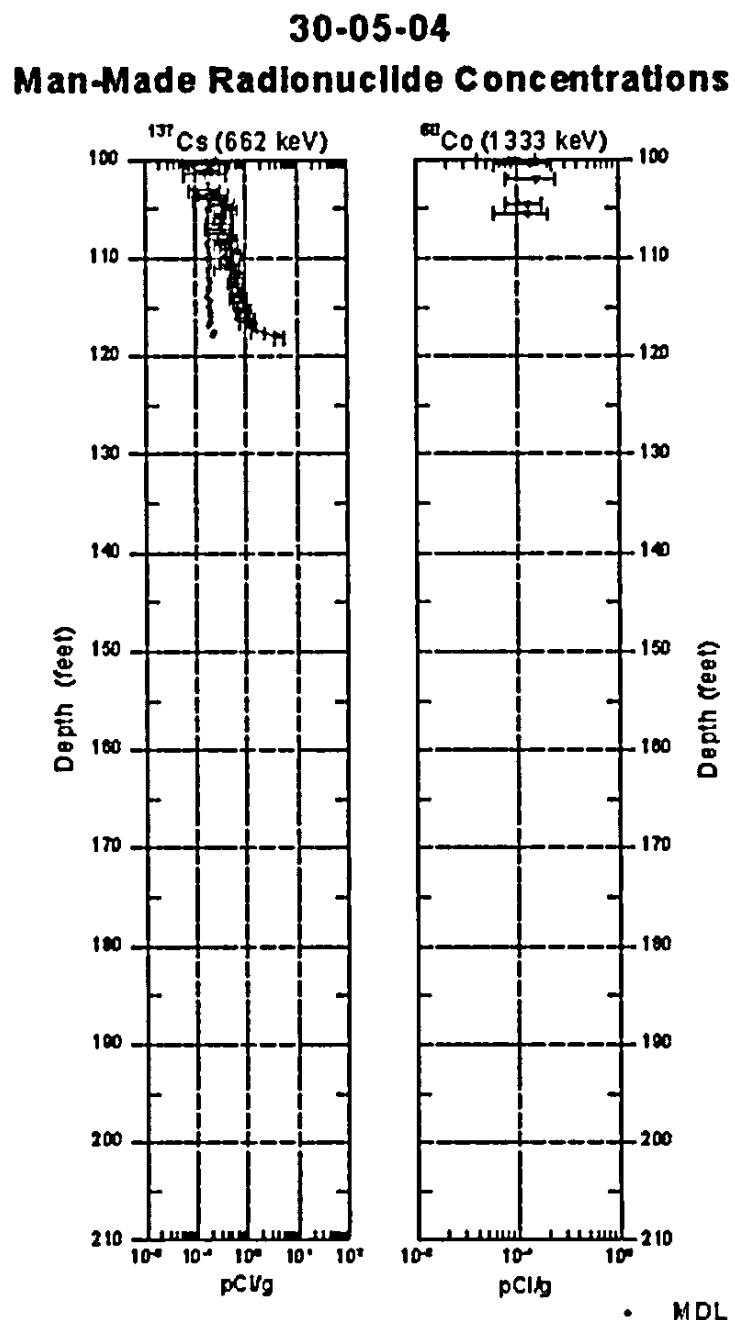


Figure E-13. 30-05-05 Man-Made Radionuclide Concentrations from DOE-GJO 1997f.

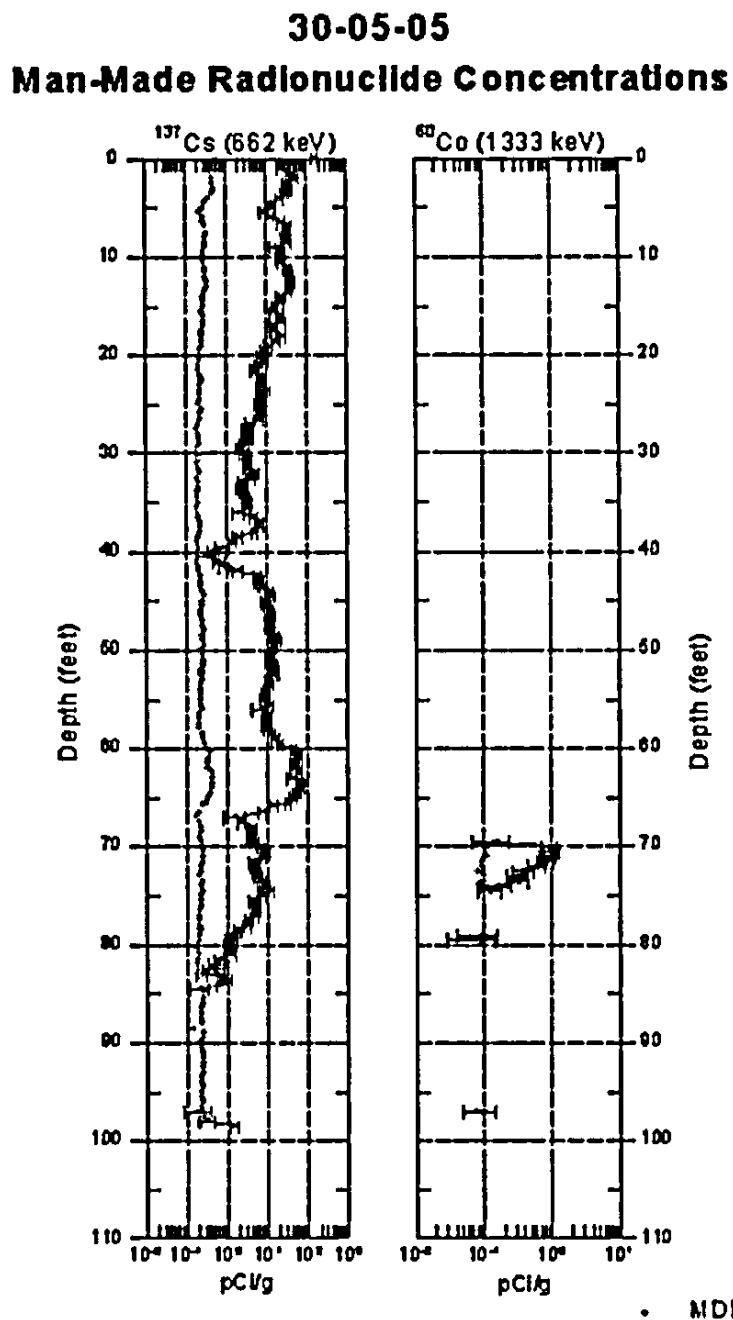


Figure E-14. 30-05-07 Summary of High Rate Logging Results for the C Tank Farm from DOE GJO 2000b.

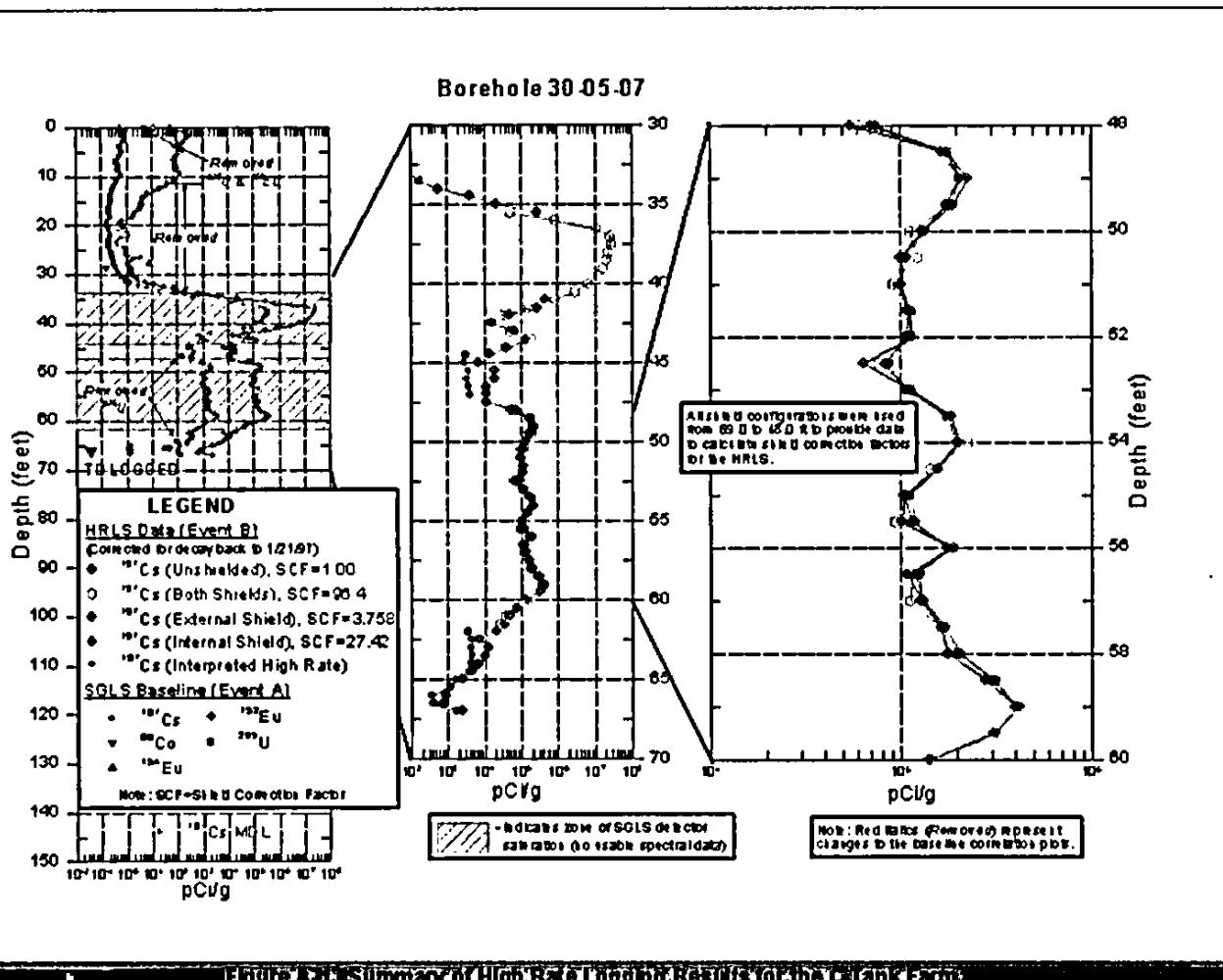


Figure A-3: Summary of High Rate Logging Results for the C Tank Farm.

Figure E-15. 30-05-07 Man-Made Radionuclide Concentrations from DOE-GJO 1997f.

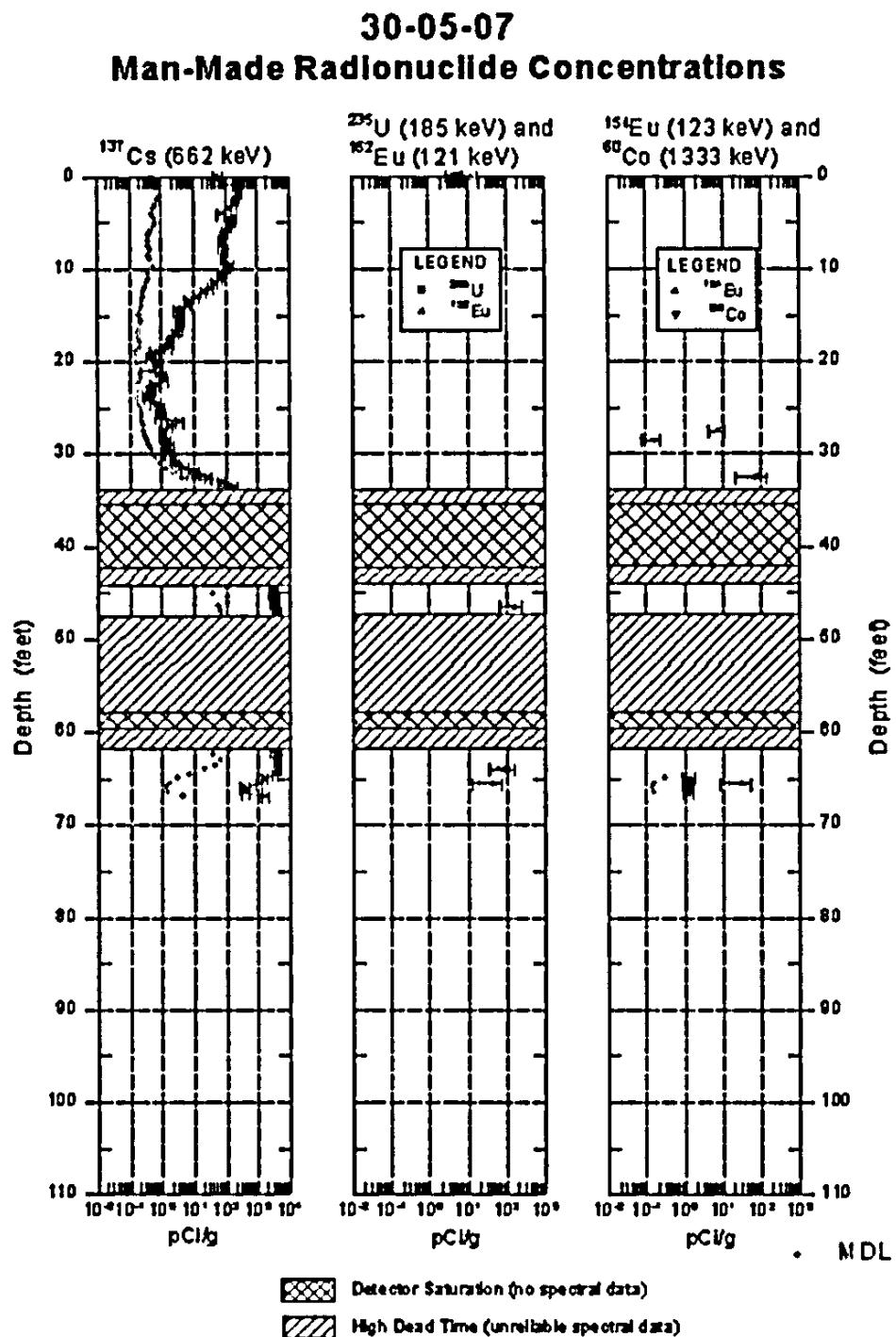


Figure E-16. 30-05-08 Man-Made Radionuclide Concentrations from DOE-GJO 1997f.

