

APPENDIX D

ORIGINAL

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The cleaning elevations for Ponds 3, 4, and 5 were developed based on elevation contours cleaned to in 1990 and provided in the *RCRA Landfill and Hazardous Waste Management Unit Closure Report*, ENSR Consulting and Engineering, November 1990. The closure report states that survey data related to this project was performed based on an established local refinery datum.

The RCRA unit settling point elevations were used to correlate the local refinery vertical datum to the current vertical datum used at the facility (NAVD 1988). Historical RCRA unit settling point elevations are provided in Table D-1. The RCRA settling point elevations were surveyed using an established local refinery datum between 1990 and 2002. In 2002, the RCRA unit settling point elevations were adjusted based on Wyoming State Plane coordinates and NAVD 1988 vertical datum. This resulted in a datum shift of +4.31 feet.

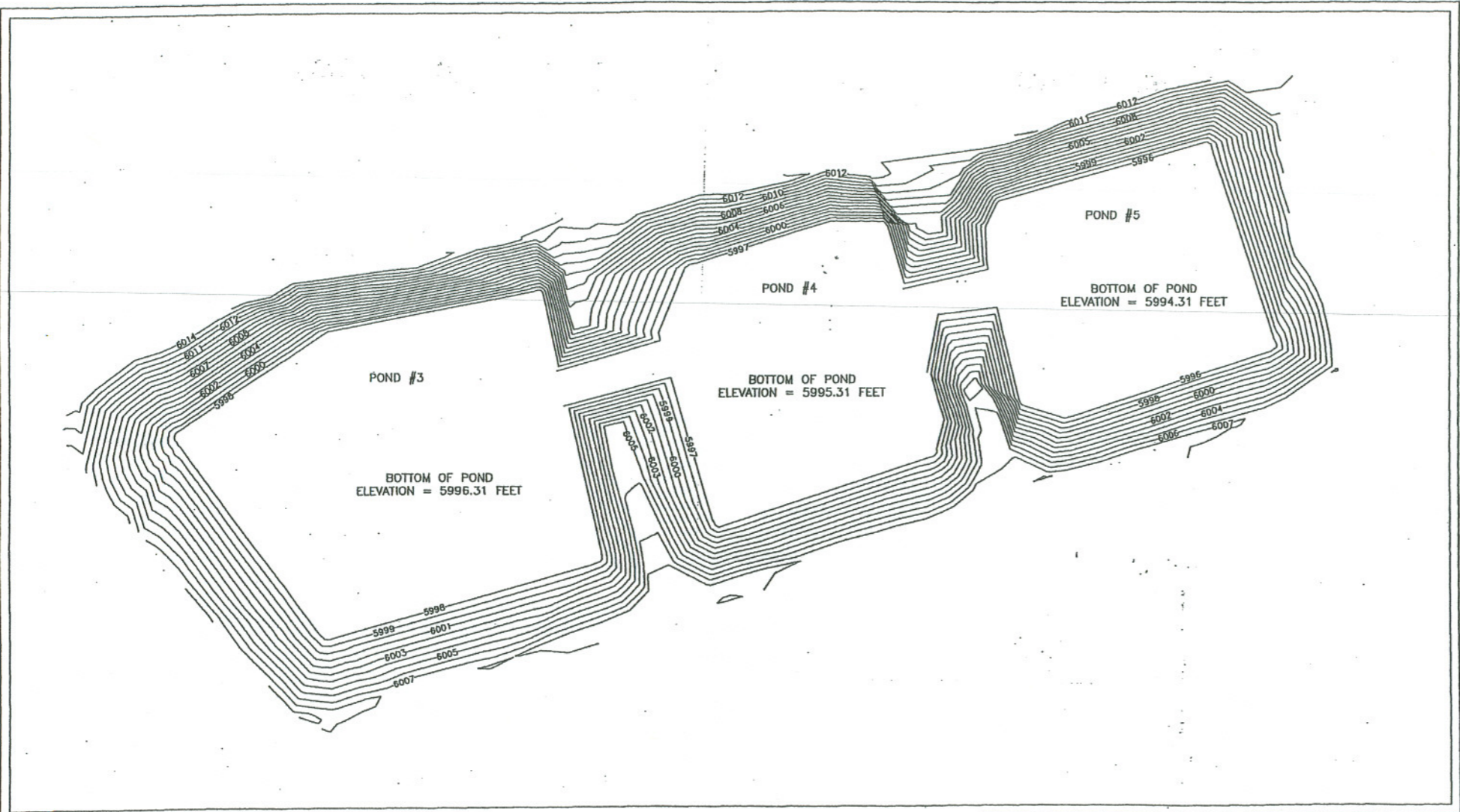
The bottom elevations from the 1990 contours were 5992 feet for Pond 3, 5991 feet for Pond 4, and 5990 for Pond 5. To establish the pond cleaning elevations, these 1990 bottom elevations were adjusted by +4.31 feet to establish the proposed cleaning elevations. Figure D-1 provides proposed pond cleaning elevations.

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TABLE D-1. FRONTIER RCRA CELL SETTLING POINT SURVEY ELEVATIONS

Date	East	Center	West
11/19/1990	6032.35	6033.46	6033.50
10/23/1991	6032.36	6033.48	6033.53
12/16/1992	3032.32	6033.44	6033.50
2/28/1994	6032.31	6033.44	6033.49
6/12/1995	6032.31	6033.44	6033.49
9/30/1997	6032.32	6033.45	6033.50
9/24/1998	6032.32	6033.45	6033.51
9/5/1999	6032.33	6033.47	6033.53
2/1/2002	6032.35 6036.66 ¹	6033.48 6037.79 ¹	6033.57 6037.88 ¹
5/5/2003	6036.70 ¹	6037.84 ¹	6037.88 ¹
4/21/2005	6036.59	6037.85	6037.88
7/10/2006	6036.68	6037.79	6037.95
Notes:			
¹ Survey data for 1990 through 2002 was based on local refinery vertical datum. Survey data from 2002 to present is based on the vertical datum NAVD 1988.			

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EXPLANATION
 PROPOSED CONTOURS



				FIGURE D-1	
				PROPOSED POND CLEANING ELEVATIONS PONDS 3, 4, AND 5 TOPOGRAPHY	
				FRONTIER REFINERY CHEYENNE, WYOMING	
Drawn By: VLP	Checked By: MLS	Scale: 1" = 50'	Date: 10/18/06	File: 003PROPPONDMODEL	

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