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Fairfax, Virginia 22037

January 20, 006

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Refining & Supply

U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Attention: **Myron Fliegel, Project Manager, Fuel Cycle Facilities Branch**
 Division of Fuel Cycle Safety and Safeguards
 Office of Nuclear Material Safety and Safeguards

Subject: **Highland Reclamation Project, License No. SUA-1139**
 Reclaimed Tailings Basin, Review of Settlement Monitoring Data

Dear Mr. Fliegel:

This letter and attached information summarize our review of historic settlement monitoring data on key areas of the reclaimed tailings basin at the Highland Reclamation Project. This summary has been prepared on behalf of Exxon Mobil Corporation by MFG, Inc. This settlement data was requested in the September 5, 2002 letter from NRC (Daniel M. Gillen) to Exxon Mobil (Mark Hoffman). Based on this data, we believe that settlement of the cover over the tailings basin is complete, and we request that further settlement monitoring be discontinued.

Tailings Basin Reclamation Background

The background on tailing basin operation and reclamation is provided in the report "As-Built Report for Closure of the Tailings Basin at the Highland Reclamation Project" prepared by Shepherd Miller in May 2002 (SM, 2002). The September 5, 2002 NRC letter presented the technical evaluation of this as-built report. The historical background pertinent to tailings basin reclamation and settlement monitoring is summarized below.

The Highland Project site layout is shown in Figure 1. This figure shows the backfilled mine areas and the remaining open-pit mine, as well as the reclaimed tailings basin. The tailings basin layout in 1990 is shown in Figure 2. Tailings basin reclamation work conducted in the 1980s culminated in cover placement in 1989. Diversion channel construction and placement of rock protection were completed in early 1990. An area of the cover was left partially completed (the evaporation ponds) in anticipation of additional settlement and to provide an area for evaporation of water from groundwater remediation. The wick area was an area where vertical band drains (wicks) were installed in 1987 to accelerate tailings consolidation in an area of fine-grained tailings (tailings slimes). The wicks were covered in 1989.

Additional Fill Placement in 2000 and 2001

After a period of settlement monitoring in the evaporation pond area, this area was covered with additional fill in 2000 and 2001 (described in SM, 2002) and revegetated in 2001. This area is shown in Figures 3 and 4. A cross section through this area is shown in Figure 5.

Settlement Monitoring

Monitoring of settlement due to tailing consolidation was conducted (1) prior to cover placement in 1989, (2) after cover placement in 1989, and (3) after additional cover placement in 2000-2001. The settlement monitoring points used during the first two phases of time are shown in Figure 6. The settlement monitoring data from the first two phases of time are summarized in Figure 7. The settlement data is typically presented on a non-linear time scale, either as the square root or logarithm of actual time. The time scale is started when loading is applied to the material expected to consolidate and settle.

The areas of expected tailings consolidation and settlement were areas of tailings slimes. The settlement monitoring points in Figure 6 were installed in these areas. The data in Figure 7 show that tailings consolidation occurred only in the southern portion of this area. Total settlement in the southern area after cover placement in 1989 was up to three feet (Figure 7).

Following additional fill placement in 2000-2001, settlement monitoring points were established at the locations shown in Figure 8. The settlement data (measured quarterly from the third quarter of 2001 through the fourth quarter of 2005) is presented in the attached table and summarized in Figure 9. This data show negligible settlement for all of the settlement ponds except R-14, Q-11, Q-13, and P-12, which are located within the southern area of tailings slimes. Within the past year, settlement at these four points has stabilized (less than 0.2 feet within the past 12 months and no settlement during last quarter).

Summary

Settlement monitoring following cover placement in 1989 showed no settlement except in the southern area of tailings slimes. As shown in Figure 7, settlement in this area stabilized by 1999. Based on this data, additional cover was placed in 2000-2001. Tailings consolidation and cover settlement in this area was anticipated, due to the loading of this additional fill. Settlement monitoring has shown that this area has stabilized (Figure 9). Cessation of additional settlement monitoring is requested.

If you have questions about the information presented in this letter, please contact me at (703) 846-3272.

