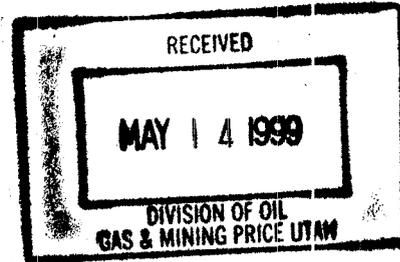




Willow Creek Mine
847 Northwest Highway 191
Helper, Utah 84526
(435) 472-0475
Fax: (435) 472-4780

May 14, 1999



Utah Coal Regulatory Program
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Attention: Pamela Grubaugh-Littig

RE: Submittal of Annual Report for 1998, Cyprus Plateau Mining Corporation, Star Point Mine, ACT/007/006, Folder #2, Carbon County, Utah

Dear Ms. Grubaugh-Littig:

Enclosed please find two copies of the aforementioned. Due to the way we assembled our annual report, we are unable to provide the information in the fashion requested by the Division. Additionally, I have notified the USFS numerous times that Cyprus needs a copy of the 1998 Macroinvertebrate Report, but have yet to receive the Report. Once Cyprus receives a copy of the Report, it will forward the Division two copies.

If you have any questions, please do not hesitate to contact me at (435) 472-4741.

Sincerely,

A handwritten signature in black ink, appearing to read 'Johnny Pappas'.

Johnny Pappas
Sr. Environmental Engineer

Enclosures

File: ENV 2.6
Chrono: JP990508.LTR

GENERAL INFORMATION

1. Permit Number	ACT/007/006
2. Mine Name	Star Point Mines
3. Permittee Name	Cyprus Plateau Mining Corporation
4. Operator Name (if other than Permittee)	
5. Permit Expiration Date	January 29, 2002
6. Company Representative, Title	Johnny Pappas, Sr. Environmental Engineer
7. Phone Number	(435) 472-4741
8. Fax Number	(435) 472-4782
9. Mailing Address	847 Northwest Highway 191 Helper, Utah 84526
10. Resident Agent, Title	C.T. Corporation System
Mailing Address	50 West Broadway Salt Lake City, Utah 84101

IDENTIFICATION OF OTHER PERMITS

Identify other permits which are required in conjunction with mining and reclamation activities.

Permit Type	ID Number	Description	Expires on
1. MSHA Mine ID(s)	42-00171	Legal Identity	
2. MSHA Impoundment(s)	N/A		
3. NPDES/UPDES Permit(s) (water)	UT0023736	UPDES Permit	12/31/01
4. PSD (Air) Permit(s)	DAQE-886-96	Approval Order	
5.			
6.			

CERTIFIED REPORTS

List the certified inspection reports as required by the rules and under the approved plan which must be periodically submitted to the Division. Specify whether the information is included as APPENDIX A to this Annual Report or currently ON FILE with the Division.

Certified Reports:	Reports Required?		INCLUDED or ON FILE w/DOGM?			Comments
	YES	NO	YES	NO	ON FILE	
1. Excess Spoil Piles		X				
2. Refuse Piles	X		X			
3. Impoundments	X		X			
4.						
5.						

REPORTING OF OTHER TECHNICAL DATA

List other technical data and information as required under the approved plan which must be periodically submitted to the Division. Specify whether the information is included as APPENDIX B to this Annual Report or currently ON FILE with the Division.

Technical Data:	Reports Required?		INCLUDED or ON FILE w/DOGM?			Comments
	YES	NO	YES	NO	ON FILE	
1. Climatological Data		X				
2. Subsidence Monitoring Data	X		X			
3. Vegetation Monitoring Data	X		X			COLOR INFRARED PHOTOGRAPHY
4. Raptor Data	X		X			
5. Soils Monitoring Data		X				
6. Water Monitoring Data	X					
First Quarter Report					X	
Second Quarter Report					X	
Third Quarter Report					X	
Fourth Quarter Report					X	
7. Geological/Geophysical Data		X				
8. Engineering Data		X				
9. Other Data						
10. Macroinvertebrate Report	X		X			NOT RECEIVED FROM USFS

APPENDIX A

Certified Reports

Excess Spoil Piles
Refuse Piles
Impoundments

as required under R645-301-514

CONTENTS

Annual Sediment Pond Certification

Quarterly Refuse Pile Certifications

Cyprus Plateau Mining Corporation

1998 Sediment Pond Certification

I hereby certify that I am a Registered Professional Engineer in the State of Utah. I certify that I have made an inspection of Sediment Ponds 1 through 9, and three water impoundments, at Cyprus Plateau Mining Corporation's Star Point Mine. All of the pond embankments appear to be stable and in good physical condition. There are no apparent structural weaknesses or other hazardous conditions. Pond number 8 has reached clean out level, and is actively being cleaned. I certify that I have reviewed the documentation pertaining to Attachment A, and that to the best of my knowledge the information shown thereon is accurate.



T. Arthur Palm



Date: 1/2/99

Attachment A Sediment Ponds Storage Capacities

Pond	Date	Decant Elevation	Sediment Storage Capacity in A.F.	Sediment Storage Volume Used in %	Sediment Storage Volume Remaining in A.F.
1	12/4/98	8302.10	0.36	0*	0.36
2	12/4/98	7718.75	1.92	10*	1.73
3	12/4/98	8100.85	1.77	33*	1.19
4	12/4/98	7313.00	0.44	10*	0.36
5	12/4/98	7393.00	2.42	36*	1.55
6	12/4/98	7142.70	0.76	0*	0.76
7	12/4/98	7206.00	0.04	20*	0.03
8	12/4/98	7049.90	1.10	56*	0.48
9	12/4/98	7439.30	2.02	10*	1.82
⊕Wash Plant East	12/4/98	7480.00	N/A	N/A	N/A
⊕Wash Plant West	12/4/98	7483.00	N/A	N/A	N/A
⊕Wash Plant Clear Water	12/4/98	7468.50	N/A	N/A	N/A

* Based on estimates and/or second or third quarter inspections. Late summer thunderstorms during 1998, hindered accurate sediment level reading due to pond containing water.

⊕ Preparation Plant was shut down in November 1997, thereby not requiring use of ponds thereafter.

REFUSE PILE CERTIFICATION
First Quarter 1998

I have inspected the refuse pile at Cyprus Plateau Star Point Mine. There is some standing water on the pile, indicative of the snow melt currently taking place. However, to the best of my knowledge and belief, this facility is in compliance with its permit, and applicable state and federal regulations.


T. Arthur Palm



4-1-98
Date

REFUSE PILE CERTIFICATION
Second Quarter 1998

I have inspected the refuse pile at Cyprus Plateau Star Point Mine. The structure is dry, currently being graded, with no active refuse disposal at this time. To the best of my knowledge and belief, this facility is in compliance with its permit, and applicable state and federal regulations.



T. Arthur Palm



2-1-98
Date

REFUSE PILE CERTIFICATION
3rd Quarter 1998

I have inspected the refuse pile at Star Point Mine, and to the best of my knowledge and belief, it is being maintained per the requirements of the permit and applicable regulations.


T. Arthur Palm

9/30/98
Date



**Cyprus Plateau Mining Corporation
Quarterly Refuse Pile Certification
Fourth Quarter, 1998**

I hereby certify that I am a Registered Professional Engineer in the State of Utah. I certify that I have made an inspection of the coal processing refuse pile at Cyprus Plateau Mining Corporation's Star Point Mine in Carbon County Utah. To the best of my knowledge and belief, the refuse pile has been constructed and maintained as designed.

There are no apparent areas of instability, structural weakness or other hazardous conditions. The refuse pile is currently not being use for disposal.

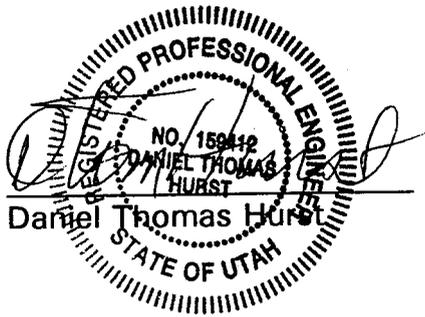

T. Arthur Palm



Date: 1/2/99

**Cyprus Plateau Mining Corporation
Quarterly Refuse Pile Certification
First Quarter, 1999**

I hereby certify that I am a Registered Professional Engineer in the State of Utah. I certify that I have made an inspection of the coal processing refuse pile at Cyprus Plateau Mining Corporation's Star Point Mine in Carbon County Utah. To the best of my knowledge and belief, the refuse pile has been constructed and maintained as designed. There are no apparent areas of instability, structural weakness or other hazardous conditions. The refuse pile is currently not being use for disposal.



Date: 4-12-99

APPENDIX B

Reporting of Technical Data

including monitoring data, reports, maps, and other information
as required under the approved plan
or as required by the Division

in accordance with the requirements of R645-301-130 and R645-301-140.

CONTENTS

Subsidence Report

Color Infrared Photography Vegetation Report

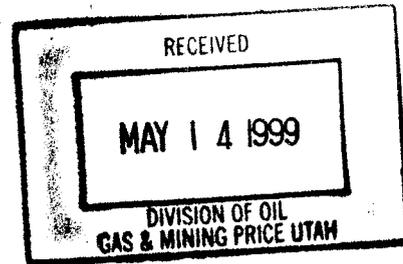
Macroinvertebrate Report
(Not Received from USFS)

1998 Raptor Monitoring



Willow Creek Mine
847 Northwest Highway 191
Helper, Utah 84526
(435) 472-0475
Fax: (435) 472-4780

May 14, 1999



Utah Coal Regulatory Program
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Attention: Pamela Grubaugh-Littig

RE: Submittal of Annual Report for 1998, AMAX Coal Company, Castle Gate Mine, ACT/007/004, Folder #2, Carbon County, Utah

Dear Ms. Grubaugh-Littig:

Enclosed please find two copies of the aforementioned. If you have any questions, please do not hesitate to contact me at (435) 472-4741.