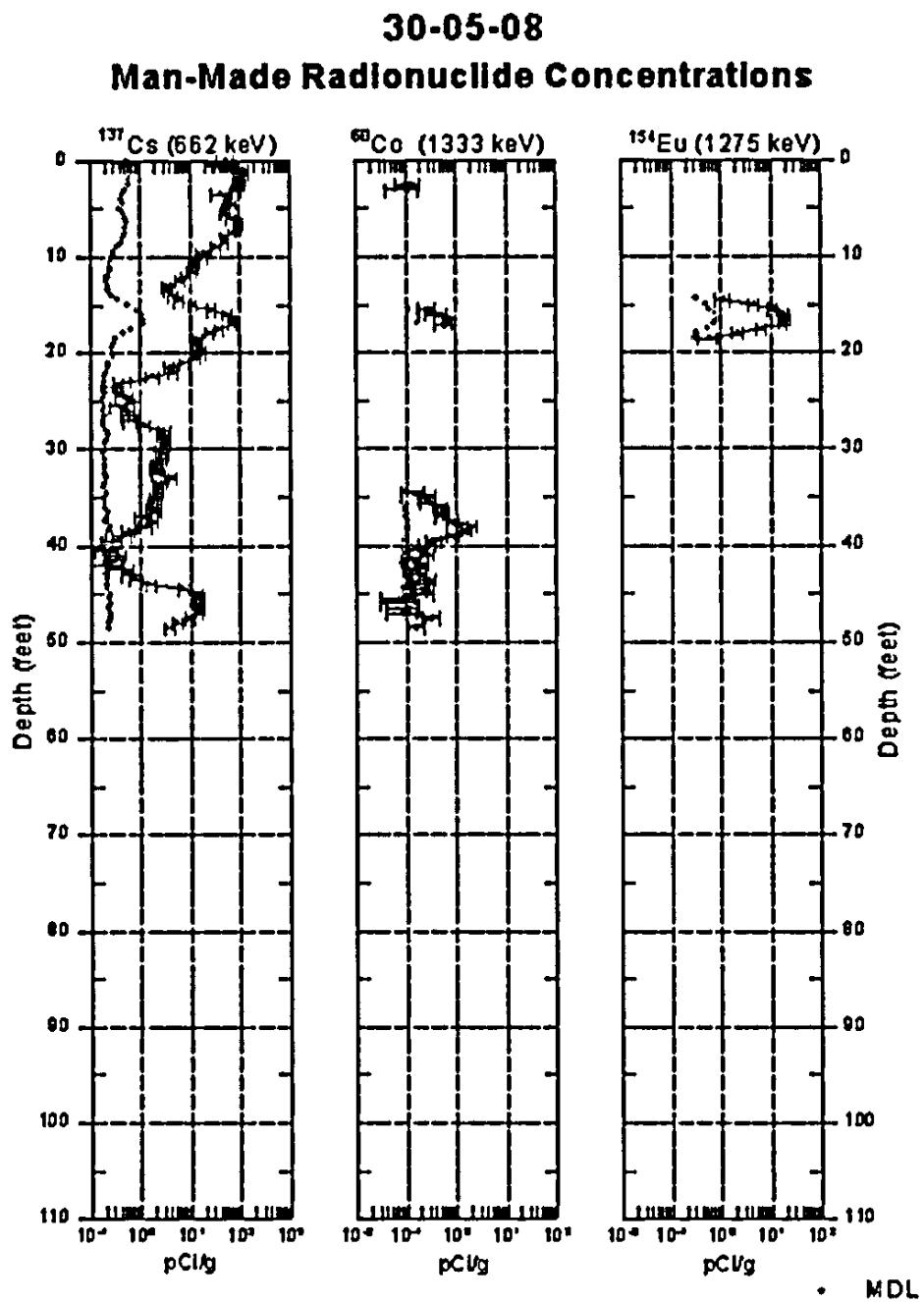


Figure E-17. 30-06-04 Man-Made Radionuclide Concentrations from DOE-GJO 1997g.

30-06-04
Man-Made Radionuclide Concentrations

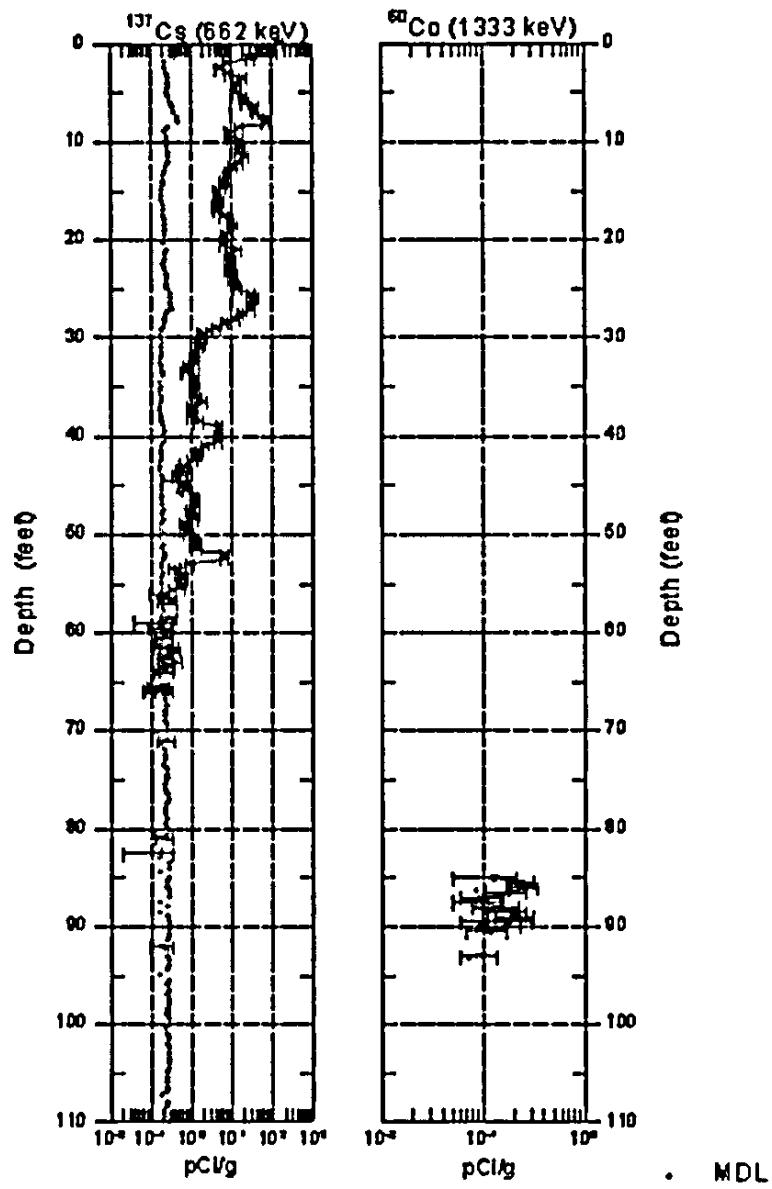


Figure E-18. 30-06-10 Summary of Repeat Logging Results for the C Tank Farm from DOE-GJO 2000b.

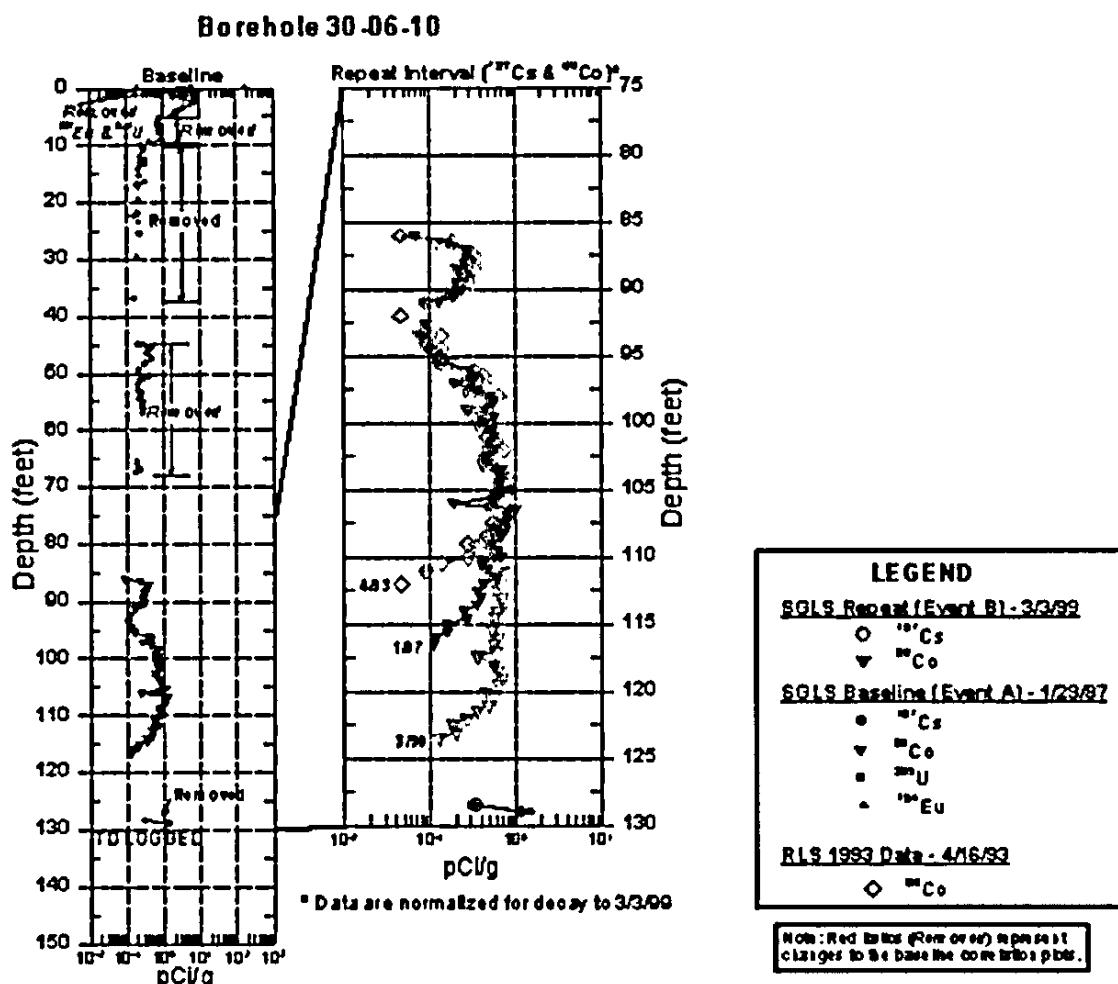


Figure B-2. Summary of Repeat Logging Results for the C Tank Farm

Figure E-19. 30-06-12 Man-Made Radionuclide Concentrations from DOE-GJO 1997g.

30-06-12
Man-Made Radionuclide Concentrations

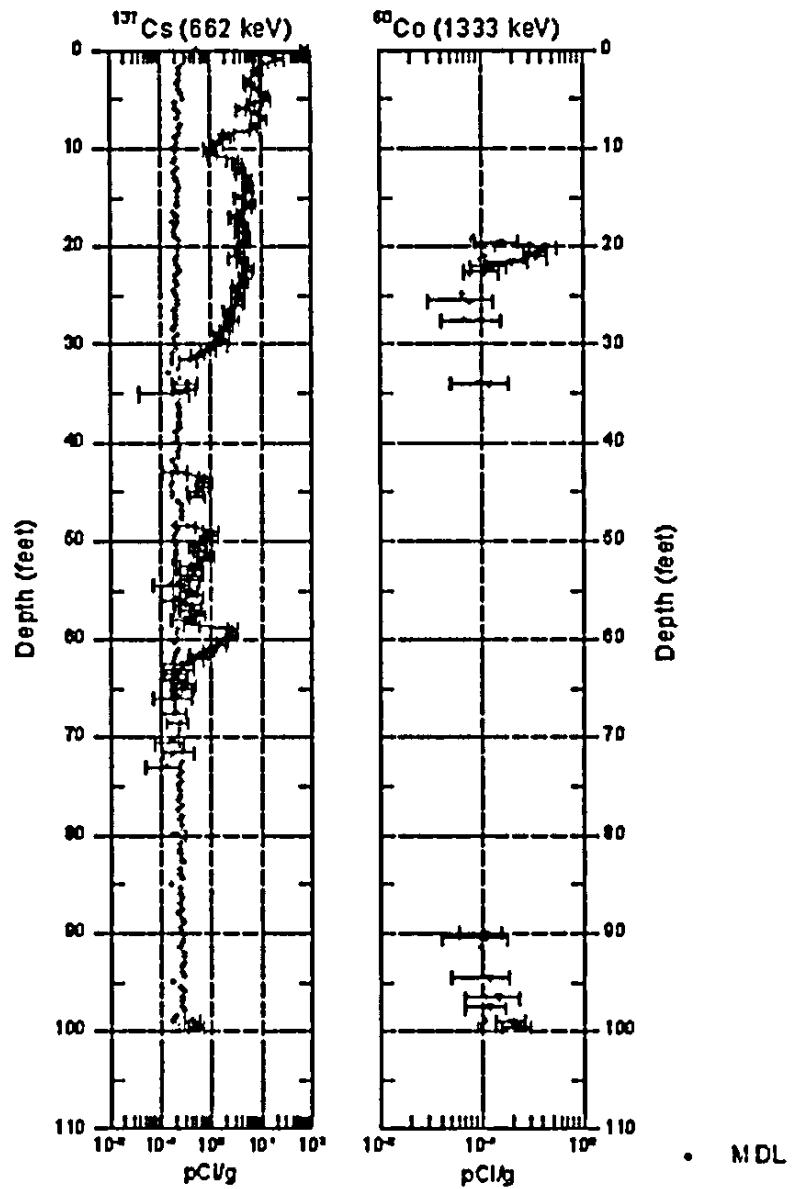


Figure E-20. 30-07-11 Summary of High Rate Logging Results for the C Tank Farm from DOE-GJO 2000b.