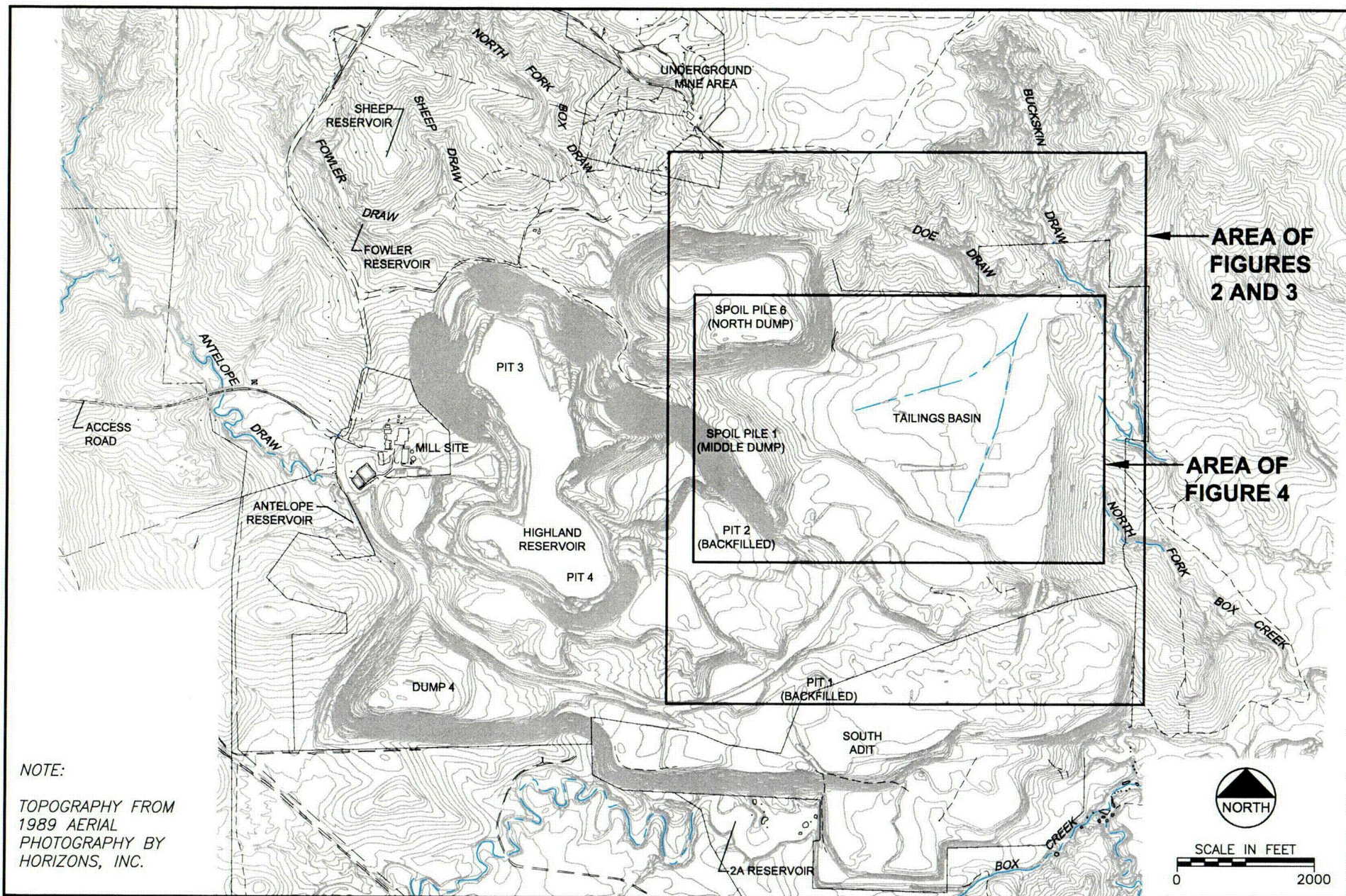
Sincerely,



Dan E. Burnham
Technical Consultant

Cc: Clint Strachan, P.E. – MFG, Inc.
Highland File

Enclosures

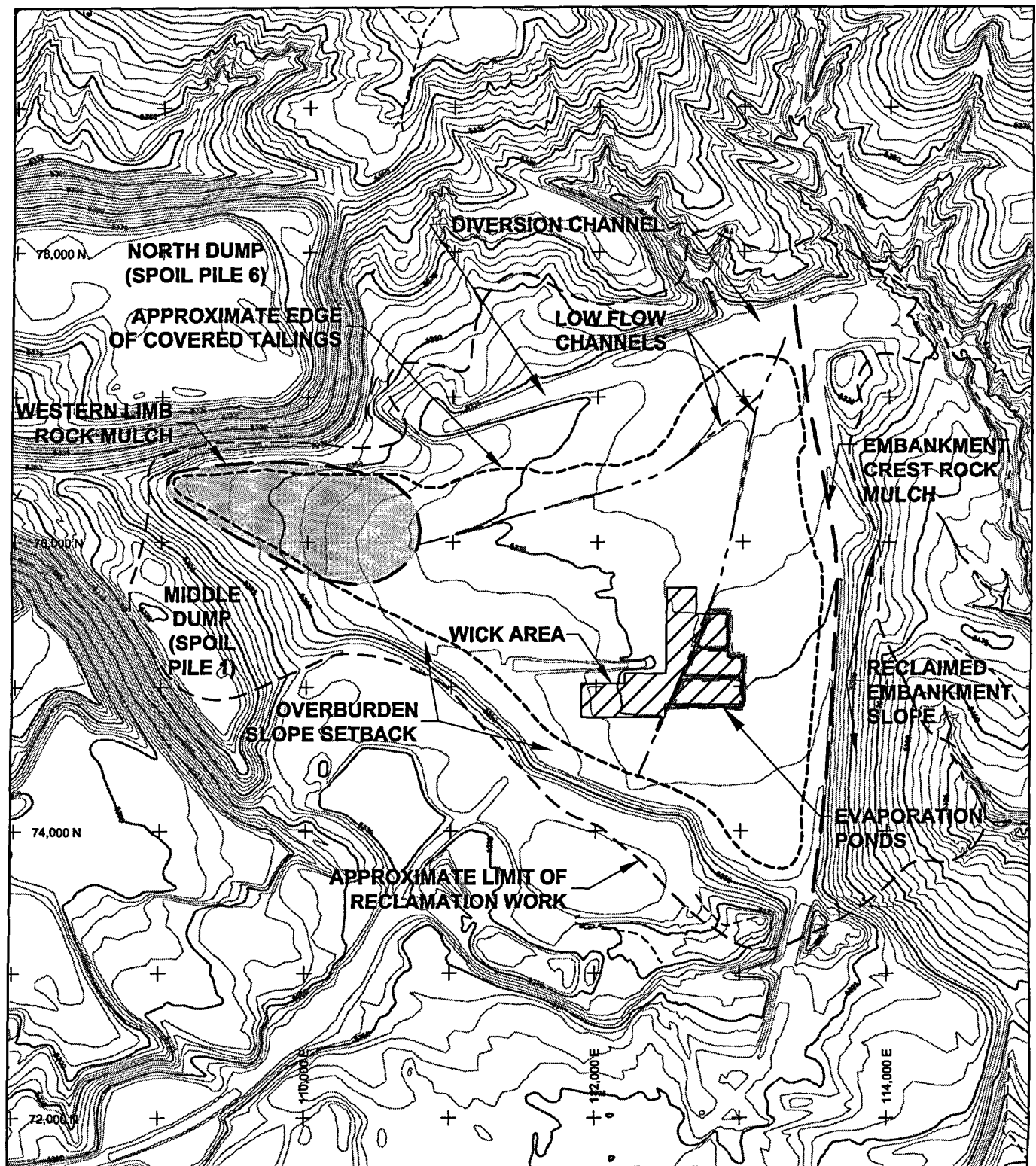


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**FIGURE 1
HIGHLAND SITE LAYOUT MAP**