Sincerely,

A handwritten signature in black ink, appearing to read 'Johnny Pappas'.

Johnny Pappas
Sr. Environmental Engineer

Enclosures

File: ENV2.5.2.25
Chrono: JP90510.LTR

GENERAL INFORMATION

1. Permit Number	ACT/007/004
2. Mine Name	Castle Gate Mine
3. Permittee Name	Castle Gate Holding Company
4. Operator Name (if other than Permittee)	
5. Permit Expiration Date	December 24, 1999
6. Company Representative, Title	Johnny Pappas, Sr. Environmental Engineer
7. Phone Number	(435) 472-4741
8. Fax Number	(435) 472-4782
9. Mailing Address	Castle Gate Holding Company 847 Northwest Highway 191 Helper, Utah 84526
10. Resident Agent, Title	C.T. Corporation
Mailing Address	50 West Broadway Salt Lake City, Utah 84101

IDENTIFICATION OF OTHER PERMITS

Identify other permits which are required in conjunction with mining and reclamation activities.

Permit Type	ID Number	Description	Expires on
1. MSHA Mine ID(s)	4200165	Legal Identity	
	4201202	Legal Identity	
2. MSHA Impoundment(s)	N/A		
3. NPDES/UPDES Permit(s) (water)	UTG0400 12	UPDES Permit	4/30/98
4. PSD (Air) Permit(s)	N/A		
5.			
6.			

CERTIFIED REPORTS

List the certified inspection reports as required by the rules and under the approved plan which must be periodically submitted to the Division. Specify whether the information is included as APPENDIX A to this Annual Report or currently ON FILE with the Division.

Certified Reports:	Reports Required?		INCLUDED or ON FILE w/DOGM?			Comments
	YES	NO	YES	NO	ON FILE	
1. Excess Spoil Piles		X				
2. Refuse Piles		X				
3. Impoundments	X		X			
4.						
5.						

REPORTING OF OTHER TECHNICAL DATA

List other technical data and information as required under the approved plan which must be periodically submitted to the Division. Specify whether the information is included as APPENDIX B to this Annual Report or currently ON FILE with the Division.

Technical Data:	Reports Required?		INCLUDED or ON FILE w/DOGM?			Comments
	YES	NO	YES	NO	ON FILE	
1. Climatological Data		X				
2. Subsidence Monitoring Data	X		X			
3. Vegetation Monitoring Data		X				
4. Raptor Data		X				
5. Soils Monitoring Data		X				
6. Water Monitoring Data	X					
First Quarter Report	X				X	
Second Quarter Report	X				X	
Third Quarter Report	X				X	
Fourth Quarter Report	X				X	
7. Geological/Geophysical Data		X				
8. Engineering Data		X				
9. Other Data						
SOWBELLY SLUMP MONITORING	X		X			

LEGAL, FINANCIAL, COMPLIANCE AND RELATED INFORMATION

Changes in administration or corporate structure can often bring about necessary changes to information found in the mining and reclamation plan. The Division is requesting that each permittee review and update the legal, financial, compliance and related information in the plan as part of the Annual Report. Provide the Department of Commerce, Annual Report of Officers, or other equivalent information as necessary to ensure that the information provided in the plan is current. Provide any other changes as necessary regarding land ownership, lease acquisitions, legal results from appeals of violations, or other changes as necessary to update information required in the mining and reclamation plan. Include any certified financial statements, audits or worksheets which may be required to meet bonding requirements. Specify whether the information is currently ON FILE with the Division or included as APPENDIX C to this Annual Report.

Legal/Financial Data:	Report Required?		INCLUDED or ON FILE w/DOGM?			Comments
	YES	NO	YES	NO	ON FILE	
1. Department of Commerce, Annual Report of Officers	X		X			
2. Other						

MINE MAPS

Copies of mine maps, current and up-to-date through at least December 31, 1998, are to be provided to the Division as APPENDIX D to this Annual Report in accordance with the requirements of R645-301-525.270. These map copies shall be made in accordance with 30 CFR 75.1200, as required by MSHA. Upon request, mine maps shall be kept confidential by the Division.

Map Number(s)	Map Title / Description	Confidential?
NO MINING CONDUCTED		

OTHER INFORMATION

Please provide any comments or further information to be included as part of the Annual Report. Any other attachments are to be provided as APPENDIX E to this Annual Report.

Additional attachments to this report? No Yes

APPENDIX A

Certified Reports

Excess Spoil Piles
Refuse Piles
Impoundments

as required under R645-301-514

CONTENTS

ANNUAL SEDIMENT POND CERTIFICATION

**CYPRUS PLATEAU MINING CORPORATION
1998 ANNUAL POND INSPECTION REPORT**

POND: Sed. Pond 010 LOCATION: Castle Gate No. 1 Mine

IMPOUNDMENTS	
(1) Stability	Slopes Stable/Mostly Incised.
(2) Structural Weakness/Erosion	None Noted.
(3) Potential Safety Hazards	None Noted.
(4) Depth of Impounded Water	1' - Frozen.
(5) Existing Storage Capacity	10,180 cu. ft.
(6) Monitoring Procedures	Quarterly Inspection. U.P.D.E.S.
SEDIMENT PONDS ONLY	
(7) Sediment Accumulation (Elev.)	92.9
(8) Sediment Cleanout Level (Elev.)	94.1
(9) Principle Spillway (Elev.)	100.0
(10) Emergency Spillway (Elev.)	100.0
(11) Existing Sediment Capacity (To Cleanout)	1,720 cu. ft.
GENERAL	
(12) Comments/Recommendations	No Inflow. Open Channel Spillway. Elevations Relative to Open Spillway elevation of 100.00. Sediment at cleanout level.

STATEMENT:

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meets or exceeds the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

Dan W. Guy
(Signature)

12/28/98
(Date)



APPENDIX B

Reporting of Technical Data

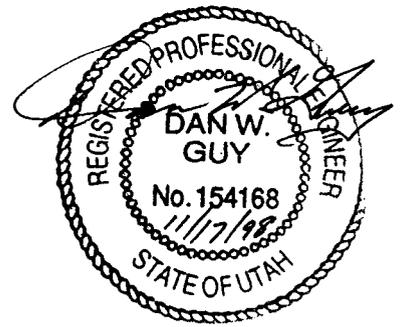
including monitoring data, reports, maps, and other information
as required under the approved plan
or as required by the Division

in accordance with the requirements of R645-301-130 and R645-301-140.

CONTENTS

SUBSIDENCE MONITORING

SOWBELLY GULCH SLUMP MONITORING



**CASTLE GATE COAL COMPANY
SUBSIDENCE MONITORING
BEAR CANYON**

STATION	LOCATION	ELEVATION			Change	
		05/81	09/05/97	11/17/98	Last	Acc.
TRP-1	Price Canyon	6319.85	6319.85	6319.85	(Control Point)	
BZ-60	Bear Canyon	6508.00	6508.00	6508.00	(Control Point)	
BZ-52	Bear Canyon	6713.78	6713.78	6713.78	(Control Point)	
Sub-34	Bear Canyon	6744.44	-	-	(See Note Below)	
Sub-38	Bear Canyon	6700.59	6700.13	6700.15	0.02	-0.44
Sub-63	Bear Canyon	6546.54	6454.82	6546.02	0.20	-0.52
Sub-64	Bear Canyon	6406.63	6406.20	6406.16	-0.04	-0.47
Sub-71	Price Canyon	6400.99	6401.10	6401.12	0.02	0.13

Notes:

- (1) *The above referenced points represent the only subsidence and control points located within Bear Canyon and subsequently verified by survey.*
- (2) *Sub-34 is no longer visible due to large trees and has been eliminated.*
- (3) *There were no fractures, slumps, rock falls or other subsidence-related effects noted within the canyon during this survey.*