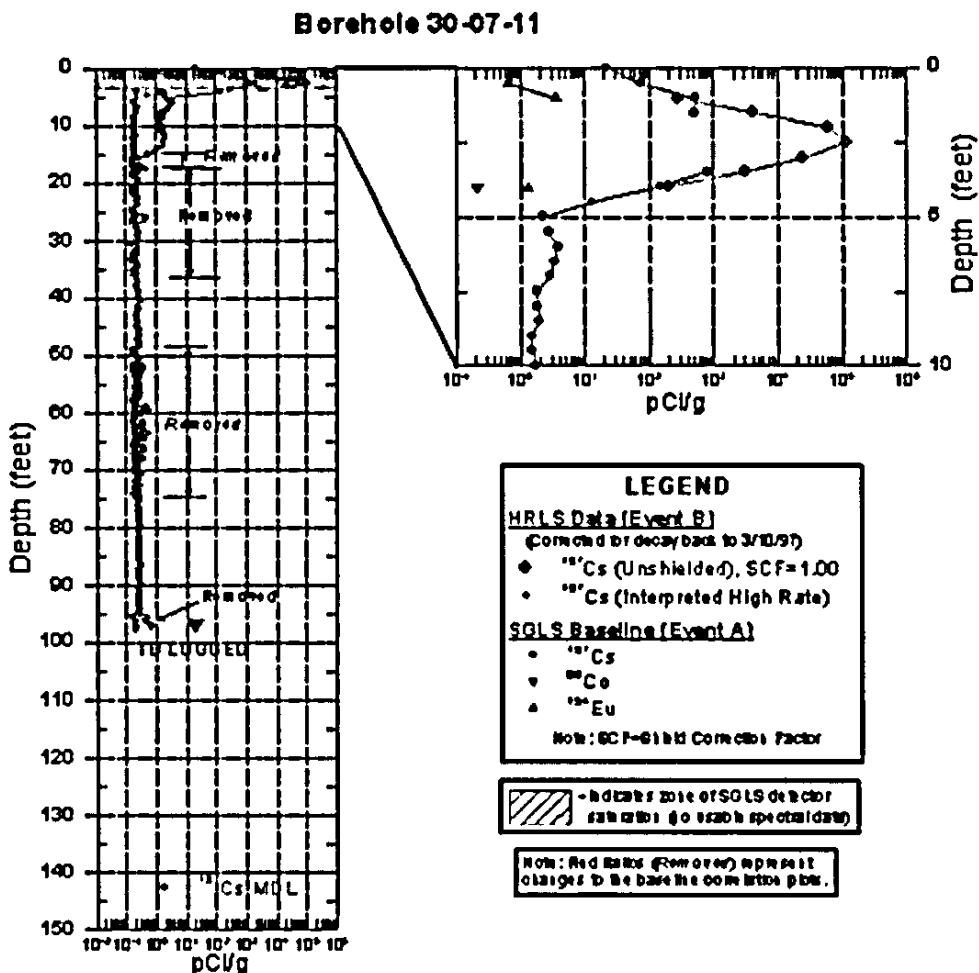


Figure A-2. Summary of High Rate Logging Results for the C Tank Farm

Figure E-21. 30-08-02 Man-Made Radionuclide Concentrations from DOE-GJO 1997I.

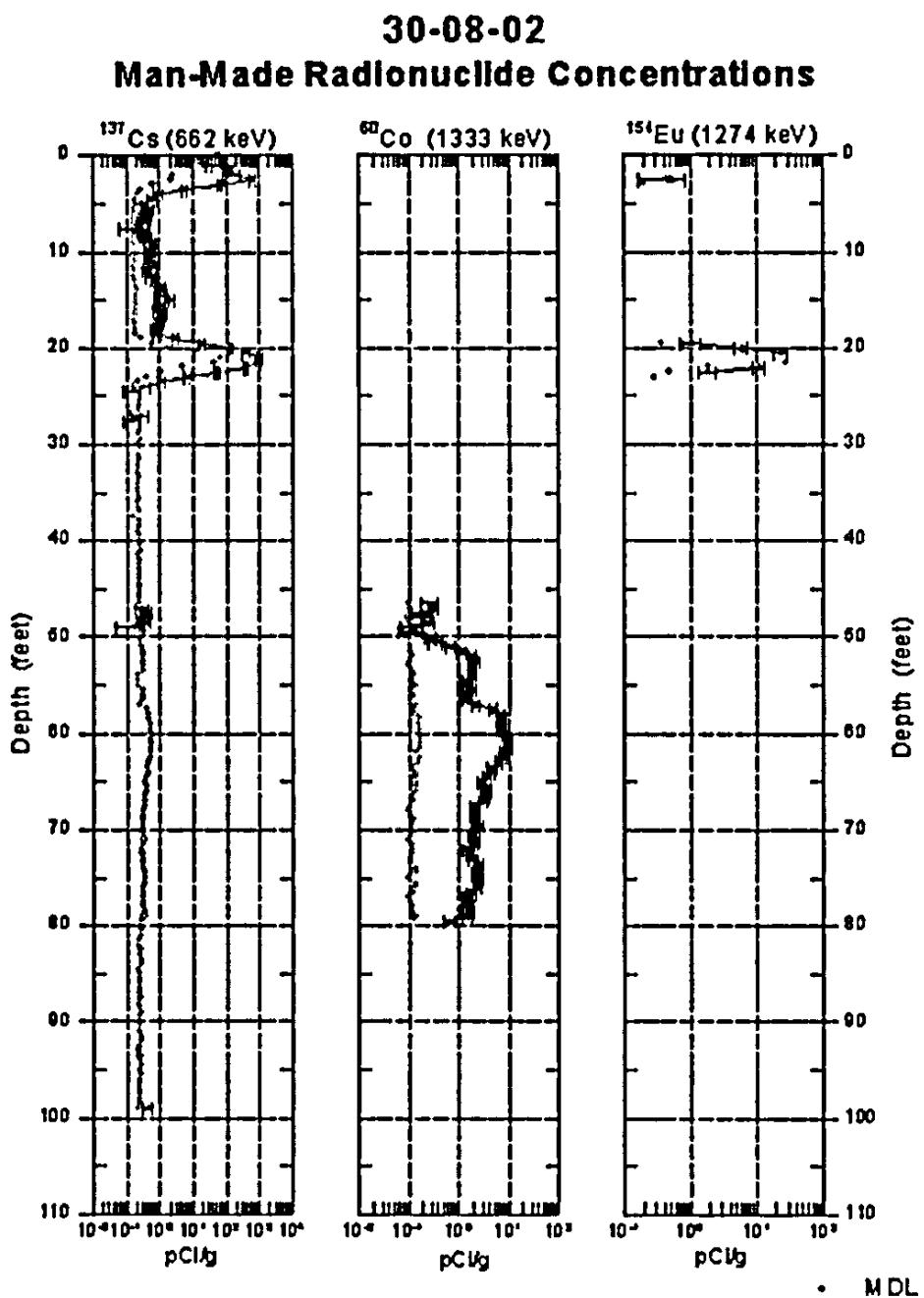


Figure E-22. 30-09-02 Man-Made Radionuclide Concentrations from DOE-GJO 1997m.

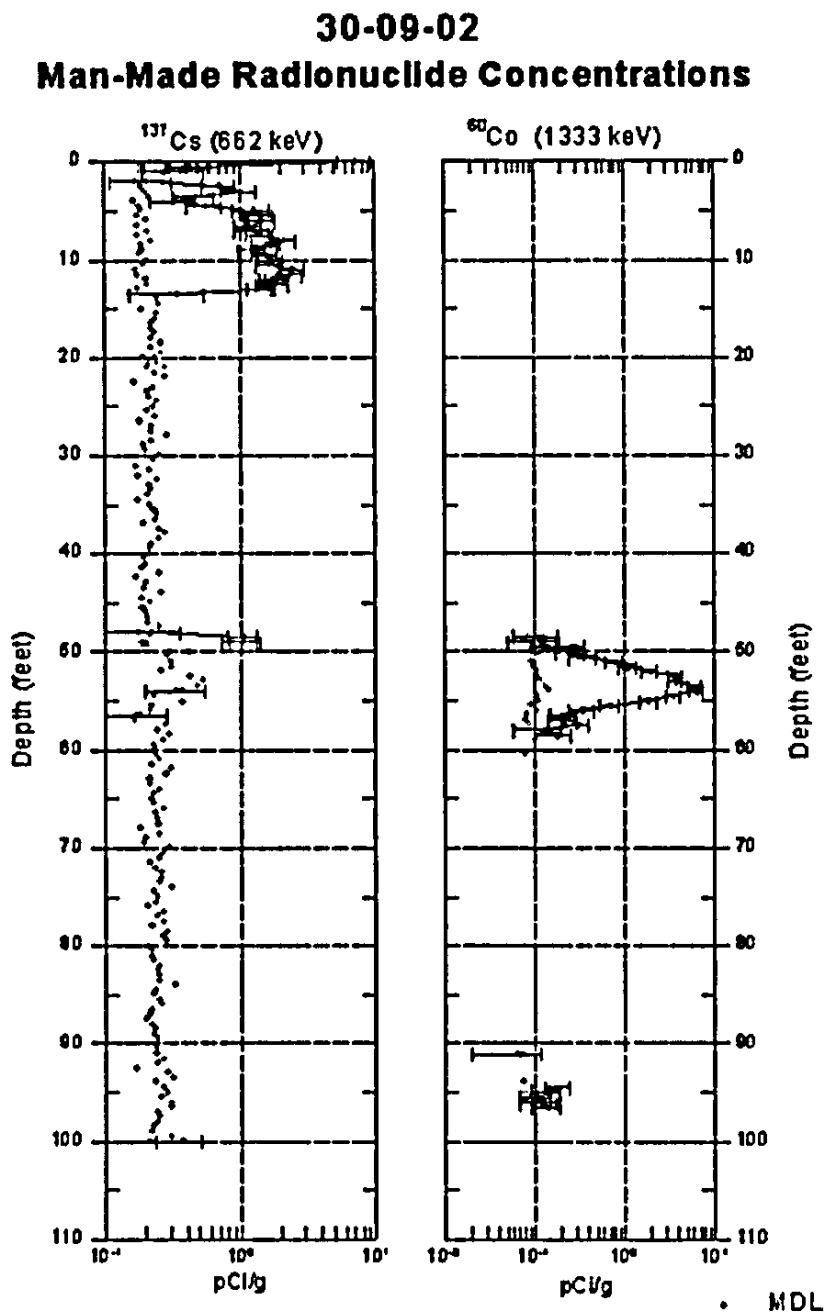


Figure E-23. 30-09-06 Man-Made Radionuclide Concentrations from DOE-GJO 1997m.

30-09-06
Man-Made Radionuclide Concentrations

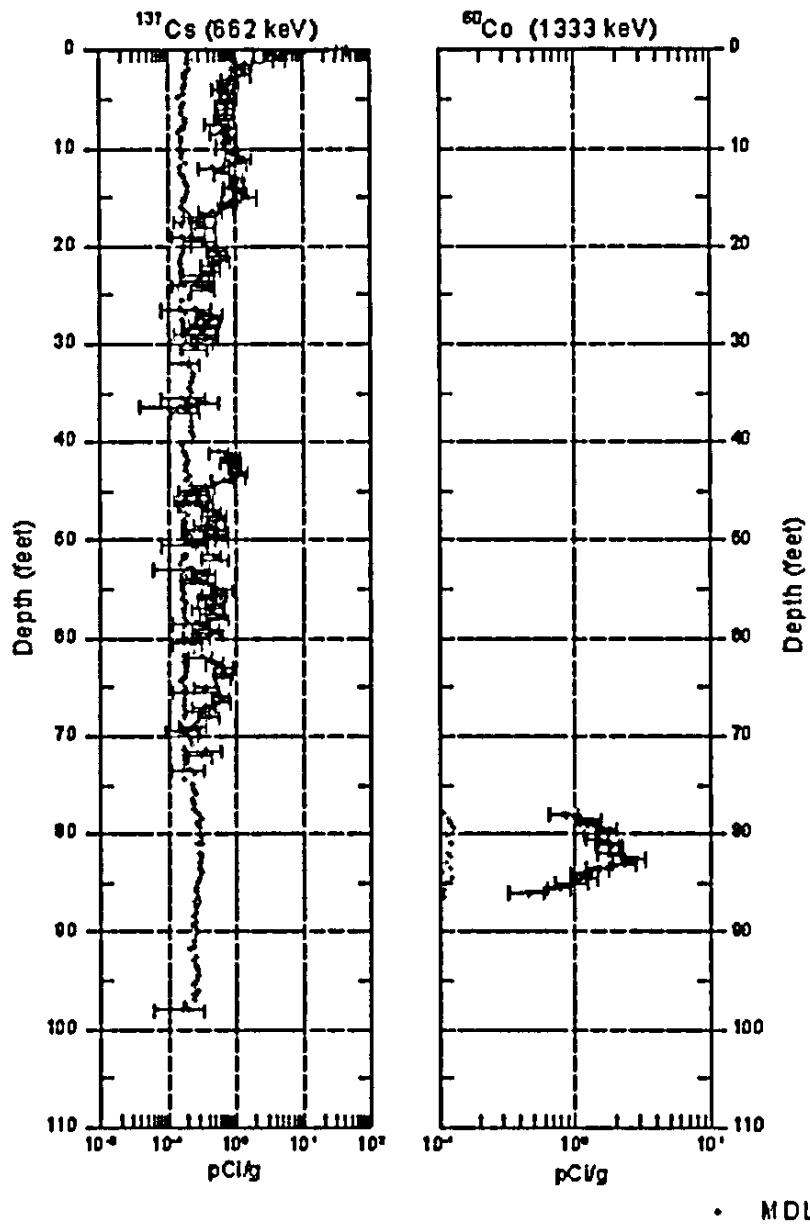


Figure E-24. 30-09-07 Man-Made Radionuclide Concentrations from DOE-GJO 1997m.