Date:	JANUARY 2006
Project:	180548
File:	SITELAYOUT-01.DWG

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NOTES:

1. TOPOGRAPHY FROM 1989 AERIAL PHOTOGRAPHY BY HORIZONS, INC.
2. FIGURE ADAPTED FROM FIGURE 4.1 OF SM (2002).

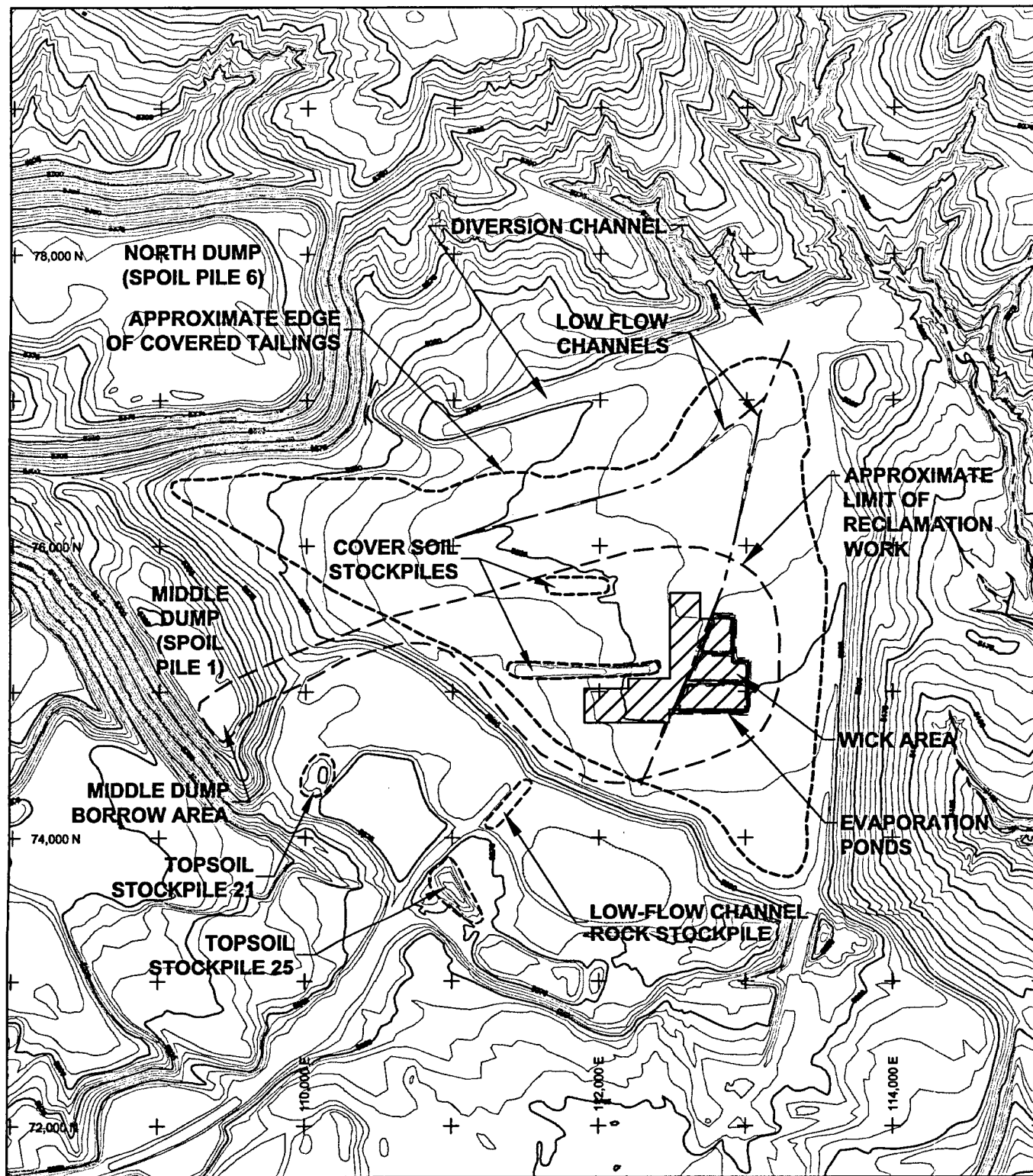


SCALE IN FEET
0 1000

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**FIGURE 2
TAILINGS RECLAMATION
WORK 1988 THROUGH 1990**

Date:	JANUARY 2006
Project:	180548
File:	TAILFIG-1B.DWG



NOTES:

1. TOPOGRAPHY FROM 1989 AERIAL PHOTOGRAPHY BY HORIZONS, INC.
2. FIGURE ADAPTED FROM FIGURE 6.1 OF SM (2002).

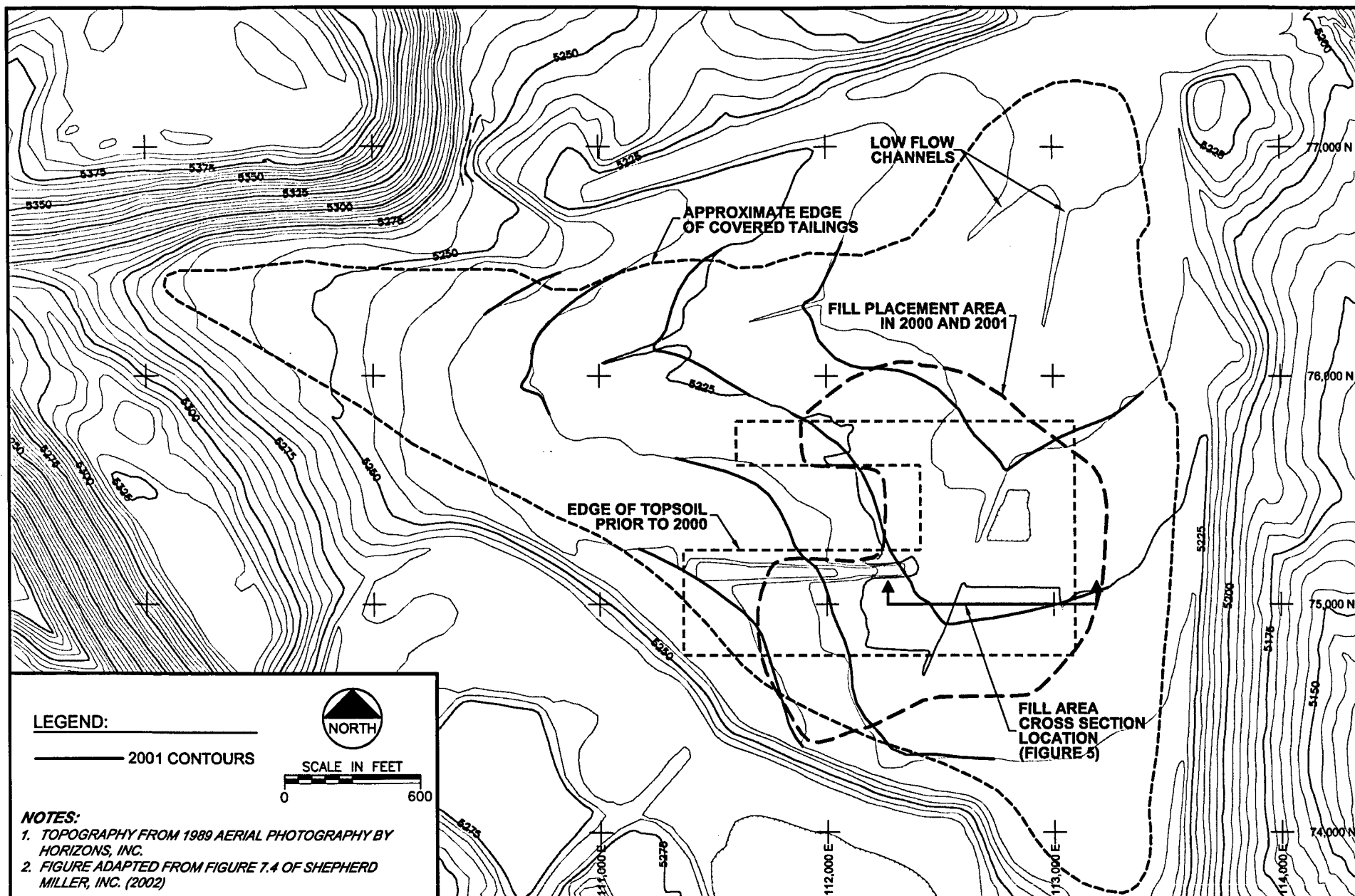


SCALE IN FEET
0 1000

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**FIGURE 3
TAILINGS RECLAMATION
WORK 2000 AND 2001**

Date:	JANUARY 2006
Project:	180548
File:	TAILFIG-1C.DWG



LEGEND:

— 2001 CONTOURS



SCALE IN FEET

0 600

NOTES:

1. TOPOGRAPHY FROM 1989 AERIAL PHOTOGRAPHY BY HORIZONS, INC.
2. FIGURE ADAPTED FROM FIGURE 7.4 OF SHEPHERD MILLER, INC. (2002)