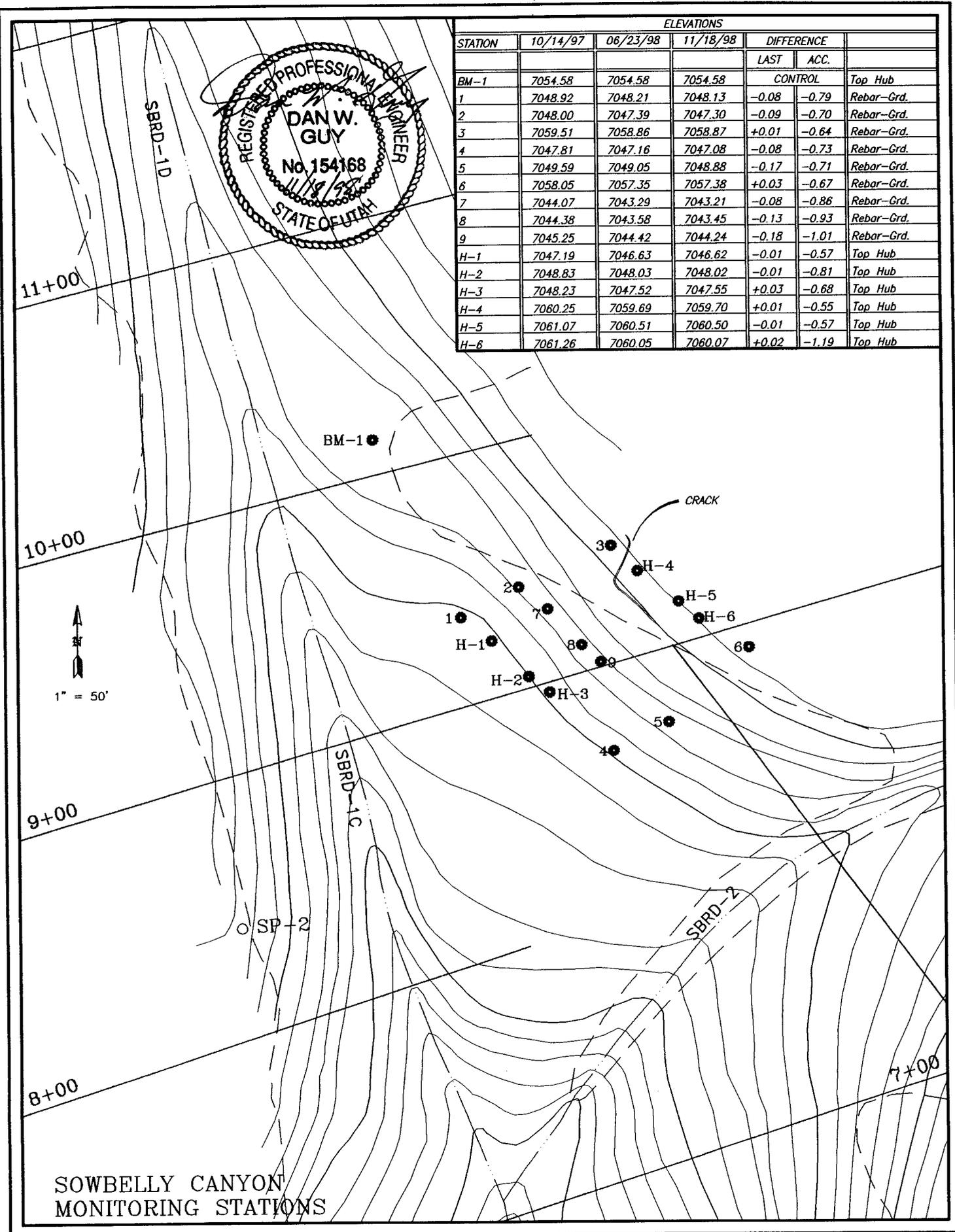


FIGURE 3.2J-1

APPENDIX C

Legal, Financial, Compliance and Related Information

Annual Report of Officers
as submitted to the Utah Department of Commerce
and other changes in ownership and control information
as required under R645-301-110.

CONTENTS

ANNUAL REPORT OF OFFICERS

Utah Department of Commerce
Division of Corporations & Commercial Code
In person: 160 East 300 South, 1st Floor
Salt Lake City, Utah 84111
Fax: (801) 530-6111
Web site: http://www.commerce.state.ut.us



PROFIT CORPORATION ANNUAL REPORT

The following information is on file in this office. All profit corporations must file their annual reports and corrections within the month of their anniversary date. Failure to do so will result in Delinquency, Revocation or Involuntary Dissolution of the corporate charter.

THIS BOX MUST BE COMPLETED

CORPORATE NAME, REGISTERED AGENT, REGISTERED OFFICE, CITY, STATE & ZIP		MAKE ALL CORRECTIONS IN THIS COLUMN	
CORPORATION #	210132	First New Agent Name	NEW AGENT MUST SIGN ABOVE
F	04/23/98	NEW REGISTERED OFFICE ADDRESS REQUIRED	
1.	CYPRUS AMAX MIDWEST HOLDING COMPANY	New City	REGISTERED AGENT MUST BE IN UTAH (R-#)
2.	C T CORPORATION SYSTEM		
3.	50 W BROADWAY 8TH FLOOR		
4.	SALT LAKE CITY UT 84101-2006		

WHEN CHANGING THE REGISTERED AGENT THE NEW AGENT MUST SIGN.

5. INCORPORATED IN THE STATE AND UNDER THE LAWS OF:	DELAWARE	Direct Address	State of Country
6. ADDRESS OF THE PRINCIPAL OFFICE IN THE HOME STATE:	9100 E MINERAL CIR	City	Zip
	ENGLEWOOD CO 80112		

7. BUSINESS PURPOSE: HOLDING COMPANIES, NEC
DOMESTIC, PROFIT CORPORATIONS ARE REQUIRED TO LIST A CORPORATE OFFICER.

OFFICERS			
8. PRESIDENT	R J SCOTT	8	J.M. DeMichiei
ADDRESS	4 SHINING OAK RD		9100 E. Mineral Circle
CITY, STATE & ZIP	CONIFER CO 80433		Englewood, CO 80112
9. VICE PRESIDENT	G J MALYS	9	G.J. Malys
ADDRESS	9120 S WARHAWK RD		9100 E. Mineral Circle
CITY, STATE & ZIP	CONIFER CO 80433		Englewood, CO 80112
10. SECRETARY	P C WOLF	10	P.C. Wolf
ADDRESS	5566 CRESTBOOK DR		9100 E. Mineral Circle
CITY, STATE & ZIP	MORRISON CO 80485		Englewood, CO 80112
11. TREASURER	J S HAKIMI	11	F.S. Hakimi
ADDRESS	215 S KRAMERIA		9100 E. Mineral Circle
CITY, STATE & ZIP	DENVER CO 80224		Englewood, CO 80112

ALL DOMESTIC CORPORATIONS MUST LIST THREE (3) DIRECTORS UNLESS THEY FALL UNDER THE EXCEPTIONS STATED IN SECTION 16-10a-803(i) or (ii).

DIRECTORS			
12. DIRECTOR	G J MALYS	12	G.J. Malys
ADDRESS	9120 S WARHAWK RD		9100 E. Mineral Circle
CITY, STATE & ZIP	CONIFER CO 80433		Englewood, CO 80112
13. DIRECTOR	P C WOLF	13	P.C. Wolf
ADDRESS	5566 CRESTBOOK DR		9100 E. Mineral Circle
CITY, STATE & ZIP	MORRISON CO 80465		Englewood, CO 80112
14. DIRECTOR	G R SPINDLER	14	G.R. Spindler
ADDRESS	5500 N LARIAT DR		9100 E. Mineral Circle
CITY, STATE & ZIP	CASTLE ROCK CO 80104		Englewood, CO 80112

Under penalties of perjury and as an authorized officer, I declare that this annual report and, if applicable, the statement change of registered office and/or agent, has been examined by me and is, to the best of my knowledge and belief, true, correct, and complete.

15. BY *[Signature]*
16. Assistant Secretary
17. *April 19* 19 *99*

IF THERE ARE NO CHANGES FROM THE PREVIOUS YEAR, AND YOU HAVE ALL CORPORATE REQUIREMENTS FILLED PERTAINING TO OFFICER AND DIRECTOR INFORMATION YOU MAY DETACH THE COUPON BELOW, AND RETURN IT IN THE ENCLOSED ENVELOPE WITH YOUR PAYMENT. YOU MAY KEEP THE ABOVE REPORT FOR YOUR RECORDS.

MAKE ALL CORRECTIONS ON THE FORM ABOVE.

DO NOT WRITE ON THE COUPON, CHANGES ARE MADE ON THE FORM ABOVE.

CORPORATION NUMBER:	210132	DATE DUE:	04/30/99
CORPORATION NAME:	CYPRUS AMAX MIDWEST HOLDING COMPANY	AMOUNT DUE:	\$10.00
	C T CORPORATION SYSTEM	IF AFTER DUE DATE:	\$20.00
	50 W BROADWAY 8TH FLOOR		
	SALT LAKE CITY UT 84101		

J507000600067850000001042101320000000000000010002J

MAIL TO:
UTAH DEPARTMENT OF COMMERCE
P.O. BOX 25125
SALT LAKE CITY, UTAH 84125-0125

Make check payable to:
State of Utah

For information call:
(801) 530-4849

**Cyprus Amax Midwest Holding Co.
9100 E. Mineral Circle
Englewood, CO 80112**

List of Officers and Directors

OFFICERS

J.M. DeMichiei	President
G.J. Malys	Sr. Vice President
P.C. Wolf	Sr. Vice President, General Counsel and Secretary
N.P. Moros	Sr. Vice President, Sales and Marketing
P.J. Panzarino	Vice President
F.S. Hakimi	Vice President and Treasurer
F.J. Wood	Vice President and Controller
J.M. Coyner	Assistant Treasurer
J.D. Flemming	Director of Tax
S.J. Fetherhuff	Assistant Secretary
G.A. Walker	Assistant Secretary
D.E. Huffman	Assistant Secretary
S.E. Chetlin	Assistant Secretary

DIRECTORS

G.R. Spindler
P.C. Wolf
G.J. Malys

**Castle Gate Holding Company
9100 E. Mineral Circle
Englewood, CO 80112**

List of Officers and Directors

OFFICERS

J.M. DeMichiei	President
G.J. Malys	Sr. Vice President
P.C. Wolf	Sr. Vice President, General Counsel and Secretary
N.P. Moros	Sr. Vice President, Sales and Marketing
P.J. Panzarino	Vice President
F.S. Hakimi	Vice President and Treasurer
F.J. Wood	Vice President and Controller
J.M. Coyner	Assistant Treasurer
J.D. Flemming	Director of Tax
S.J. Fetherhuff	Assistant Secretary
G.A. Walker	Assistant Secretary
D.E. Huffman	Assistant Secretary
S.E. Chetlin	Assistant Secretary

DIRECTORS

G.R. Spindler
P.C. Wolf
G.J. Malys

APPENDIX D

Mine Maps

as required under R645-301-525.270.

CONTENTS

NOT APPLICABLE - MINE IN RECLAMATION STATUS

APPENDIX E

Other Information

in accordance with the requirements of R645-301 and R645-302.

CONTENTS

HARDSCRABBLE RECLAMATION STATUS

PUMP HOUSE PAD RECLAMATION IN MOUTH OF SOWBELLY GULCH

HARDSCRABBLE RECLAMATION

During 1998, the remaining portion, approximately 6 acres, of Hardscrabble was completed. The actual reclamation of Hardscrabble involved considerably more backfilling and grading volumes than anticipated during the permitting and bidding process. For the most part, this was good for the overall reclamation, but not good for budgeting purposes.

Based on post-reclamation earthwork volumes total cut and fill volumes exceed those identified in the reclamation plan. One of the main reasons for the increased fill volumes is do to the unanticipated volume of coal waste encountered and removed within the main channel proper.