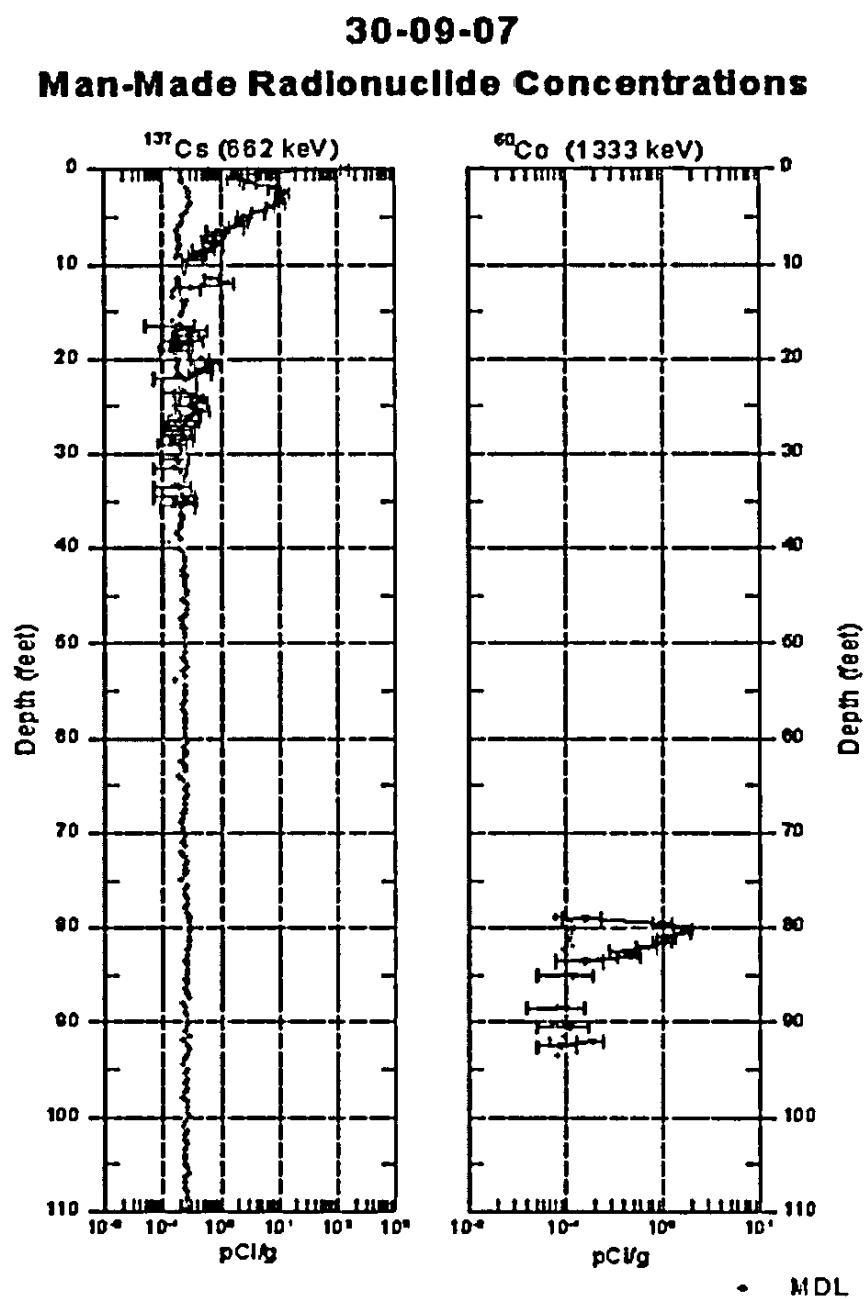


Figure E-25. 30-09-10 Man-Made Radionuclide Concentrations from DOE-GJO 1997m.

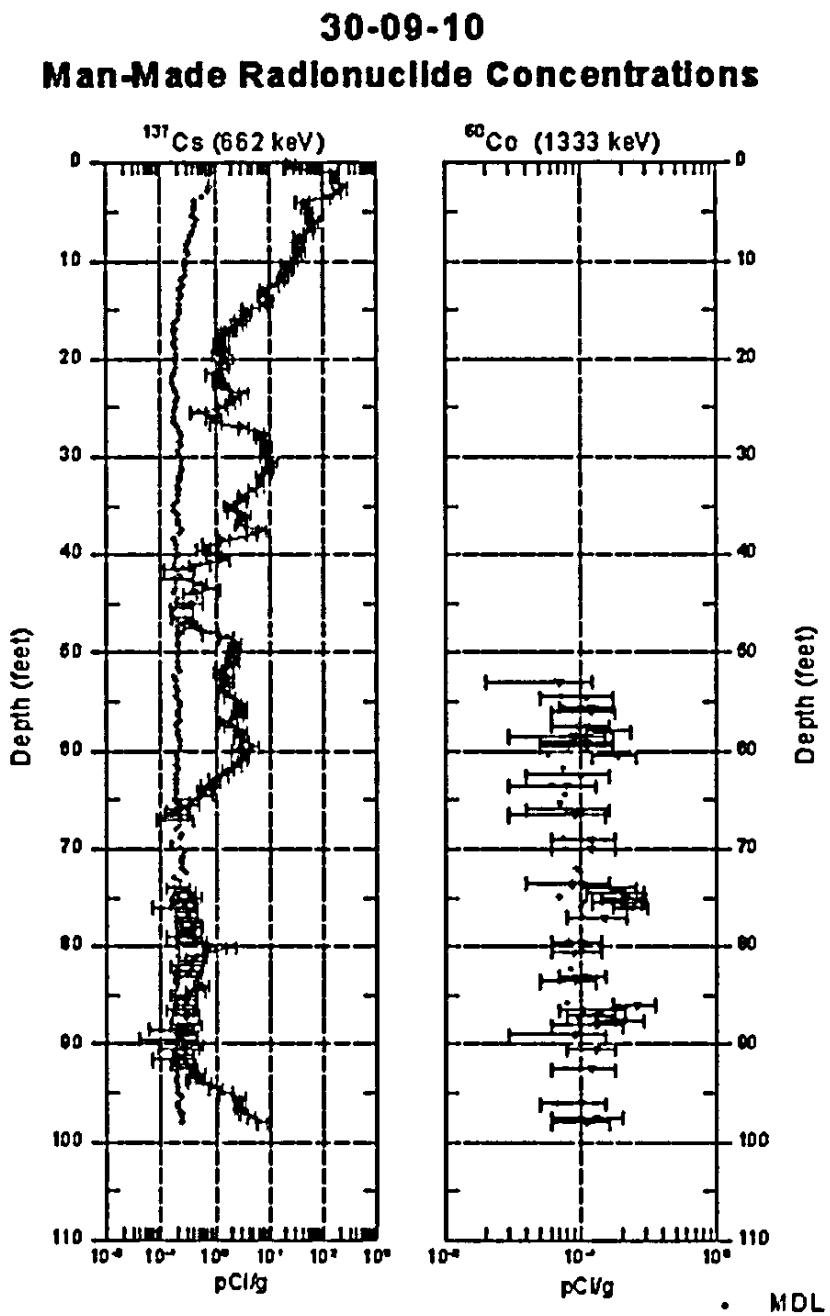


Figure E-26. 30-10-02 Man-Made Radionuclide Concentrations from DOE-GJO 1997n.

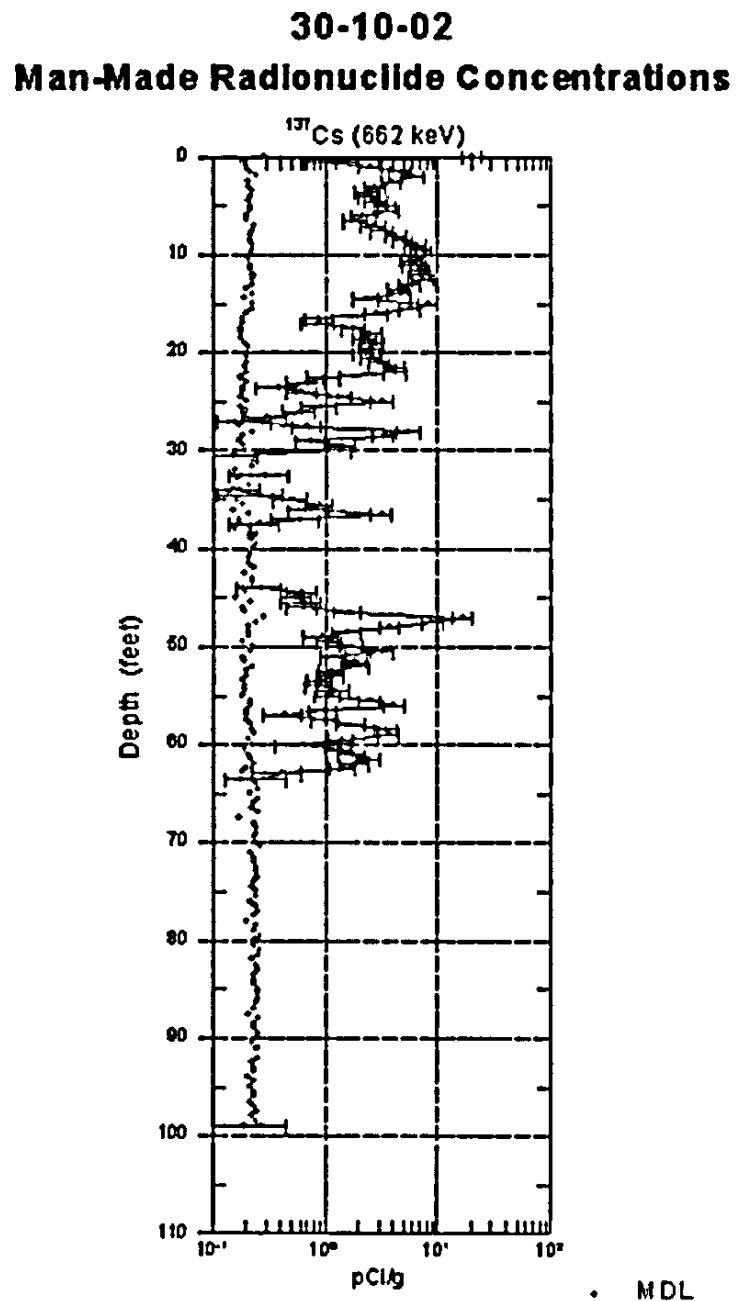


Figure E-27. 30-12-13 Man-Made Radionuclide Concentrations from DOE-GJO 1998b.

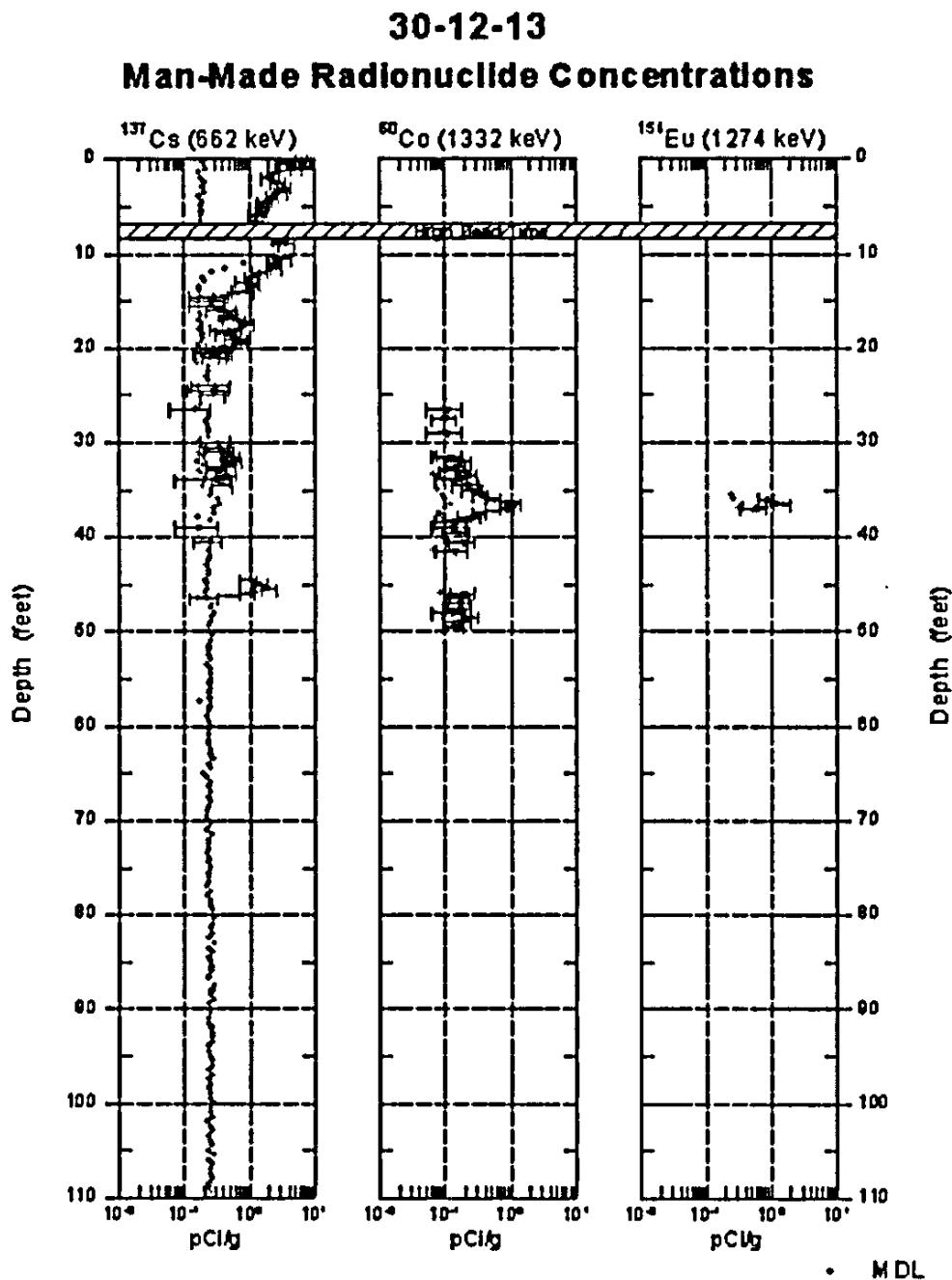


Figure E-28. 30-12-13 Summary of High Rate Logging Results for the C Tank Farm from DOE-GJO 2000b.