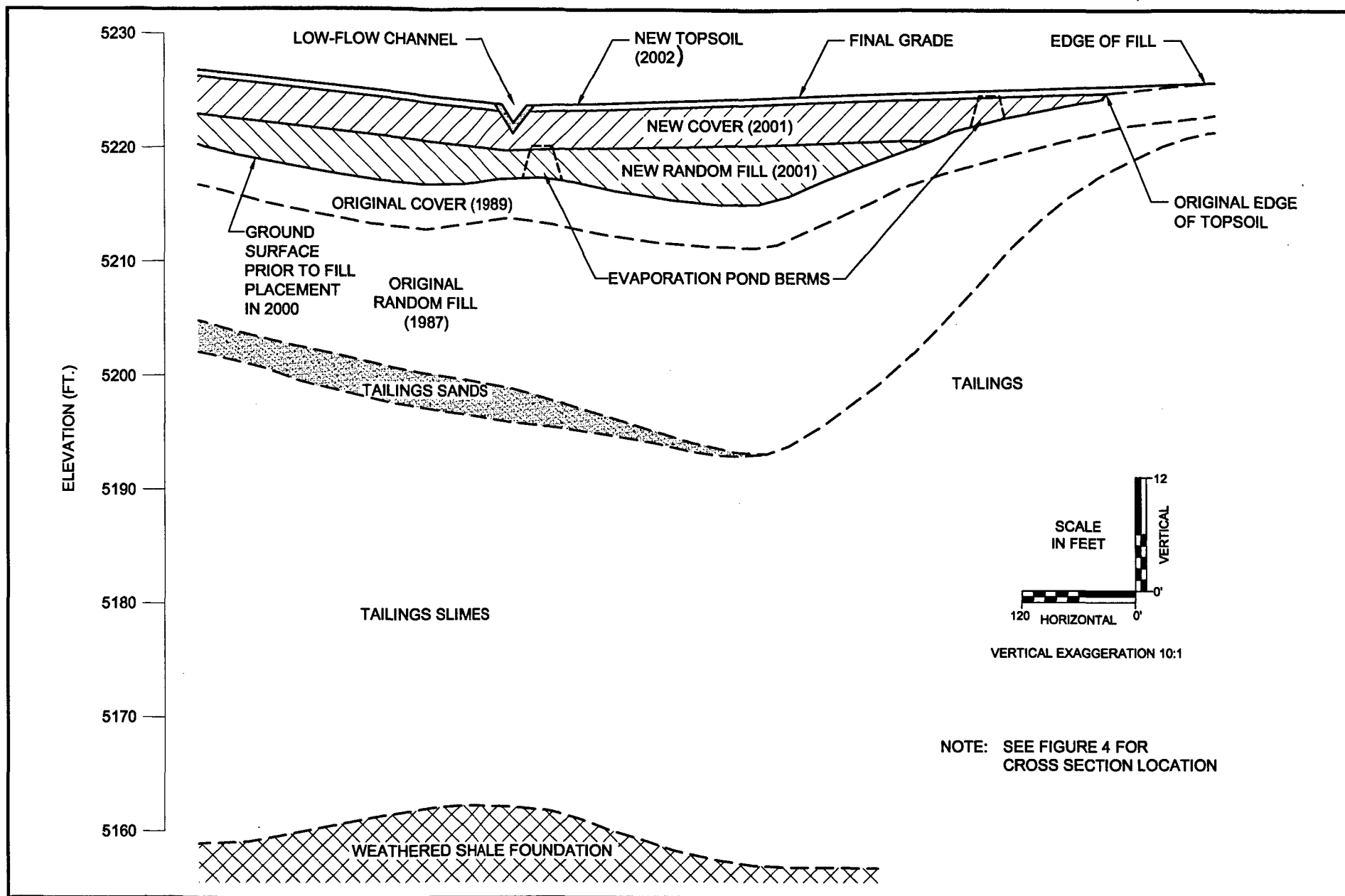
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FIGURE 4
RECLAIMED TAILINGS BASIN CONTOURS
AT COMPLETION OF WORK IN 2001