Additionally, suitable growth media available for the entire project increased as the permittee and his contractor made efforts to identify sources on site. Several soil pits were excavated and backfilled with coal waste found on site. The increase in suitable growth media increased the soil cover from 9-inches to approximately 24-inches.

The majority, if not all, of the diversions exceed the minimum design requirements. During the bidding process, the permittee bid out the diversions for 10-year, 6-hour and 100-year, 6-hour vs 10-year, 24-hour and 100-year, 24-hour, and based on the minor cost differential it was decided to construct the larger diversions.

GOOSE ISLAND

During 1998, remedial work was performed on approximately 0.33 acres of Goose Island. The work involved placement of some suitable growth media in areas that exhibited erosional features. In one area where the runoff was not entering the main channel, but paralleling it, the surface was elevated in an attempt to direct the runoff into the channel as quick as possible.

SOWBELLY GULCH PUMP HOUSE

A small roughly 200 square foot concrete pad was reclaimed in the mouth of Sowbelly Gulch. The site is surrounded by AML reclamation work with somewhat mature box elder trees growing immediately next to the pad. It appeared that some reclamation work was performed at the site, however minimal.

In 1998, the concrete pad was covered with approximately 2-4 feet of soil and seeded. Effort was taken not to damage the trees growing in the area.

**SUBSIDENCE MONITORING REPORT
1998
STAR POINT MINE
ACT/007/006**

**for:
Cyprus Plateau Mining Corporation
847 Northwest Highway 191
Helper, Utah 84526**

May 1999

INTRODUCTION

During the months June through September, subsidence monitoring was conducted on surface lands above underground mining. The land surface above all full extraction mining was visually searched for evidence of surface disturbance. Monitoring points G-1 through G-19 have reached maximum effective subsidence and therefore not surveyed in 1998. Monitoring points G-20 through G-114 (Map 521.121f and 521.121g1) were surveyed for vertical movement (attached spreadsheet).

Mining during 1998 was conducted in the areas shown on Map T- 1 located at the end of this report.

SURFACE EFFECTS

Longwall Mining Panels 18 through 30

Monitoring points G-1 through G-19 were not surveyed in 1998; Cross Section D-D, Figure 11 shows the subsidence profile. As can be seen on Figure 11, subsidence appears to have reached maximum extent in this area. Monitoring points G-20 through G-49 as shown on Map 521.121f were surveyed for vertical movement. Cross Sections D-D (Figure 11), E-E (Figure 12), G-G (Figure 13), H-H (Figure 14), I-I' (Figure 15), and J-J' (Figure 16) were plotted from the data at these monitoring points. As can be seen on the cross sections, maximum subsidence is 5.33 feet at monitoring station G-15. Subsidence at the Fox points is greatest at Fox 3, at 5.74 feet.

As shown on Cross Sections D-D and E-E, Figures 11 and 12 respectively, the angle of draw at these locations is 26 degrees and 24 degrees. The angle of draw at Cross Sections G-G and H-H, Figures 13 and 14 respectively are 25 degrees and 5 degrees, respectively. It appears that the angle of draw is affected by faulting or jointing of the strata. No conclusions can be reached about the angle of draw at Cross Sections I-I' and J-J' because subsidence is felt to be within surveying accuracy.

Longwall Mining Panels 31 through 42 - Castle Valley Ridge Lease

Mining in 1998 did not include any mining in this region. Mining in this area concluded in November 1997, at which time a portion of Panel 38, all of Panel 39, 40, 41, and 42 were mined. It should be noted that, due to geologic conditions, the 3rd North Mains were developed more northward than previously presented. Subsidence monitoring has been established to detect any vertical movement.

Monitoring points G-50 through G-104, as shown of Map 521.121g1, were surveyed for vertical movement. Cross sections K-K' (Figure 17), L-L' (Figure 18), M-M' (Figure 19), N-N' (Figure 20), O-O' (Figure 21), and P-P' (Figure 22) were plotted from data at these monitoring points. Maximum subsidence during the 1998 monitoring is 6.59 feet (1996) at station G-58 above Longwall Panel Number 32.

Mining of the entries beneath the Little Park channel was not conducted. Even though subsidence Cross Sections N-N', and O-O' indicate minor subsidence (0.28 feet) beneath the channel, it is not clear

that subsidence actually occurred. The channel is outside of the angle of draw expected when comparing the angle of draws experienced elsewhere in the area west of the graben. There is no physical evidence of subsidence at the ground surface in the channel. Further monitoring will document any ground surface movement or cracking in this area.

Some minor cracking was observed above Longwall Panel 41 consisting of openings in the range of 4 to 6 inches. These cracks were observed during the 1998 subsidence monitoring and showed signs of healing and did not exhibit any signs of worsening. These cracks do not pose a threat to livestock or wildlife. These cracks will be observed in 1999 to evaluate the natural healing process and hazard potential. If any hazards exist CPMC will take the appropriate actions.

MITIGATION

A portion of the surface cracks near monitoring points U1 and U2 in Section 18 have been repaired to reduce the likelihood of accidents. The cracks were backfilled and the area fenced. Signs are in place in the area warning the public of the potential danger of the unstable ground. This area is fee land owned by the U.S. Fuel Company; Cyprus Plateau Mining Corporation has an agreement with U.S. Fuel which allows mining impacts. In the fall of 1995, the cracks were plugged with foam to provide additional protection to the public and provide a base for future backfilling.

The cracks in the northwest quarter of Section 12 are fenced and danger signs placed to warn the public of the hazards. They are in a very rugged area where very few people travel.

The cracks above Longwall Panel 41 will be mitigated if necessary to prevent any hazards.

VEGETATION

Vegetation via color infrared photography was performed in 1998, and based on the report generated by Mt. Nebo Scientific, it does not appear that mining and subsidence has significantly affected the major plant community types within the permit

SURFACE WATER AND GROUND WATER

The Section 18 is the subject of a study of the effects of longwall mining on ground water and surface water. The study ran through 1992, with the final report completed in 1995. The study was undertaken in conjunction with the U.S. Geological Survey and the Division of Oil, Gas and Mining, the U.S. G. S. published the final report.

Biannual stream monitoring of the North Fork of the Right Fork of Miller Creek was conducted in 1998, with stream flow present throughout the entire monitoring stream segment. This was the first year since mining in this region that flows existed along the entire monitoring segment.

SURFACE STRUCTURES

There does not appear to be any impact to surface structures resulting from subsidence

MONITORING

Monitoring in 1999 will include the following:

1. Survey monitoring points G-64 through G-114 above longwall panels 34 through 42, as shown on Map 521.121g1. Since longwall mining is complete at the Star Point Mine no further monitoring points will be established.
2. Visual observations of the ground surface above all mined areas for surface effects of mining.
3. Monitoring of areas mined by continuous miner methods will be conducted.

1998 MINING

Mining conducted during 1998 is shown on Map T-1 -Star Point No. 2 Mine, 1998 Production Map, located at the end of this report.