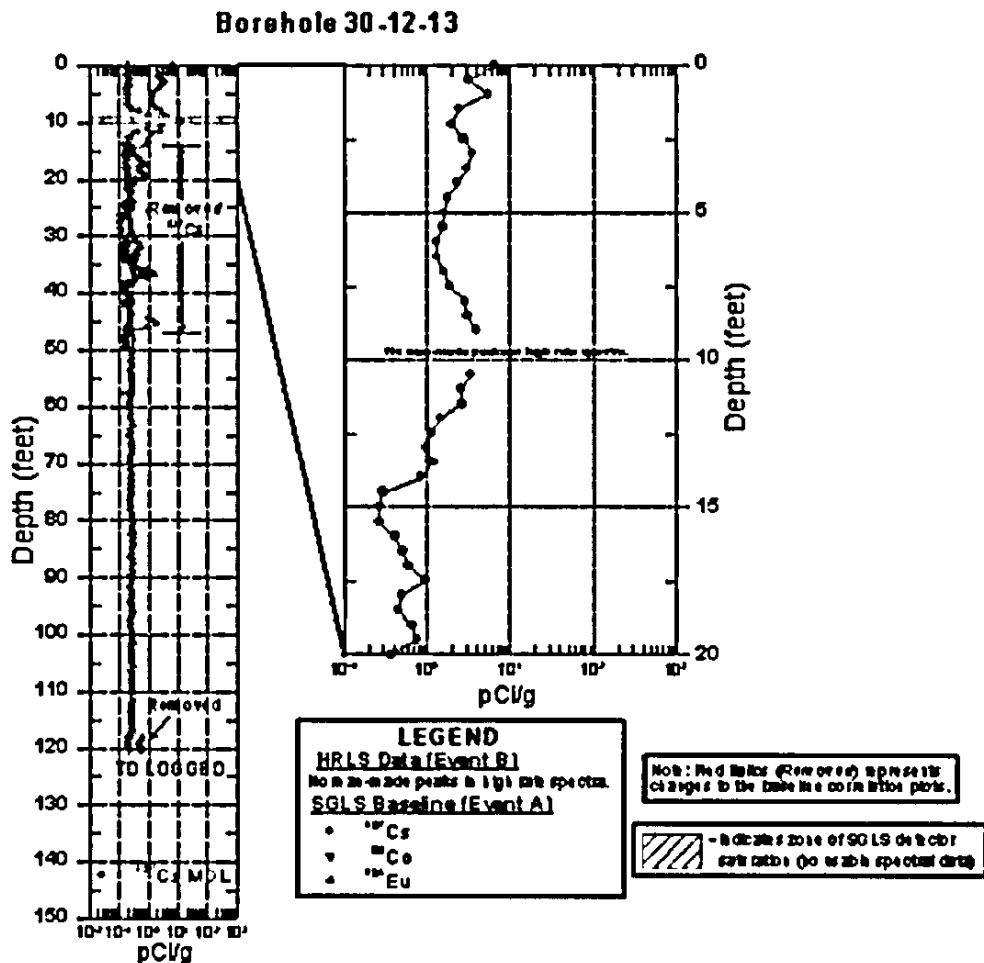


Figure A-3. Summary of High Rate Logging Results for the C Tank Farm

RPP-14430, Revision 0

A TANK FARM DRYWELL SPECTRAL GAMMA LOGGING PLOTS

Figure E-29. Plan Map of the A Tank Farm Showing the Location of the Tank Monitoring Boreholes and Leak Detection Laterals from DOE-GJO 1999.

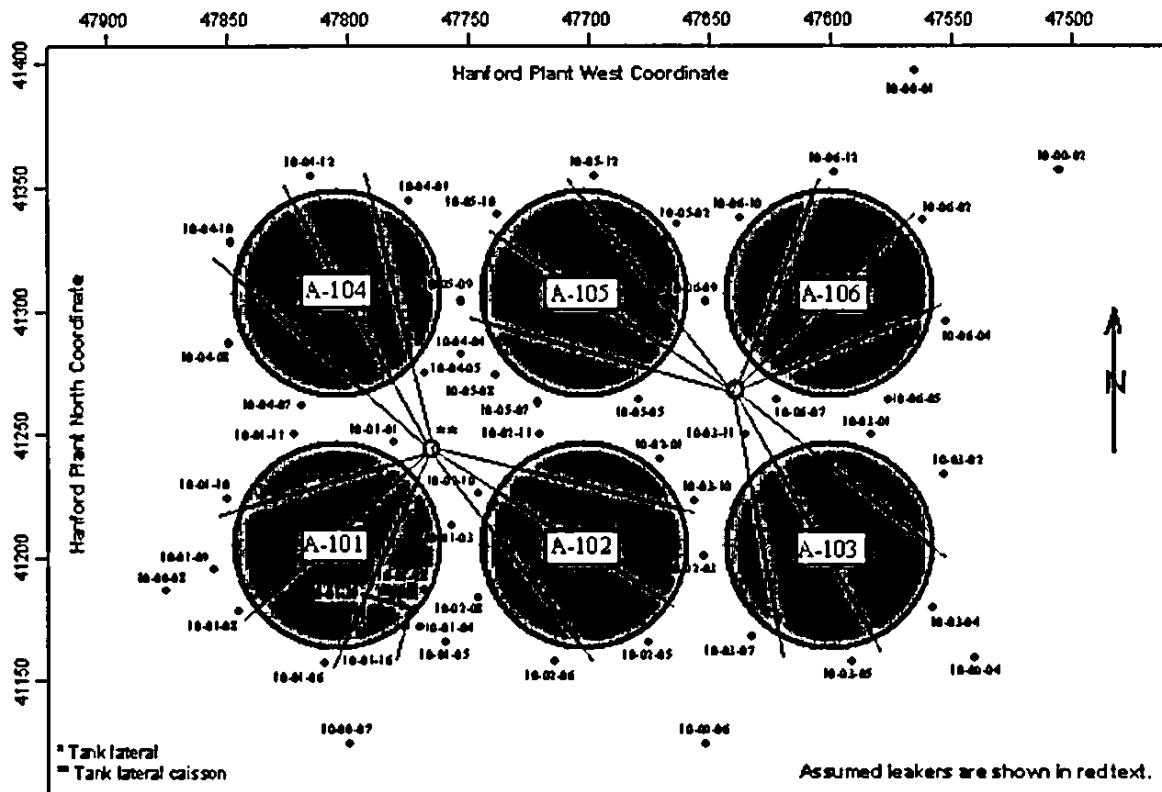


Figure 14-19. Plan Map of the A Tank Farm Showing the Location of the Tank Monitoring Boreholes and Leak Detection Laterals

Figure E-30. 10-01-03 Man-Made Radionuclide Concentrations from DOE-GJO 1998c.

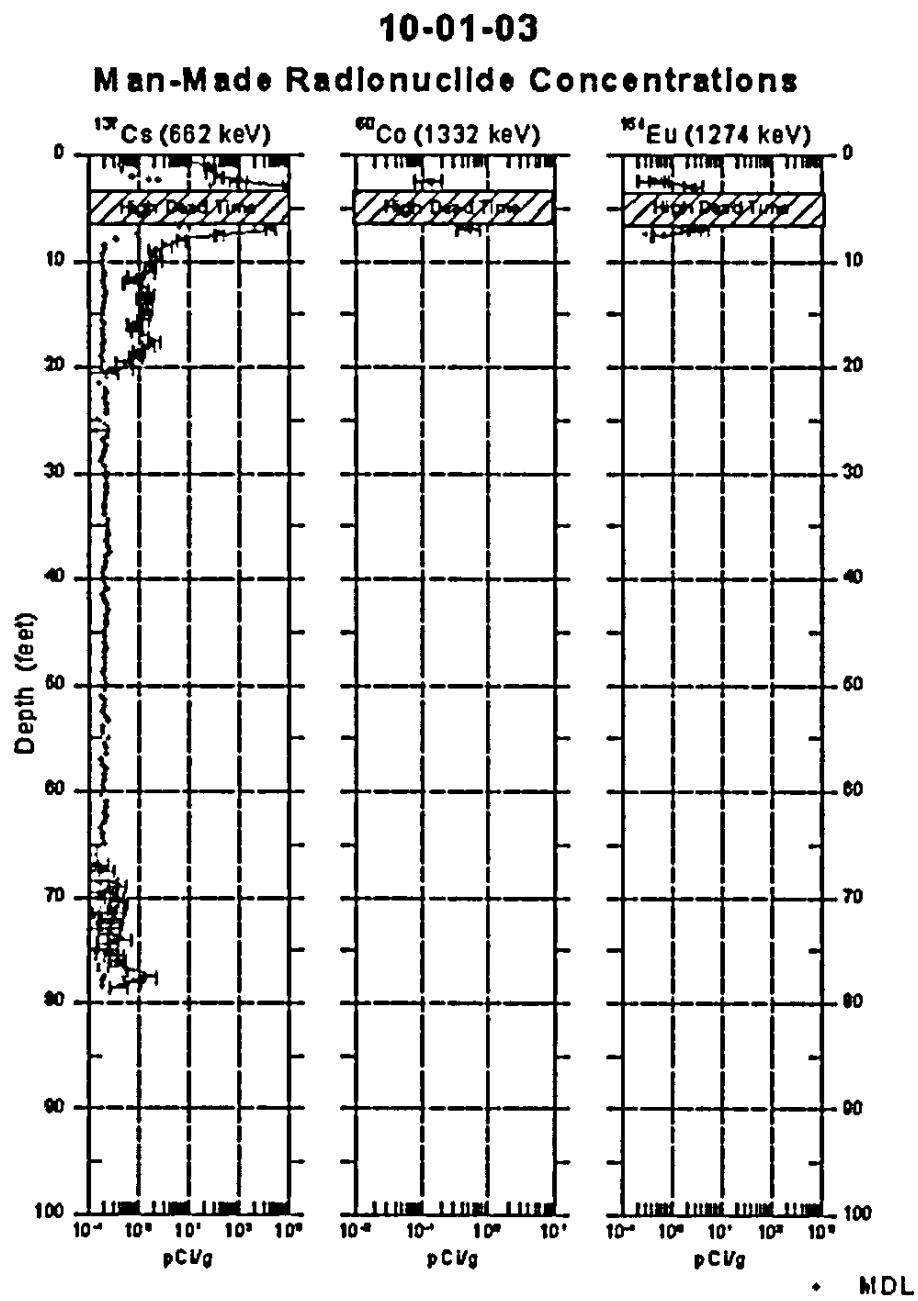


Figure E-31. 10-01-03 Summary of High Rate Logging Results for the A Tank Farm from DOE-GJO 2000c.

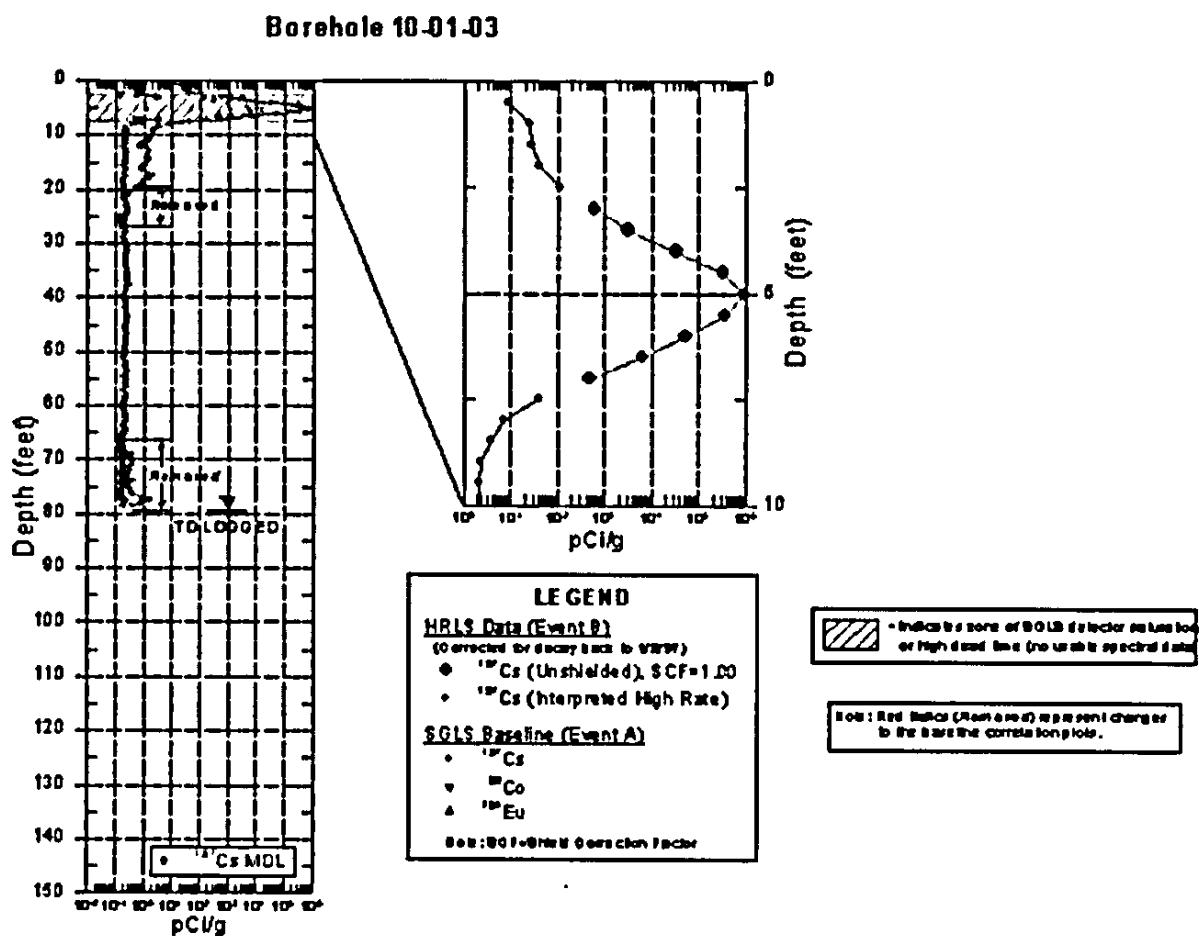


Figure A-1. Summary of High Rate Logging Results for the A Tank Farm

Figure E-32. 10-01-28 Man-Made Radionuclide Concentrations from DOE-GJO 1998c.