Date: JANUARY 2006

Project: 180548V2

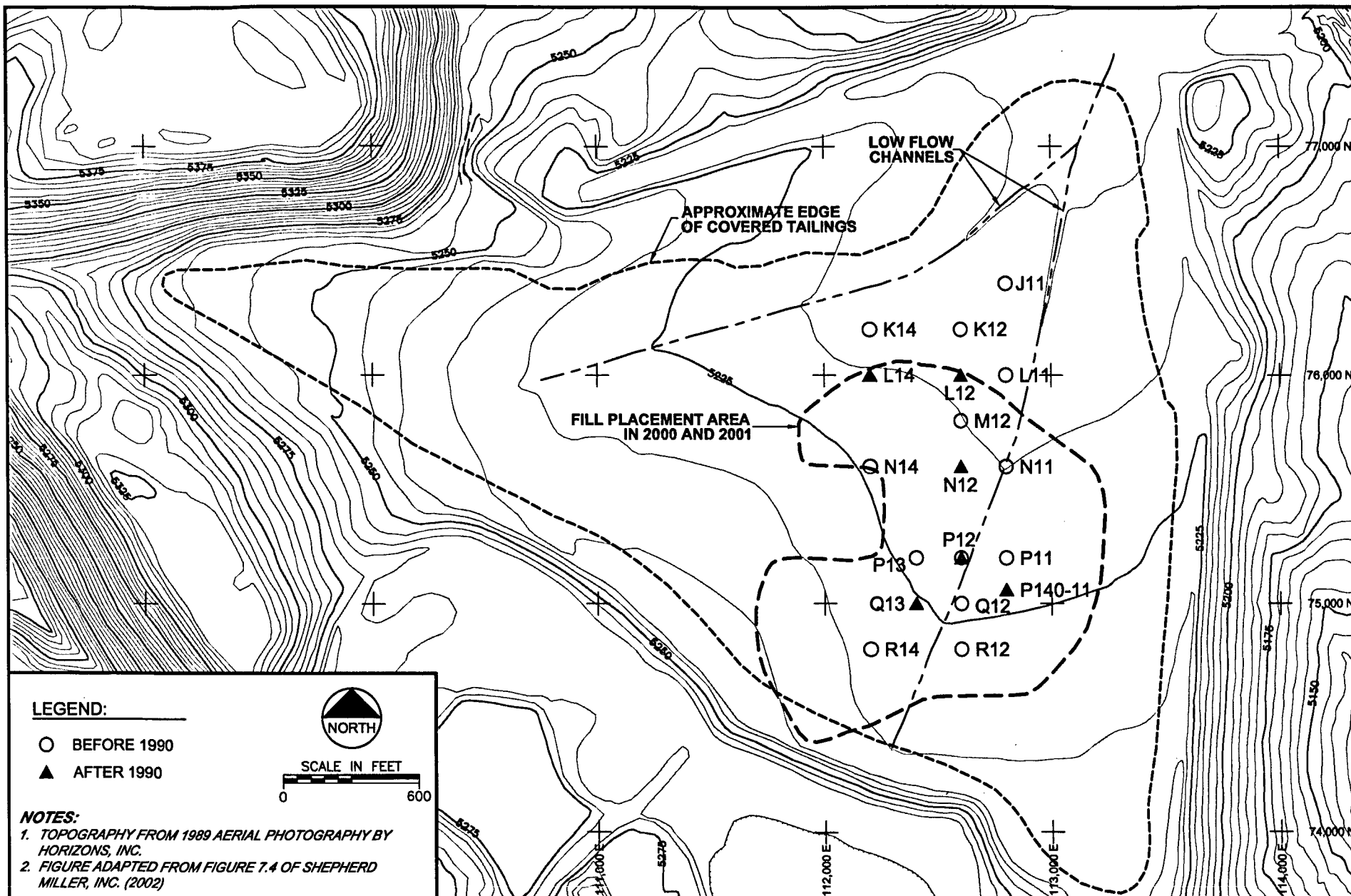
File: TAIL-REC.DWG



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FIGURE 5
ADDITIONAL FILL AREA CROSS SECTION

Date:	JANUARY 2006
Project:	180548/2
File:	XS-FILL.DWG

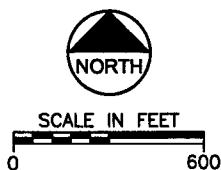


LEGEND:

- BEFORE 1990
 ▲ AFTER 1990

NOTES:

1. TOPOGRAPHY FROM 1989 AERIAL PHOTOGRAPHY BY HORIZONS, INC.
2. FIGURE ADAPTED FROM FIGURE 7.4 OF SHEPHERD MILLER, INC. (2002)