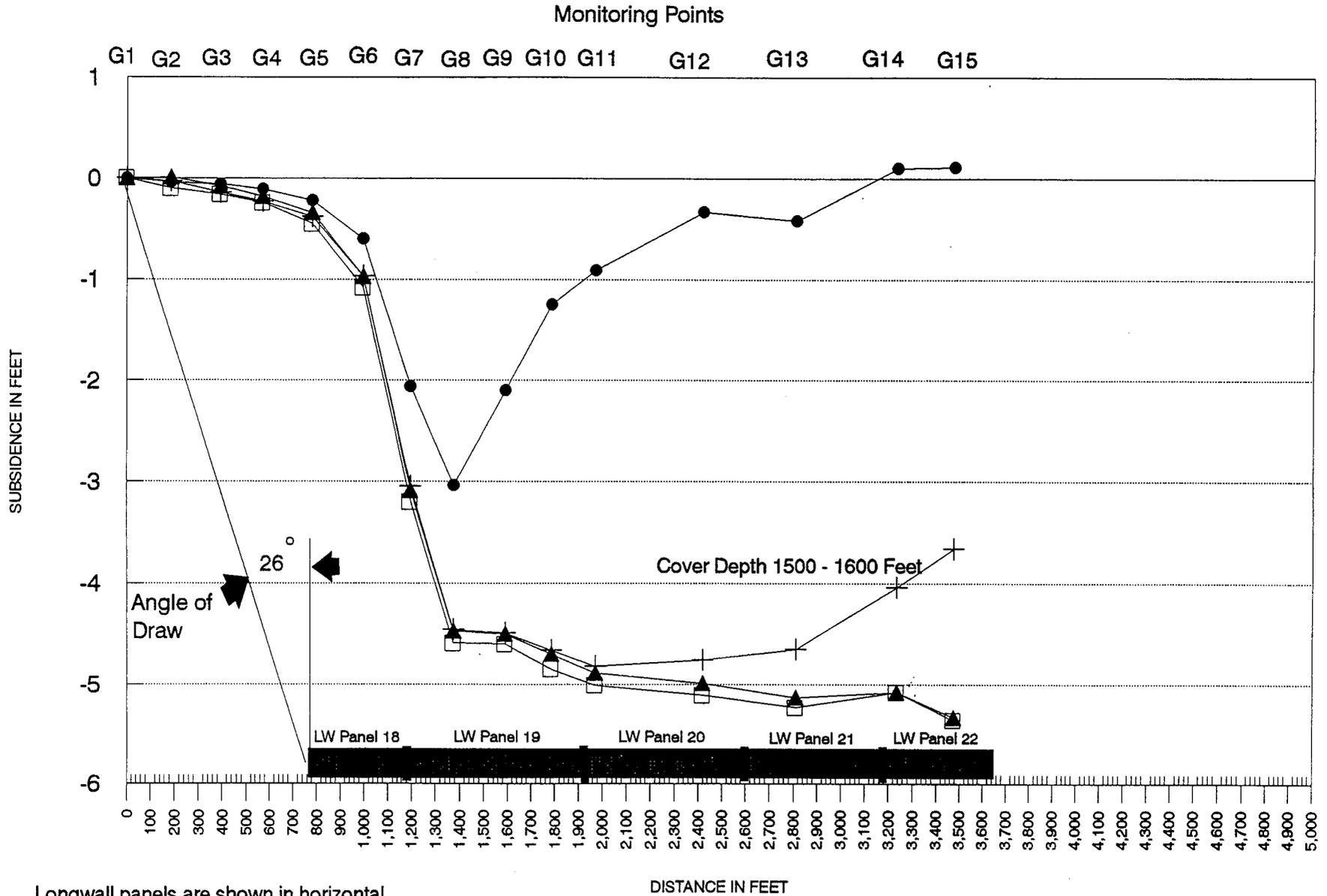
SUBSIDENCE MONITORING ELEVATIONS

STATION	ELEVATIONS														SUBSIDENCE IN FEET INDICATES DROP IN GROUND SURFACE																			
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10	YEAR 11	YEAR 12	YEAR 13					
G36											9004.10	9004.15	9004.31	9004.31	9004.18	9004.02	0.05	0.21	0.21	0.08	-0.08													
G37											9045.63	9045.69	9045.73	9045.72	9045.60	9045.50	0.06	0.10	0.09	-0.03	-0.13													
G38											9154.56	9154.38	9154.48	9154.47	9154.40	9154.37	-0.18	-0.08	-0.09	-0.16	-0.19													
G39											9078.99	9078.91	9079.01	9079.00	9078.92	9078.89	-0.08	0.02	0.01	-0.07	-0.10													
G40											8986.00	8985.96	8986.11	8986.12	8986.00	8985.98	-0.04	0.11	0.12	0.00	-0.02													
G41											8879.72	8879.74	8879.90	8879.91	8879.78	8879.68	0.02	0.18	0.19	0.06	-0.04													
G42											8903.57	8903.59	8903.75	8903.78	8903.63	8903.52	0.02	0.18	0.21	0.06	-0.05													
G43											8996.08	8996.03	8996.13	8996.12	8995.98	8995.96	-0.05	0.05	0.04	-0.10	-0.12													
G44												9063.03	9063.03	9063.03	9063.03	9063.03	0.00	0.00	0.00	0.00														
G45												8965.48	8965.58	8965.55	8965.54	8965.60	0.10	0.07		0.12														
G46												8875.95	8876.04	8876.00	8875.92	8875.89	0.09	0.05	-0.03	-0.06														
G47												8804.53	8804.61	8804.60	8804.50	8804.47	0.08	0.07	-0.03	-0.06														
G48												8757.32	8757.37	8757.35	8757.25	8757.22	0.05	0.03	-0.07	-0.10														
G49												8845.44	8845.50	8845.47	8845.40	8845.38	0.06	0.03	-0.04	-0.06														
G50												9967.36	9967.18	9965.80	9966.30	9966.30	-0.18	-1.56	-1.06	-1.06														
G51												9989.85	9989.68	9983.68	lost	lost	-0.17	-6.17																
G52												10011.33	10011.37	10005.04	10005.55	10005.60	0.04	-6.29	-5.78	-5.73														
G53												10032.26	10032.39	10026.26	10026.66	10026.70	0.13	-6.00	-5.60	-5.56														
G54												10042.67	10043.05	10036.98	10037.20	10037.25	0.18	-5.89	-5.67	-5.62														
G55												10065.51	10065.72	10060.44	10060.19	10060.25	0.21	-5.07	-5.32	-5.26														
G56												10074.03	10074.20	10069.30	10068.65	10068.71	0.17	-4.73	-5.38	-5.32														
G57												9985.23	9985.19	9979.19	9979.38	9979.40	-0.04	-6.04	-5.85	-5.83														
G58												9943.89	9943.76	9937.30	9937.82	9937.86	-0.13	-6.59	-6.07	-6.03														
G59												9862.16	9861.94	9855.96	9856.46	9856.50	-0.22	-6.20	-5.70	-5.66														
G60												9750.39	9750.23	9747.36	9747.82	9747.84	-0.16	-3.03	-2.57	-2.55														
G61												9625.96	9625.88	9624.07	9624.48	9624.50	-0.08	-1.89	-1.48	-1.46														
G62												9527.41	9527.47	9526.89	9527.27	9527.31	0.06	-0.52	-0.14	-0.10														
G63												9507.53	9507.56	9507.09	9507.46	9507.48	0.03	-0.44	-0.07	-0.05														
G64													9714.00	9713.72	9714.02	9714.10	-0.28	0.02	0.10															
G65													9724.49	9724.19	9724.55	9724.70	-0.30	0.06	0.21															
G66													9735.34	9734.93	9735.30	9735.42	-0.41	-0.04	0.08															
G67													9798.09	9797.14	9797.79	9797.35	-0.95	-0.30	-0.74															
G68													9900.42	9899.49	9899.79	9899.95	-0.93	-0.63	-0.47															
G69													9982.32	9979.54	9979.12	9979.22	-2.78	-3.20	-3.10															
G70													10017.24	10011.66	10011.21	10011.31	-5.58	-6.03	-5.93															
G71													10034.89	10029.58	10029.12	10029.21	-5.31	-5.77	-5.68															

SUBSIDENCE MONITORING ELEVATIONS

STATION	ELEVATIONS													SUBSIDENCE IN FEET INDICATES DROP IN GROUND SURFACE																		
	1963	1964	1965	1966	1967	1968	1969	1990	1991	1992	1993	1994	1995	1996	1997	1998	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10	YEAR 11	YEAR 12	YEAR 13			
G72													10087.95	10084.07	10083.04	10083.09	-3.88	-4.91	-4.86													
G73													10094.64	10093.26	10093.07	10093.15	-1.38	-1.57	-1.49													
G74													10088.47	10087.80	10088.18	10088.27	-0.67	-0.29	-0.20													
G75													10053.92	10053.39	10053.86	10053.93	-0.53	-0.06	0.01													
G76													9961.83	9961.35	9961.83	9961.85	-0.48	0.00	0.02													
G77													9428.24	9428.22	9428.20	9428.20	-0.02	-0.04	-0.04													
G78													9339.91	9339.90	9339.88	9339.89	-0.01	-0.03	-0.02													
G79													9263.54	9263.55	9263.55	9263.55	0.01	0.01	0.01													
G80													9209.23	9209.22	9209.20	9209.20	-0.01	-0.03	-0.03													
G81													9112.65	9112.66	9112.59	9112.72	0.01	-0.06	0.07													
G82													9106.54	9106.57	9106.56	9106.67	0.03	0.02	0.13													
G83													9228.31	9228.35	9228.47	9228.46	0.04	0.16	0.15													
G84													9338.30	9338.31	9338.58	9338.53	0.01	0.28	0.23													
G85													9522.75	9522.75	9522.75	9522.75	0.00	0.00	0.00													
G86													9061.33	9061.29	9061.27	9061.30	-0.04	-0.06	-0.03													
G87													9094.08	9094.06	9094.04	9094.05	-0.02	-0.04	-0.03													
G88													9205.89	9205.66	9205.63	9205.65	-0.03	-0.06	-0.04													
G89													9323.88	9323.87	9323.85	9323.86	-0.01	-0.03	-0.02													
G90													9420.70	9420.68	9420.65	9420.66	-0.02	-0.05	-0.04													
G91													9520.41	9520.40	9520.38	9520.38	-0.01	-0.03	-0.03													
G92													8984.72	8984.70	8984.70	8984.12	-0.02	-0.02	-0.60													
G93													8972.11	8972.10	8972.12	8972.12	-0.01	0.01	0.01													
G94													8921.19	8921.17	8921.16	8921.16	-0.02	-0.03	-0.03													
G95													9749.09	9749.09	9749.09	9749.08	0.00	-0.01														
G96													9854.67	9854.60	9854.69	9854.69	-0.07	0.02														
G97													9915.95	9913.79	9913.79	9913.73	-2.16	-2.22														
G98													9943.51	9938.86	9938.86	9938.68	-4.65	-4.83														
G99													9941.76	9936.87	9936.87	9936.68	-4.89	-5.08														
G100													9902.08	9898.53	9898.53	9898.35	-3.55	-3.73														
G101													9868.02	9866.33	9866.33	9866.26	-1.69	-1.76														
G102													9833.78	9832.84	9832.84	9832.82	-0.94	-0.96														
G103													9844.34	9844.15	9844.15	9844.19	-0.19	-0.15														
G104													9863.51	9863.45	9863.45	9863.45	-0.06	-0.06														
G105															9752.68	9752.70		0.02														
G106															9584.66	9584.65		-0.01														
															9458.77	9458.78		0.01														

FIGURE 11 CROSS SECTION D-D



Longwall panels are shown in horizontal relationship to subsidence only.