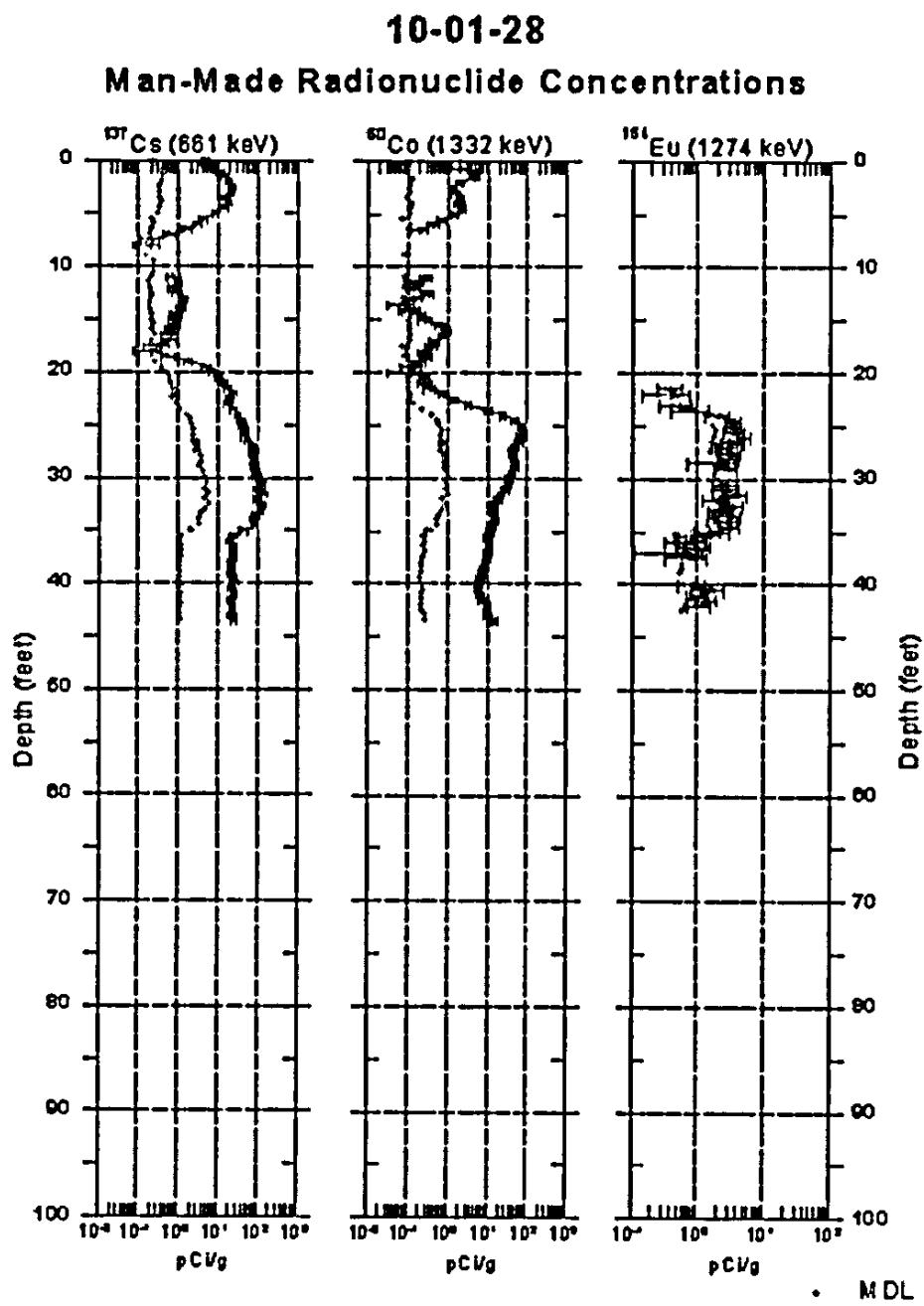


Figure E-33. 10-01-39 Man-Made Radionuclide Concentrations from DOE-GJO 1998c.

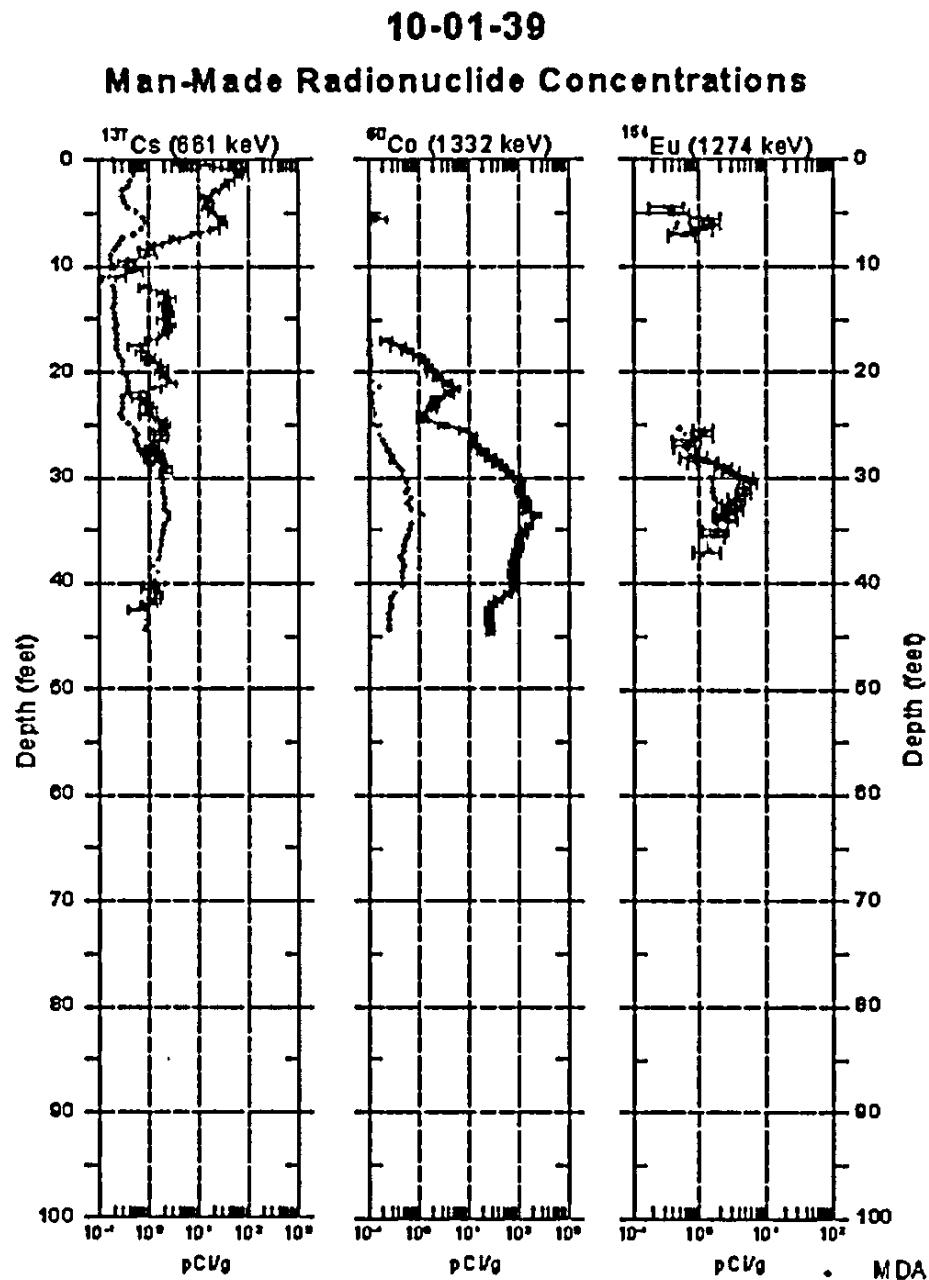


Figure E-34. 10-01-16 Man-Made Radionuclide Concentrations from DOE-GJO 1998c.

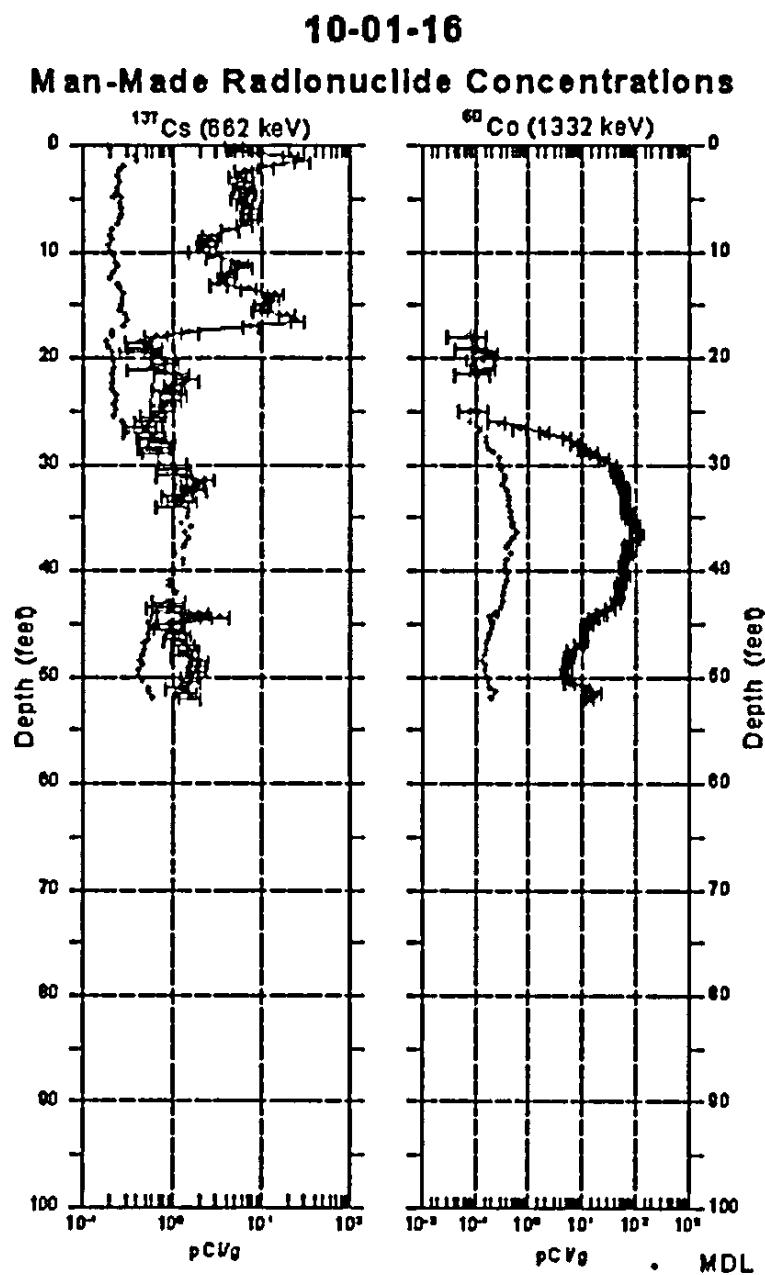


Figure E-35. 10-01-04 Man-Made Radionuclide Concentrations from DOE-GJO 1998c.

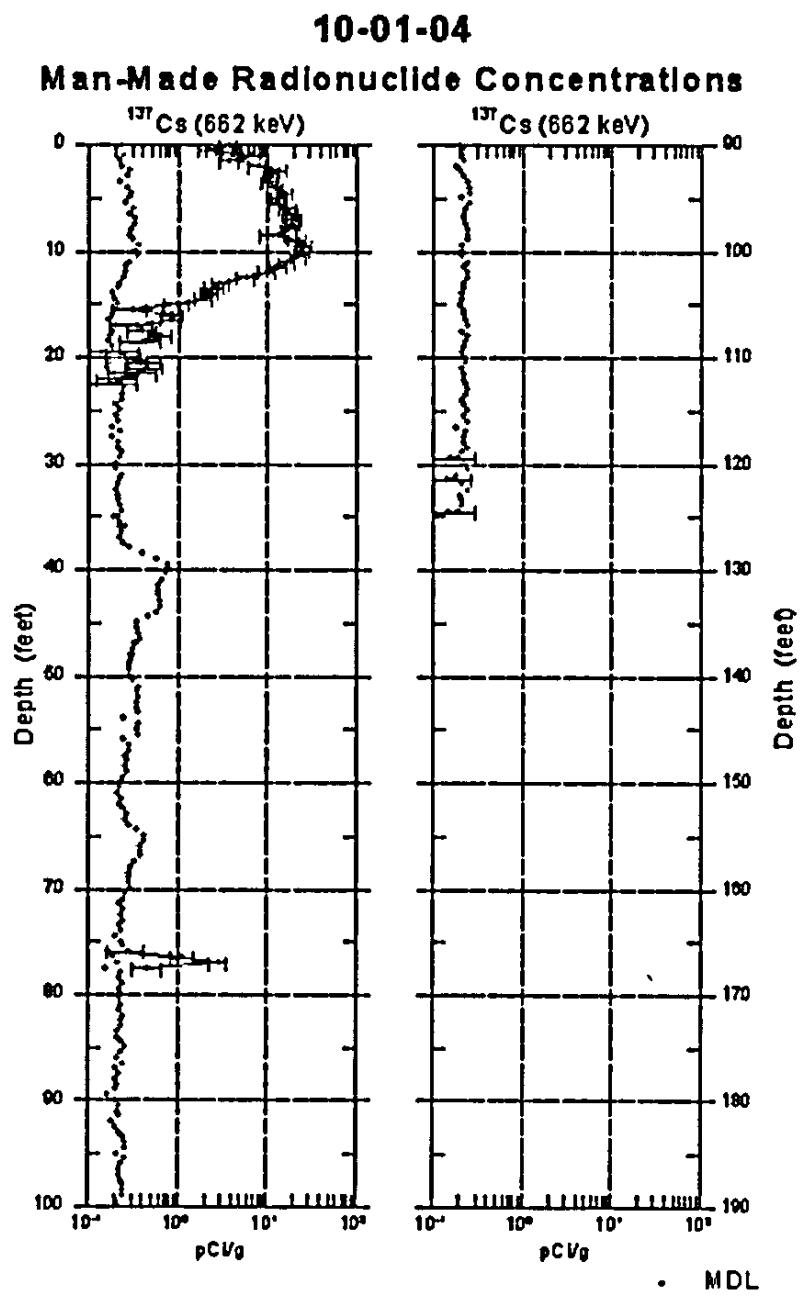


Figure E-36. 10-01-04 Man-Made Radionuclide Concentrations from DOE-GJO 1998c.