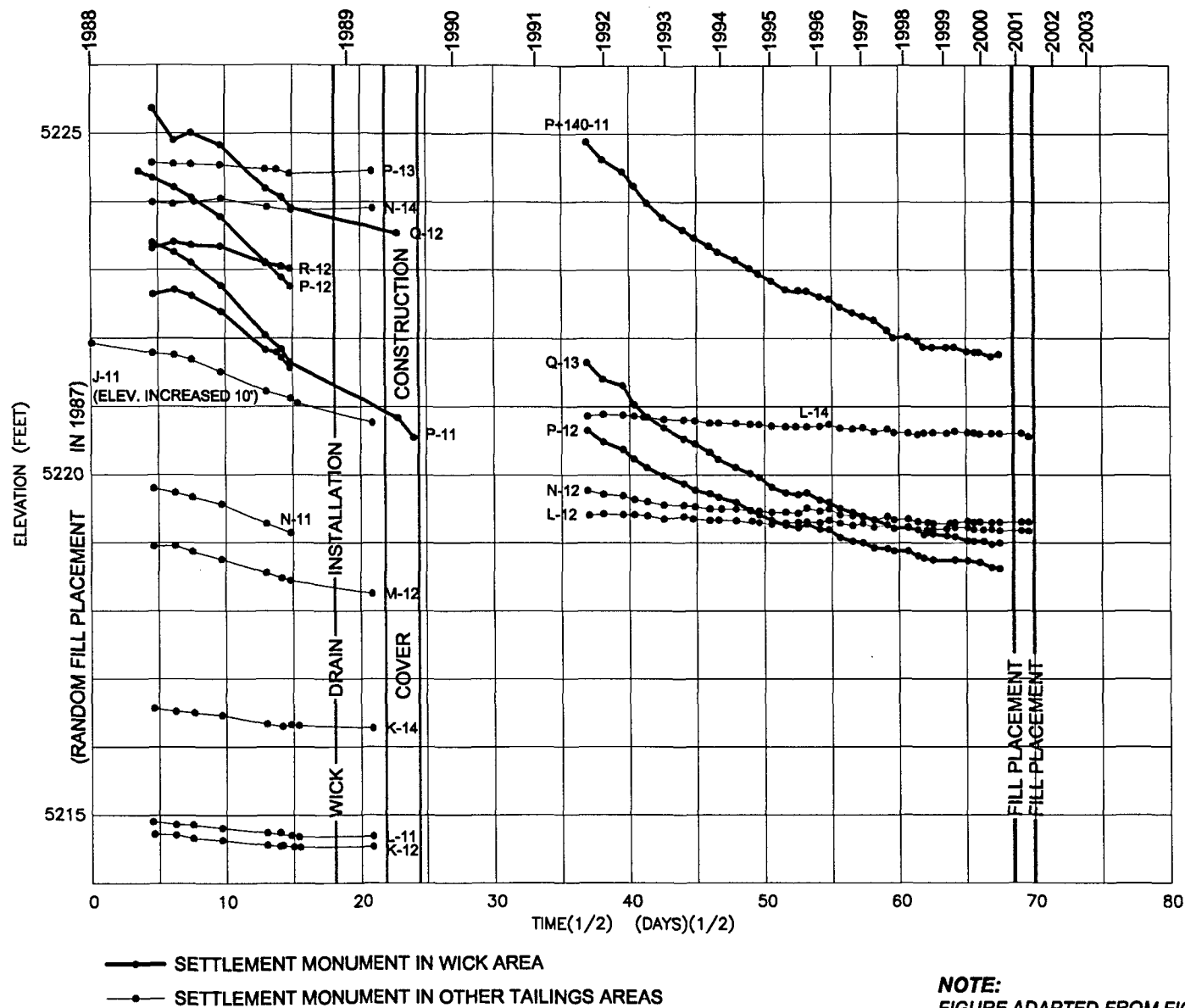


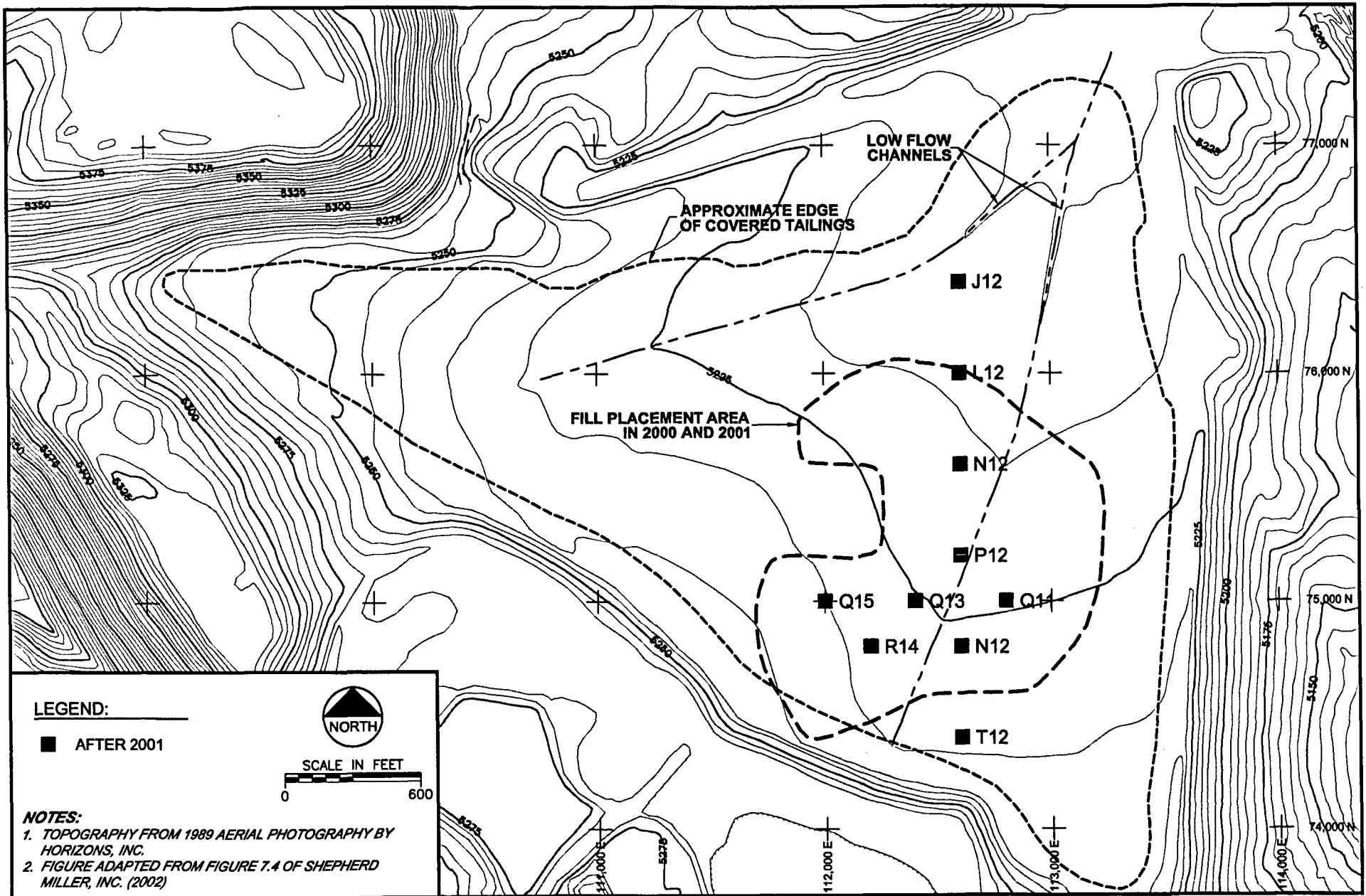
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FIGURE 6
SETTLEMENT MONITORING POINTS PRIOR TO 2001