FIGURE 12
CROSS SECTION E-E

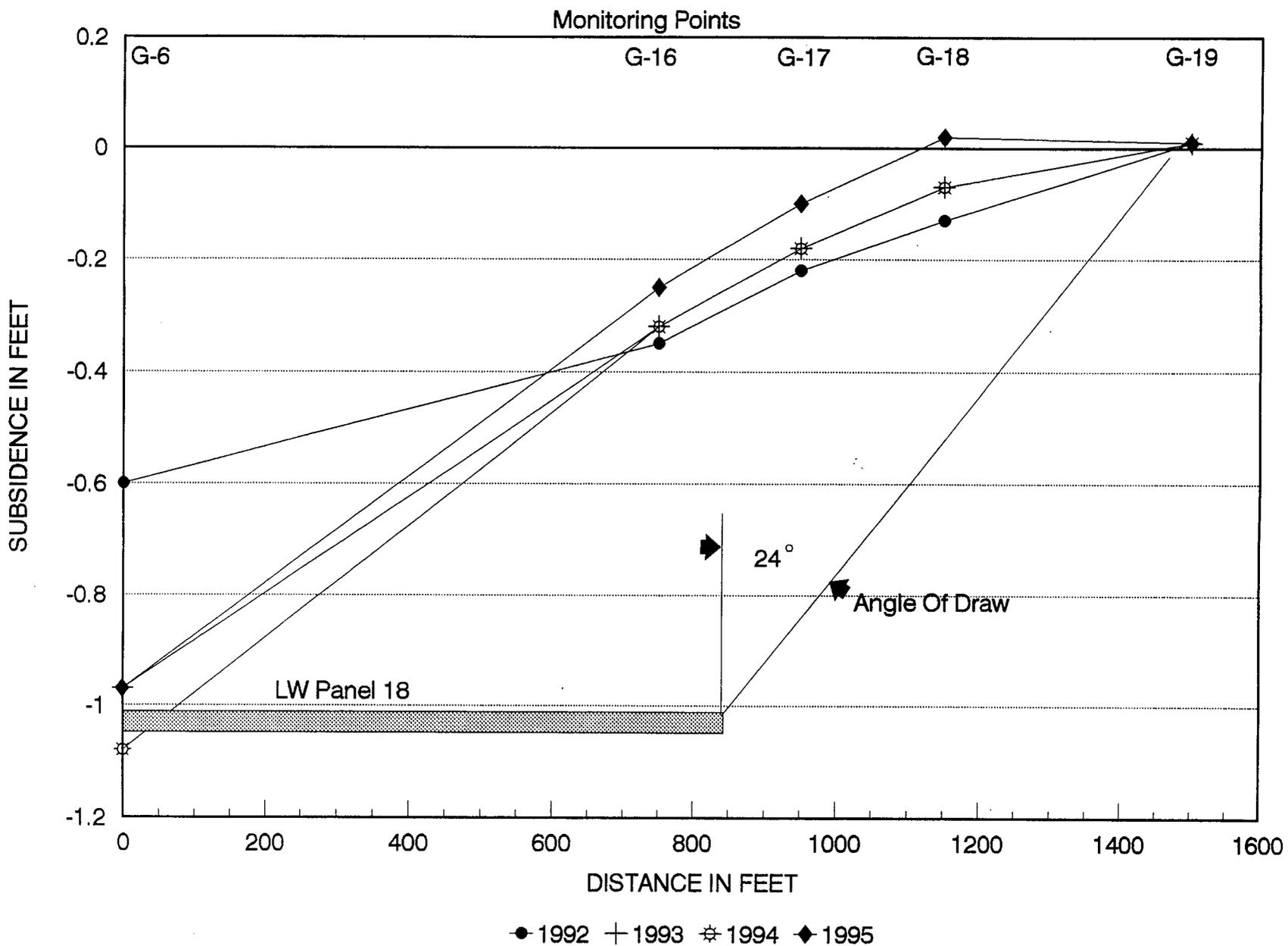


FIGURE 13
CROSS SECTION G - G

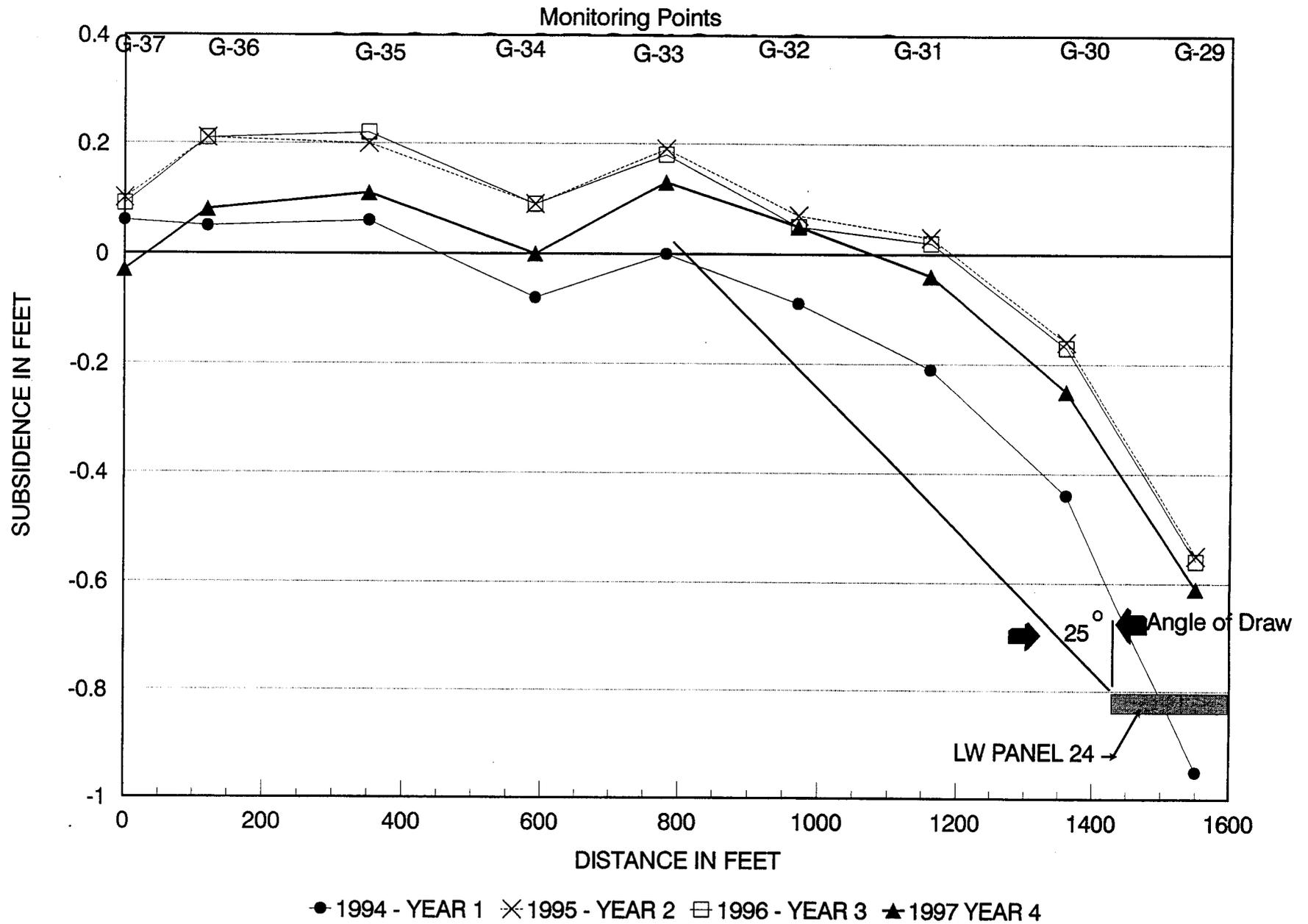


FIGURE 14
CROSS SECTION H-H

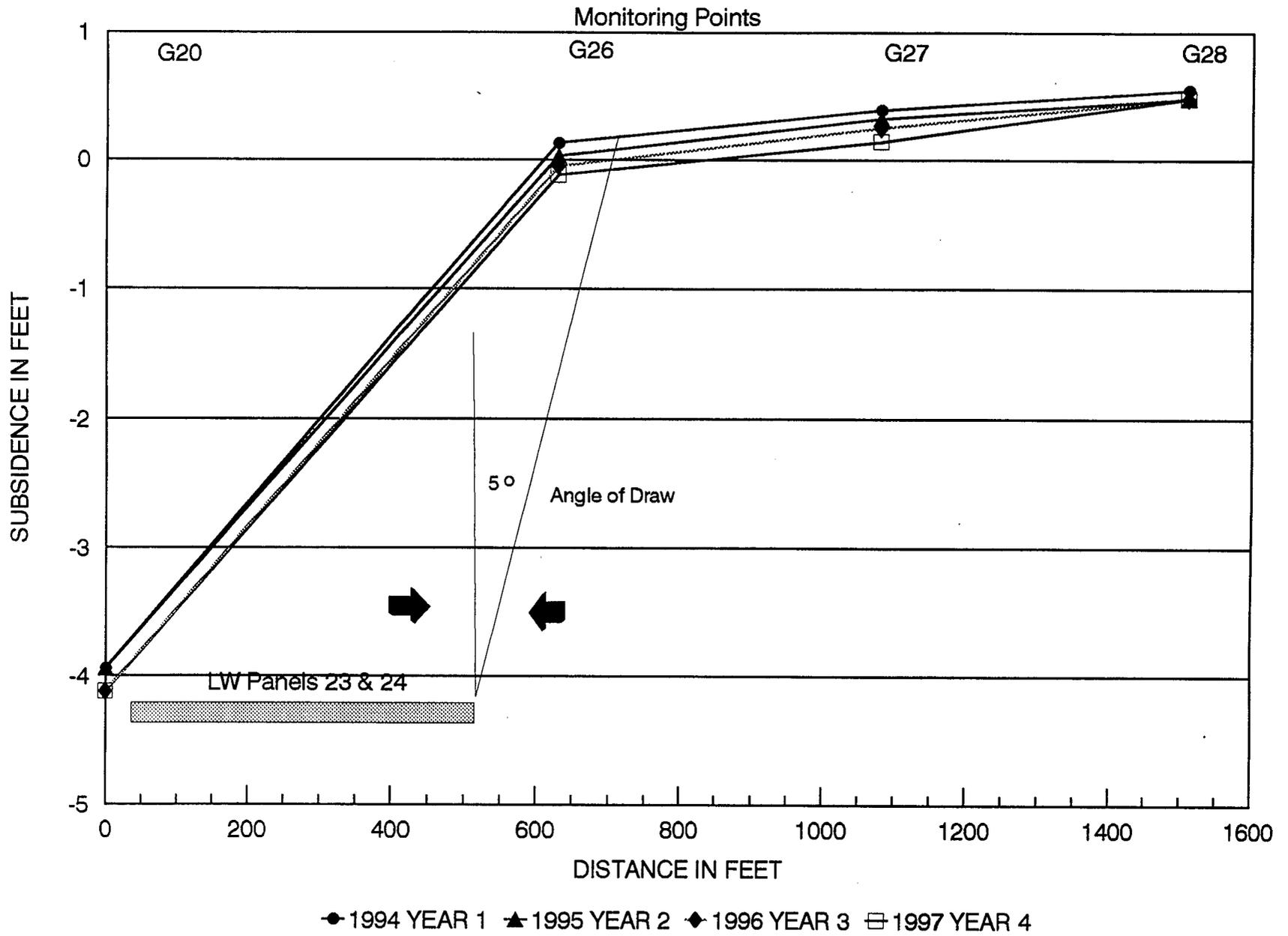


FIGURE 15
CROSS SECTION I-I'