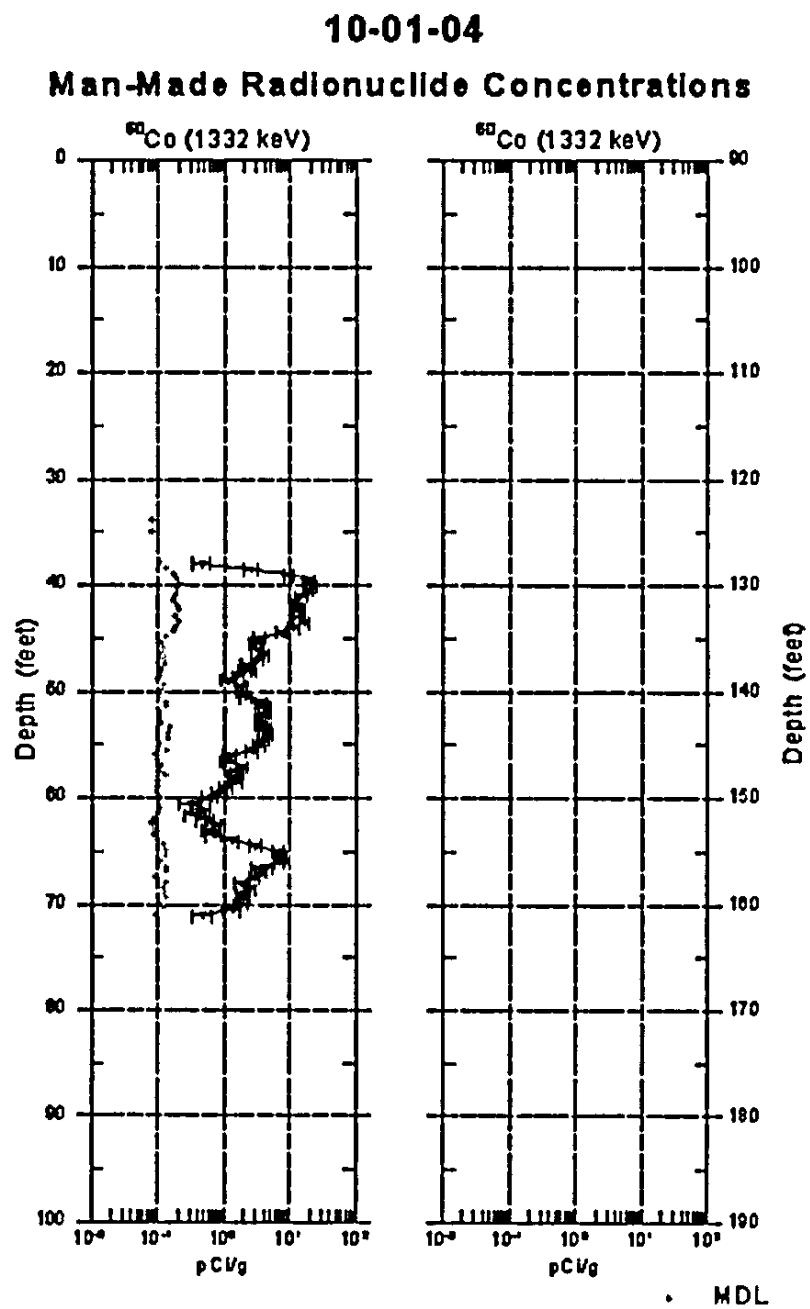


Figure E-37. 10-02-08 Man-Made Radionuclide Concentrations from DOE-GJO 1998d.

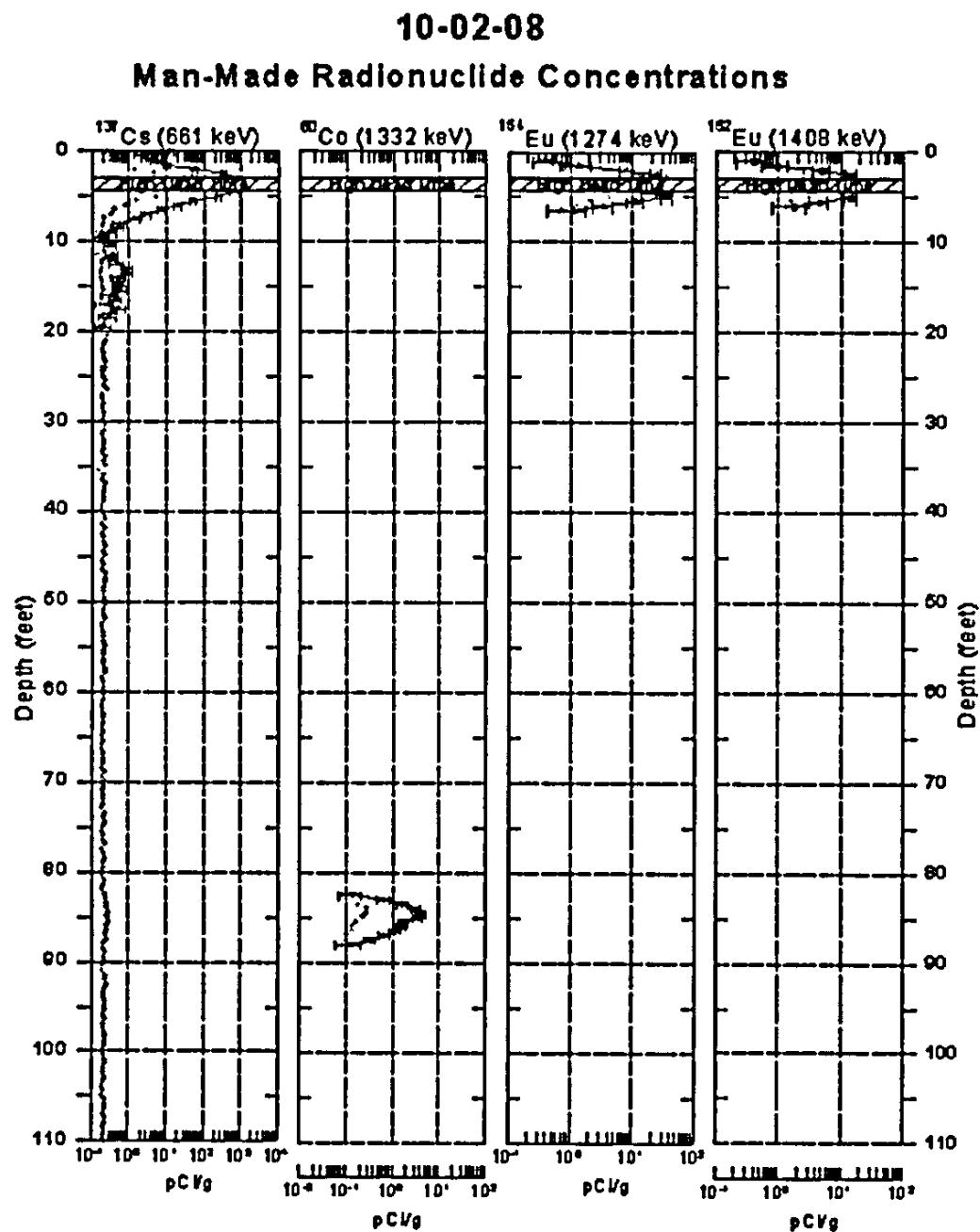


Figure E-38. Plan view of Tanks and Boreholes in the A Tank Farm from DOE-GJO 1998e.

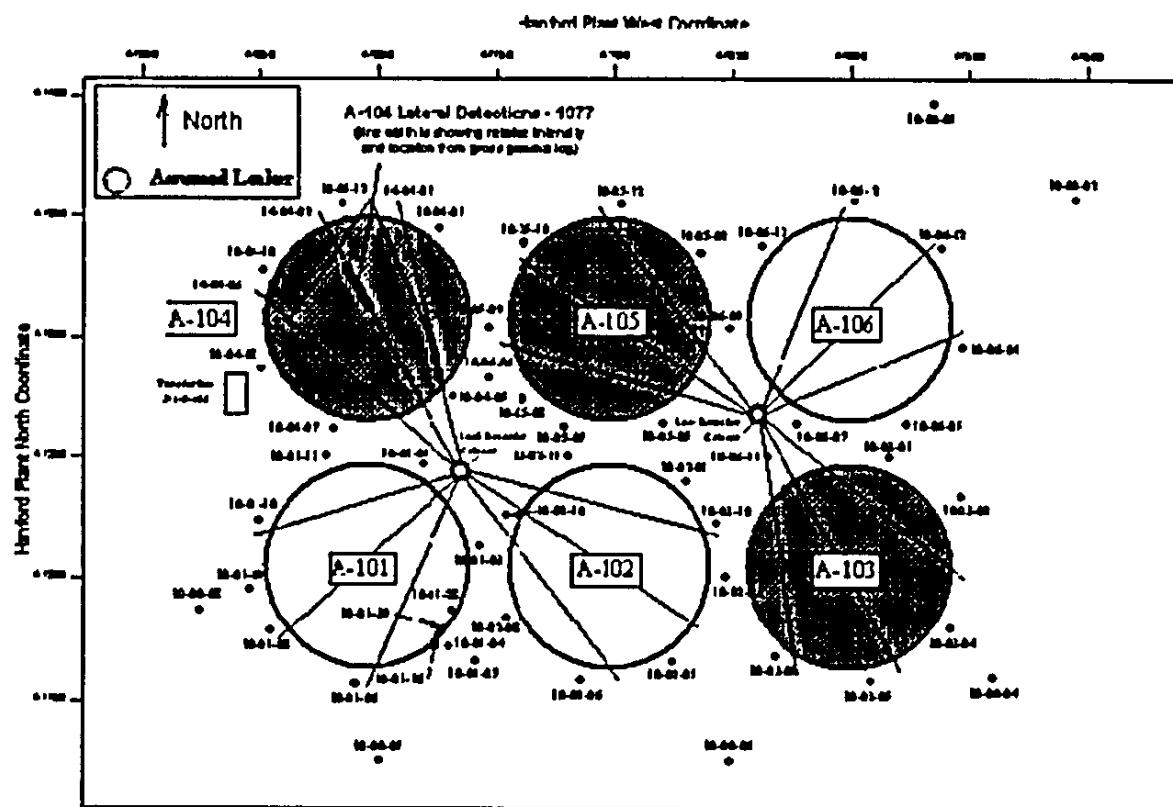
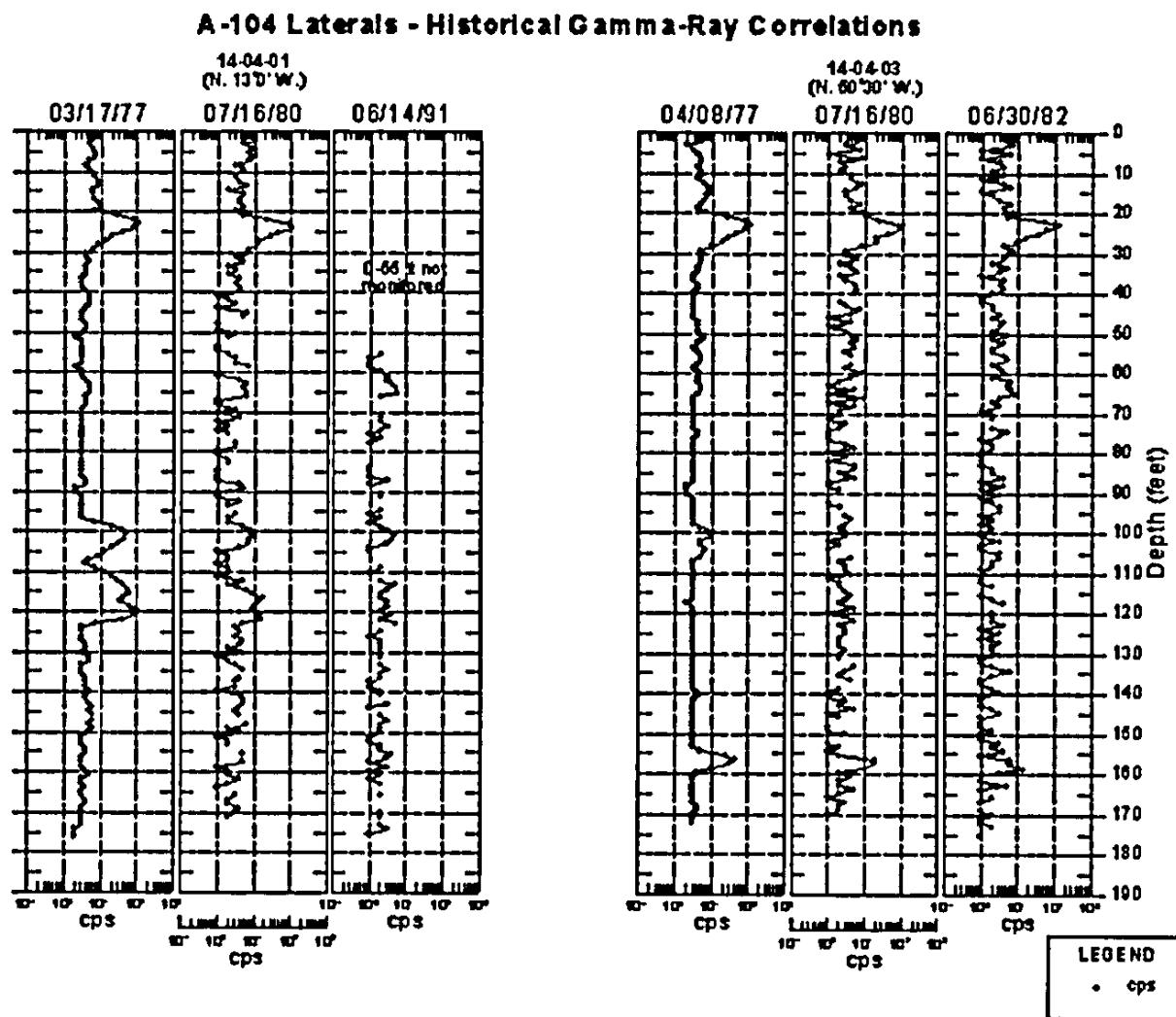


Figure 2. Plan View of Tanks and Boreholes in the A Tank Farm

Figure E-39. A-104 Laterals – Historical Gamma-Ray Correlations from DOE-GJO 1998e.