Date:	JANUARY 2006
Project:	180548V2
File:	TAIL-SET-01.DWG

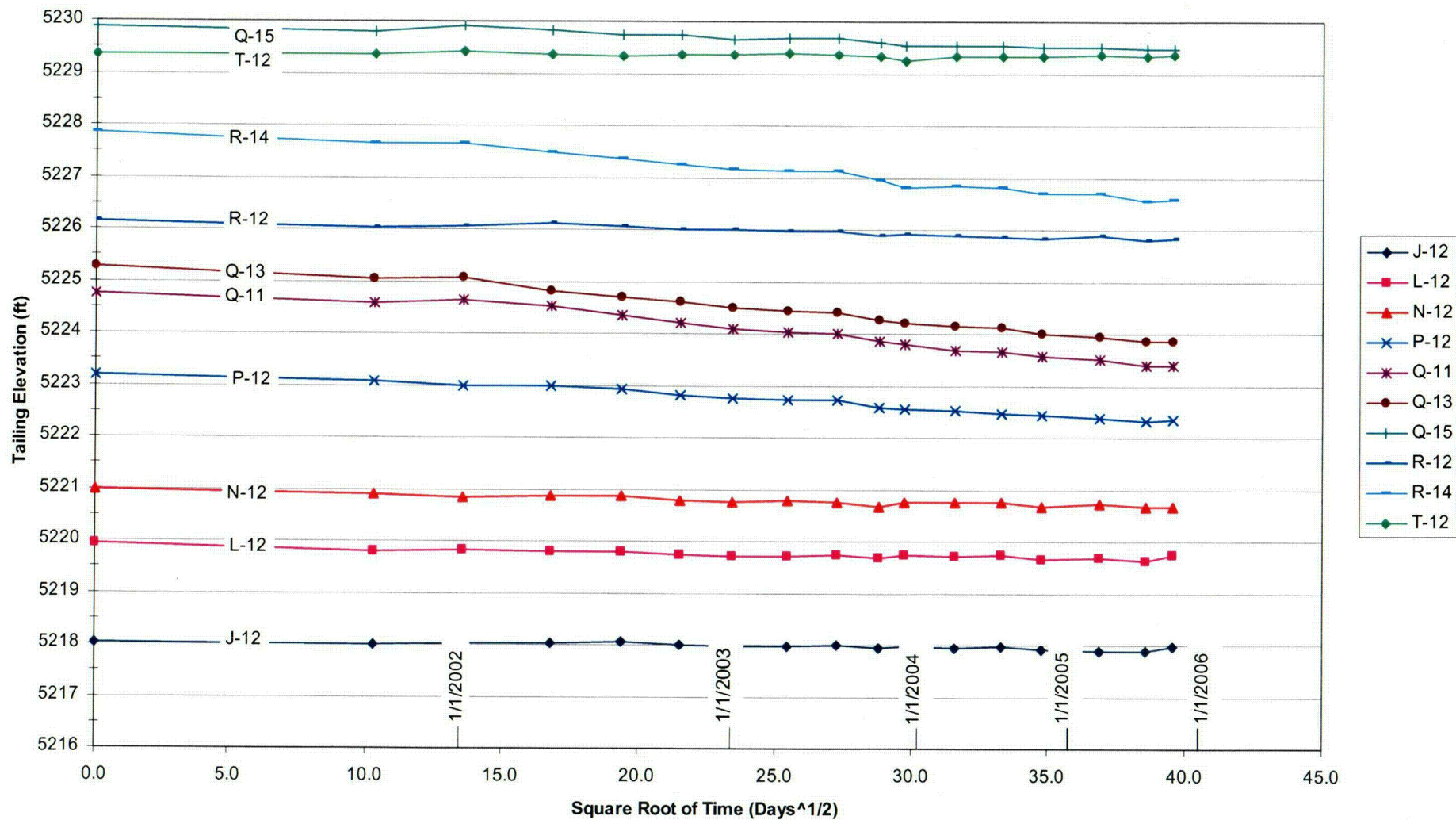




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FIGURE 8
SETTLEMENT MONITORING POINTS AFTER 2001

Date:	JANUARY 2006
Project:	180548\2
File:	TAIL-SET-01.DWG



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FIGURE 9
TAILINGS SETTLEMENT DATA SUMMARY 2001-2005

Date: JANUARY 2006

Project: P:\180548\

File: Fig 6.ppt

COZ

Client: ExxonMobil Job No.: 100548-2
 Project: Highland Date: 23-Apr-04
 Detail: Settlement By: RTS

Monitoring Point	New or Old Point	Location	2000/2001 Fill Thickness (ft)	Date Change In Time (days)	7/3/2001	10/17/2001	1/3/2002	4/12/2002	7/13/2002	10/10/2002	1/4/2003	4/12/2003	7/18/2003	10/11/2003	12/3/2003	3/27/2004	7/18/2004	10/23/2004	3/26/2005	8/1/2005	10/16/2005
					0	108	184	283	375	464	550	648	743	830	883	998	1109	1208	1362	1490	1566
Monitoring Point	New or Old Point	Location	2000/2001 Fill Thickness (ft)	Date Change In Time (days)	Elevation (ft)																
					0.0	10.3	13.6	16.8	19.4	21.5	23.5	25.5	27.3	28.8	29.7	31.6	33.3	34.8	36.9	38.6	39.6
J-12	N	Northern Slimes Area	0		5218.027	5218.007	5218.033	5218.04	5218.063	5218.013	5217.962	5217.971	5218.011	5217.932	5217.963	5217.946	5217.985	5217.923	5217.892	5217.889	5217.971
L-12	O	Northern Slimes Area	0		5219.938	5219.792	5219.822	5219.797	5219.811	5219.734	5219.708	5219.709	5219.733	5219.689	5219.741	5219.72	5219.736	5219.663	5219.688	5219.628	5219.728
N-12	O	North Edge of Southern Slimes Area	4		5220.985	5220.898	5220.853	5220.869	5220.88	5220.781	5220.788	5220.782	5220.761	5220.674	5220.748	5220.743	5220.753	5220.653	5220.73	5220.656	5220.673
P-12	O	Southern Slimes Area	>4		5223.186	5223.08	5222.993	5222.998	5222.921	5222.817	5222.745	5222.726	5222.738	5222.573	5222.558	5222.52	5222.468	5222.431	5222.369	5222.33	5222.347
Q-11	N	Southern Slimes Area	>4		5224.76	5224.57	5224.627	5224.512	5224.334	5224.207	5224.087	5224.037	5224.008	5223.858	5223.787	5223.695	5223.638	5223.558	5223.508	5223.397	5223.404
Q-13	O	Southern Slimes Area	>4		5225.262	5225.055	5225.062	5224.825	5224.702	5224.6	5224.499	5224.428	5224.392	5224.254	5224.209	5224.135	5224.114	5224.013	5223.951	5223.85	5223.866
Q-15	N	West Edge of Southern Slimes Area	4		5229.877	5229.799	5229.905	5229.818	5229.732	5229.727	5229.665	5229.684	5229.682	5229.597	5229.547	5229.547	5229.524	5229.501	5229.517	5229.47	5229.49
R-12	O	East Edge of southern Slimes Area	4		5226.141	5226.042	5226.065	5226.114	5226.054	5225.996	5225.992	5225.97	5225.974	5225.877	5225.9	5225.888	5225.862	5225.828	5225.876	5225.803	5225.823
R-14	O	Southern Slimes Area	>4		5227.842	5227.646	5227.65	5227.481	5227.371	5227.235	5227.173	5227.122	5227.122	5226.961	5226.826	5226.849	5226.815	5226.709	5226.688	5226.555	5226.575
T-12	N	South End of Tailings	0		5229.353	5229.352	5229.416	5229.359	5229.337	5229.35	5229.357	5229.387	5229.364	5229.334	5229.24	5229.339	5229.335	5229.334	5229.376	5229.333	5229.374