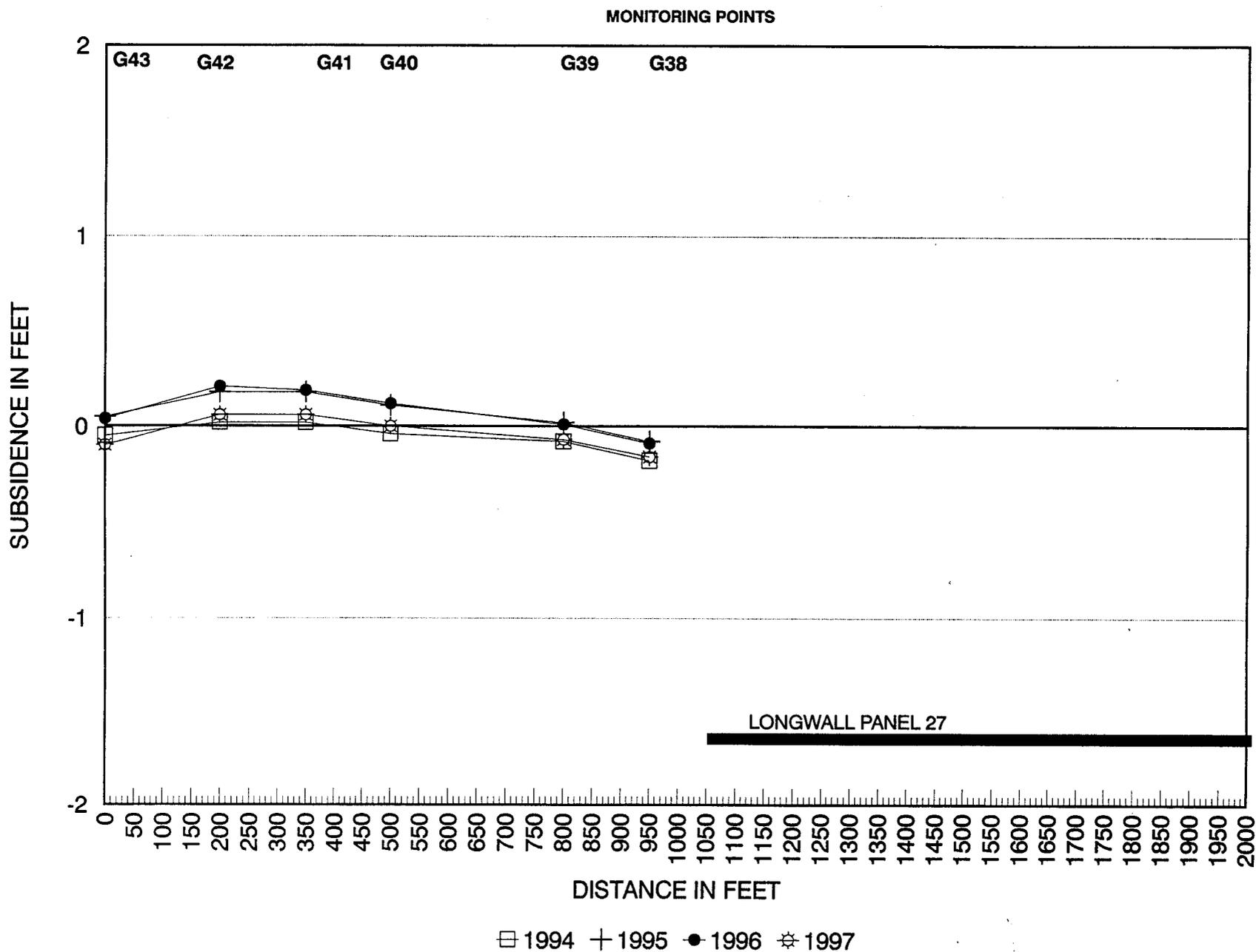
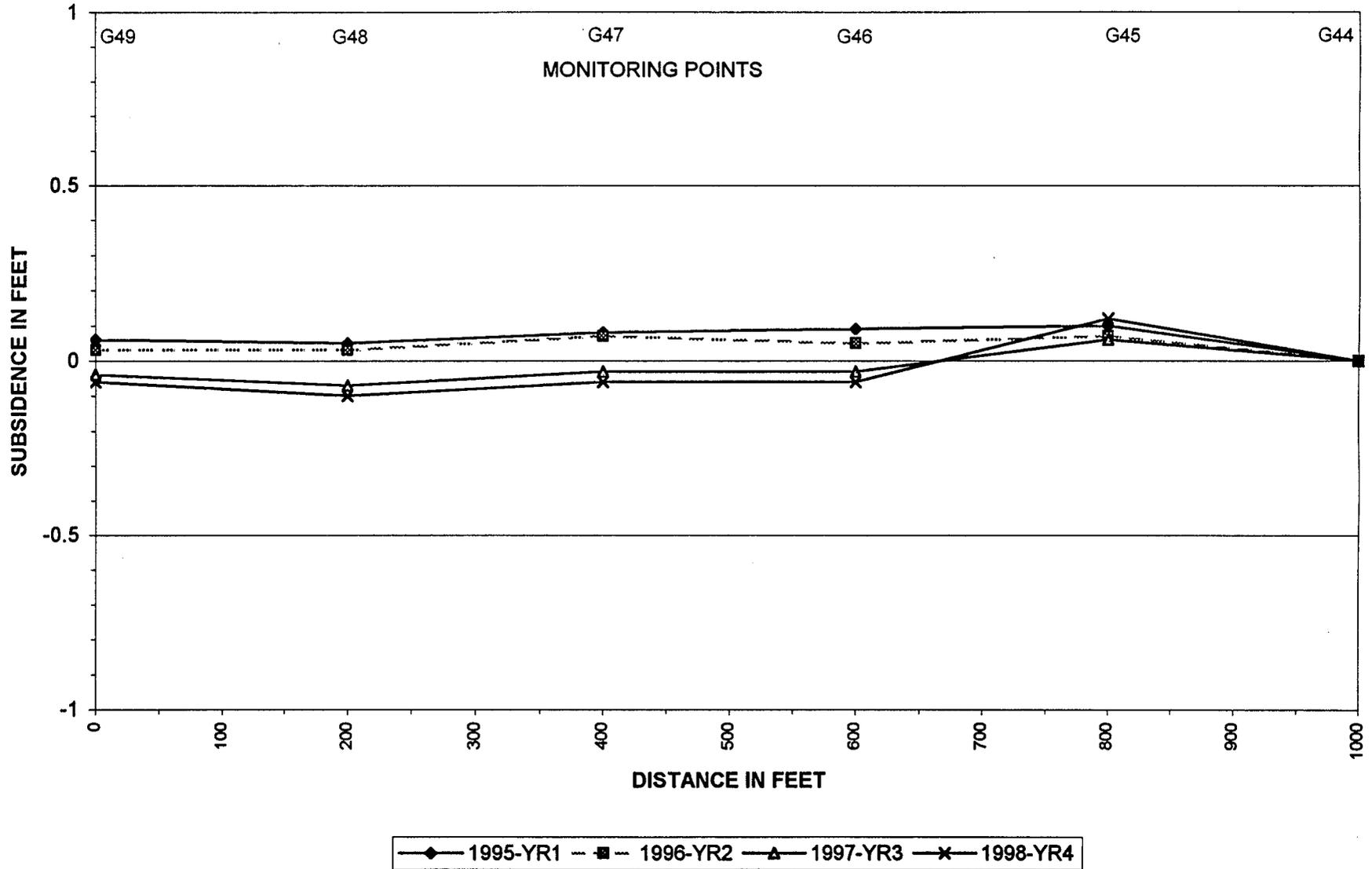
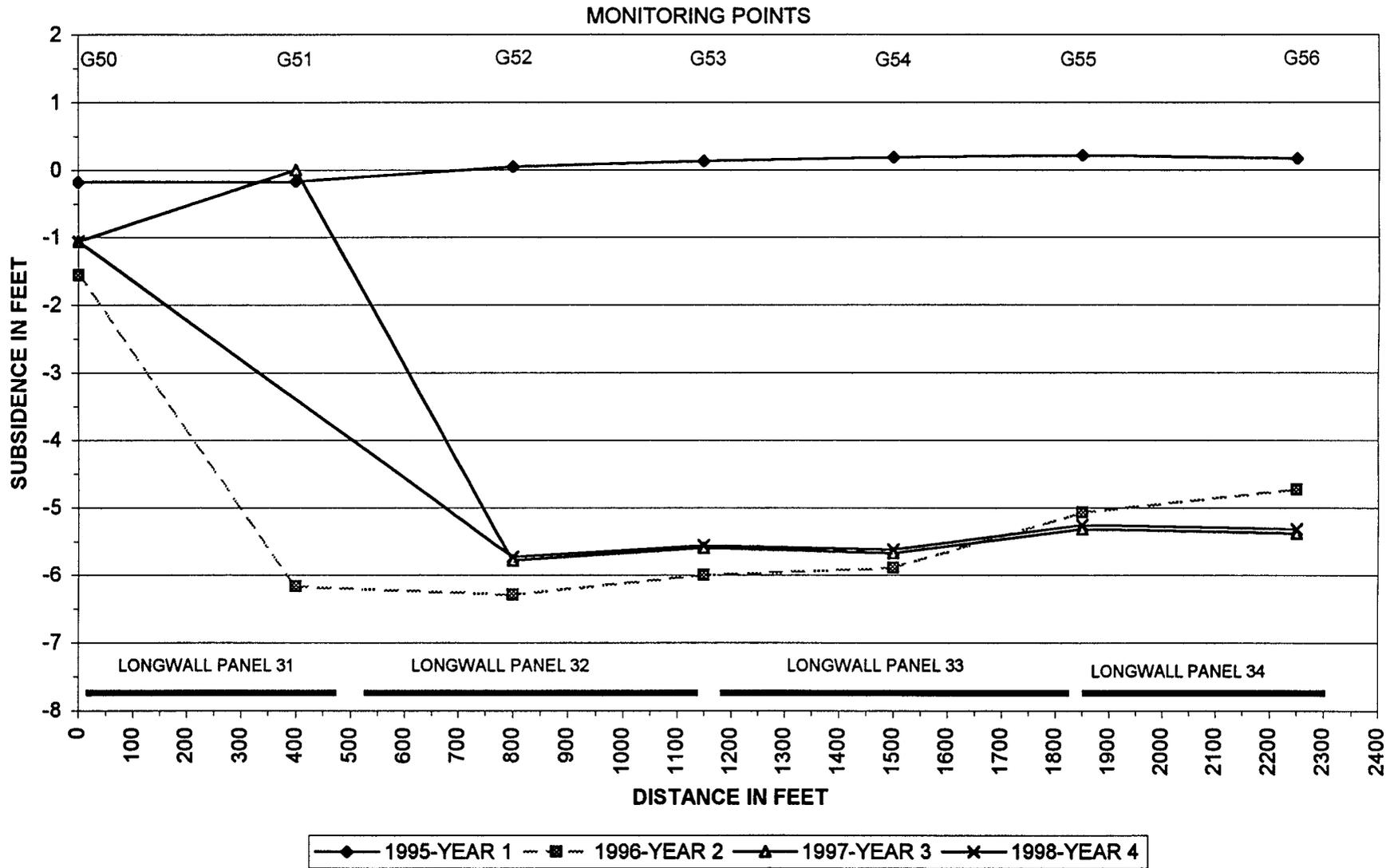