**Figure E-40. 14-04-02 Lateral – Historical Gamma-Ray Correlations from DOE-GJO
1998c.**

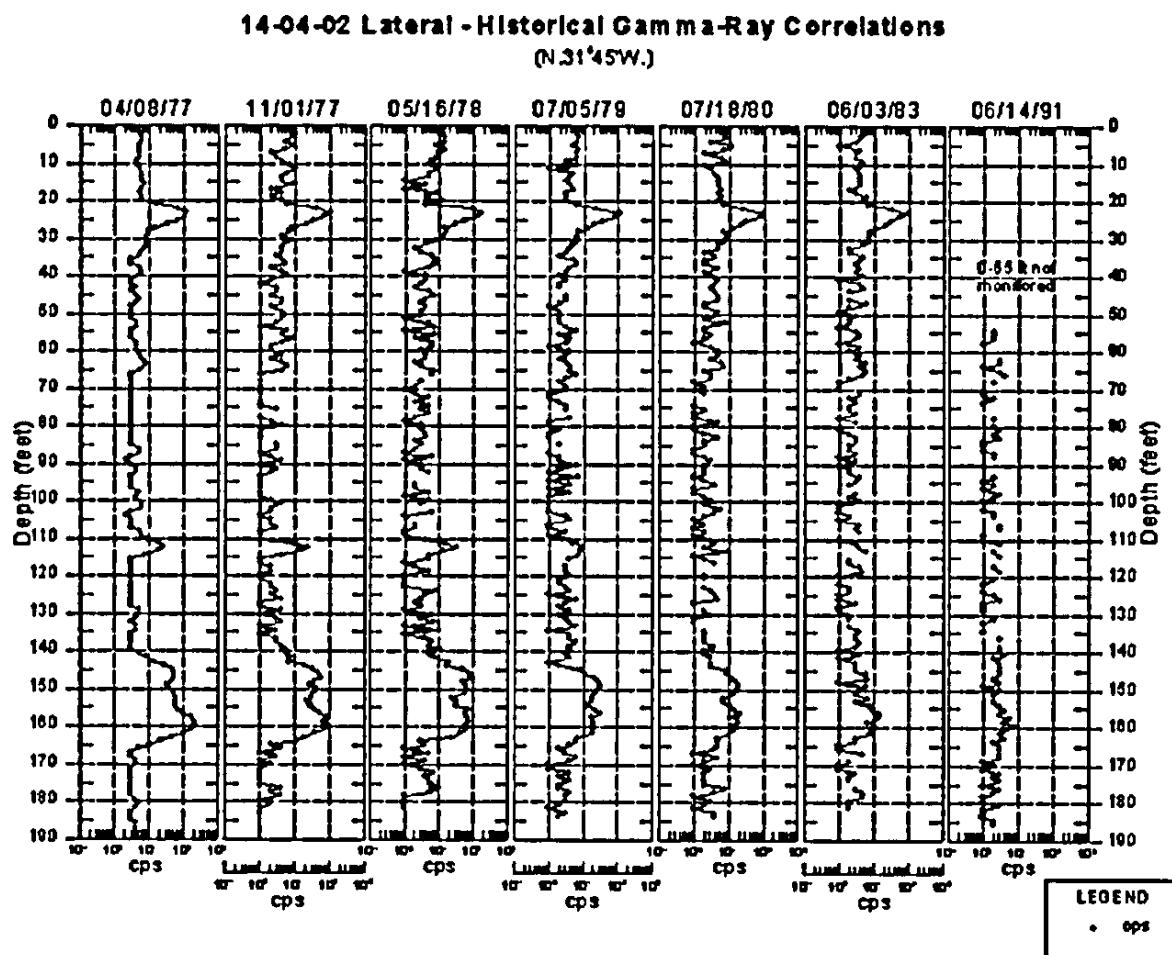


Figure E-41. Plan View of Tanks and Boreholes in the A Tank Farm from DOE-GJO 1998f.

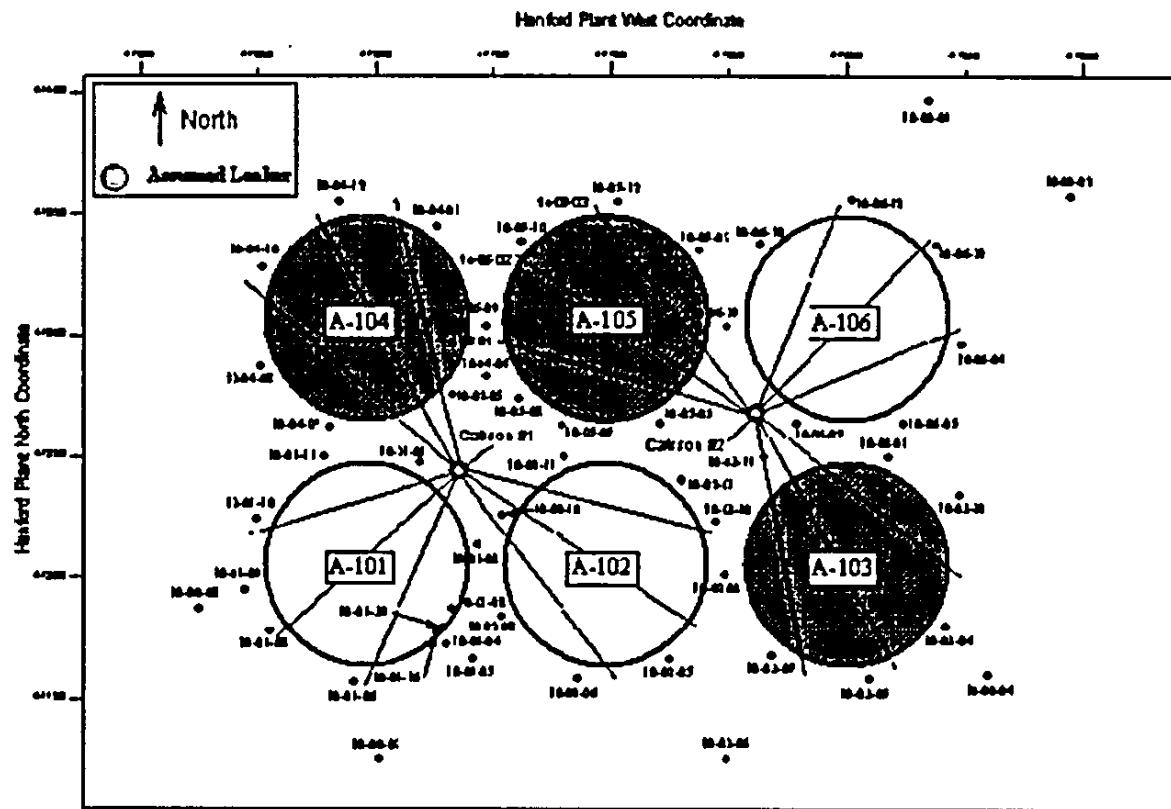


Figure 2. Plan View of Tanks and Boreholes in the A Tank Farm

Figure E-42. Lateral 14-05-01 Selected Historical Gamma-Ray Plots – Horizontal Segments from DOE-GJO 1998f.

**Lateral 14-05-01 Selected Historical Gamma-Ray Plots
Horizontal Segments**

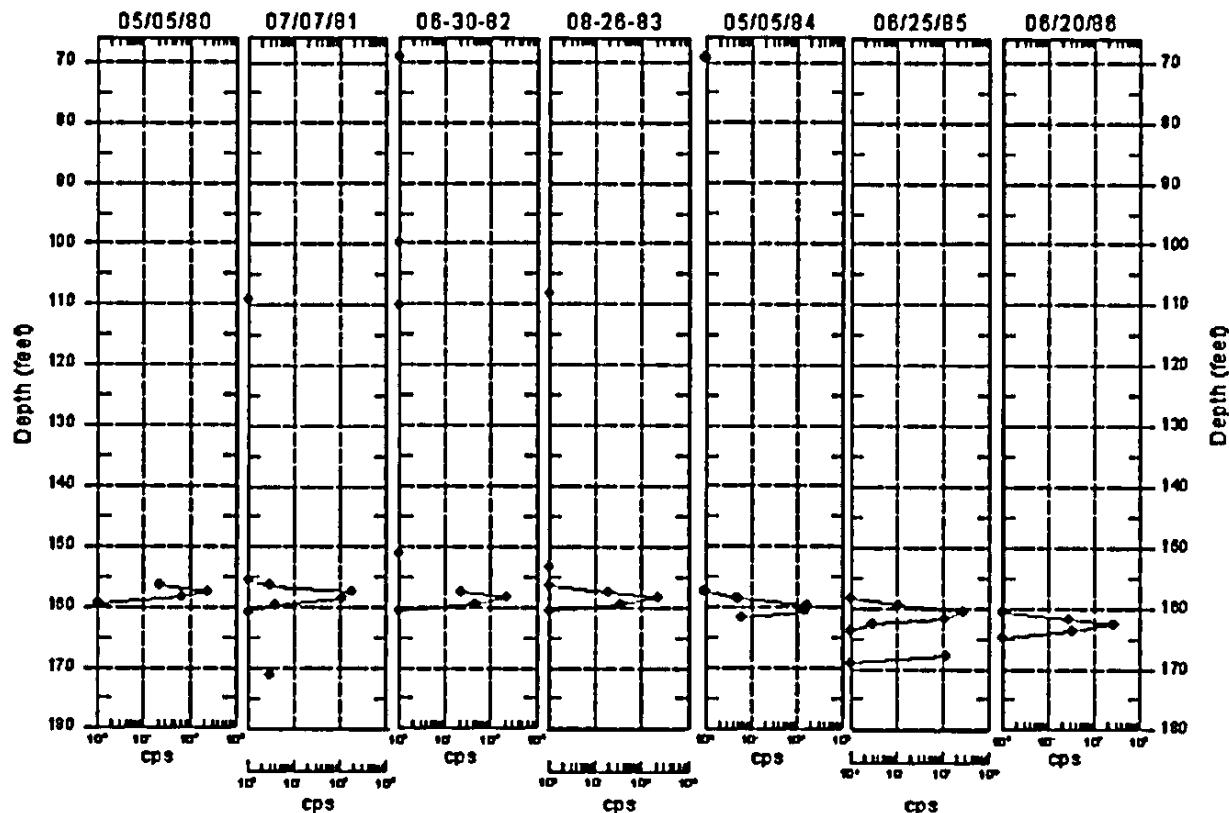


Figure E-43. Lateral 14-05-02 Selected Historical Gamma-Ray Log – Historical Segments from DOE-GJO 1998f.

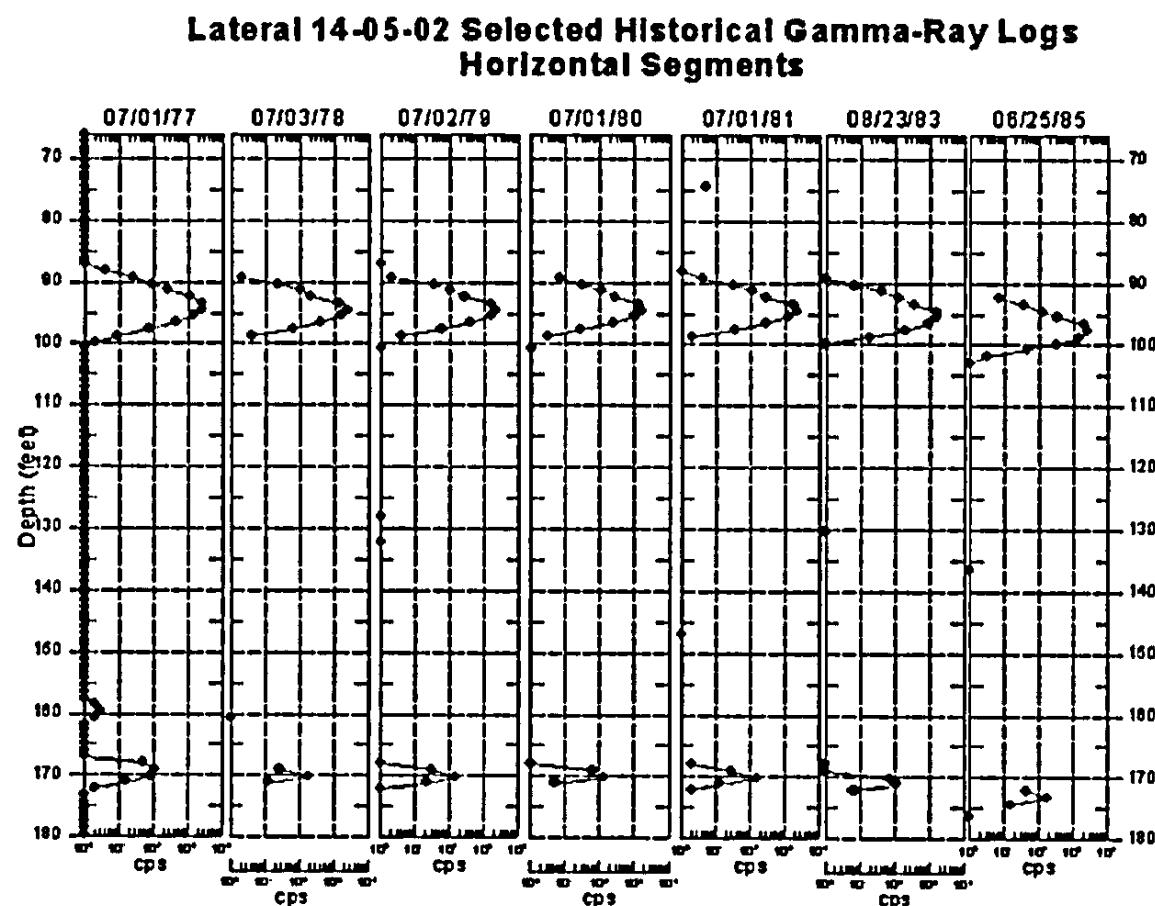


Figure E-44. Lateral 14-05-03 Selected Historical Gamma-Ray Log - Horizontal Segment from DOE-GJO 1998f.