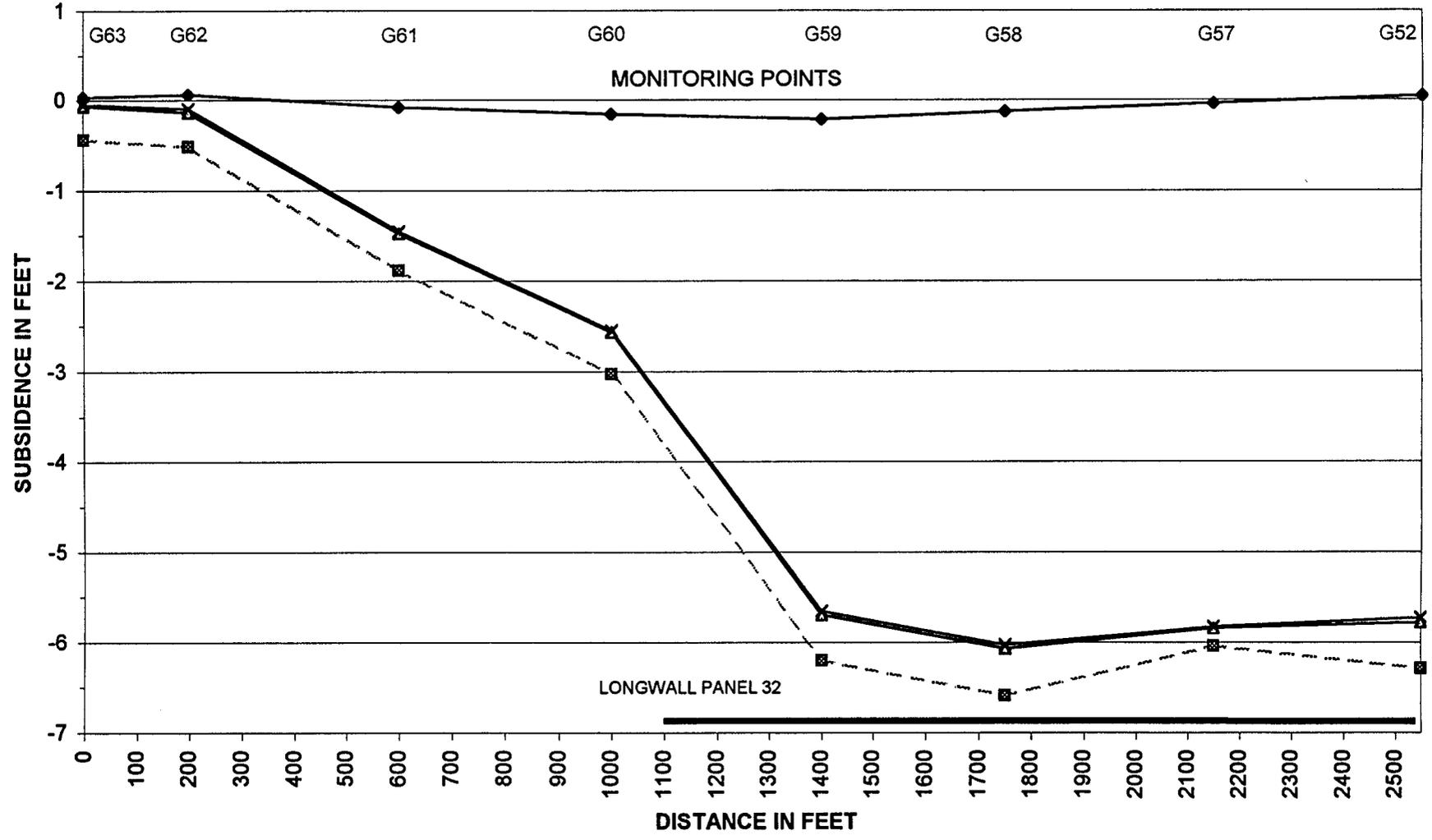
FIGURE 16
CROSS SECTION J-J'



**FIGURE 17
CROSS SECTION K-K'**



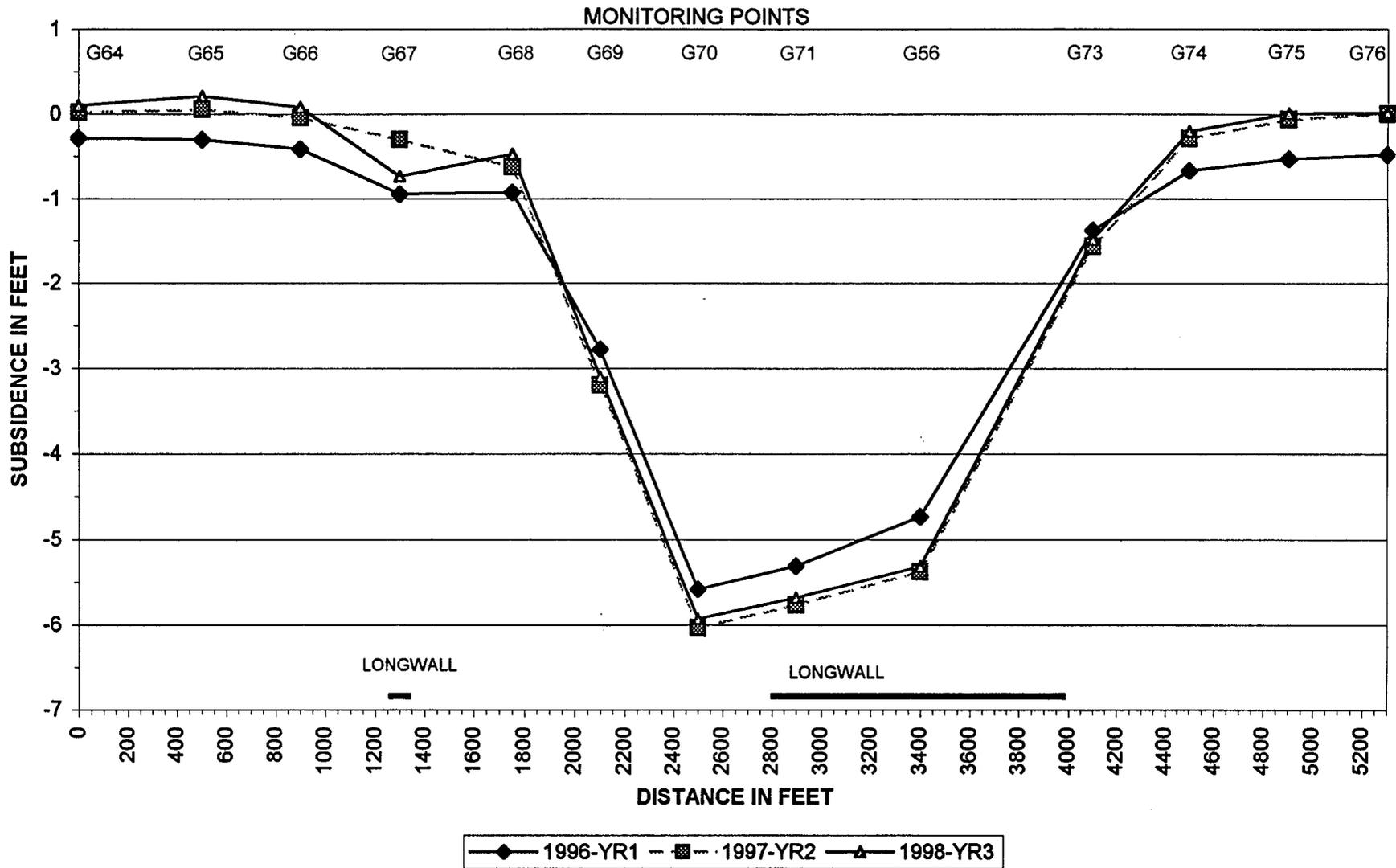
**FIGURE 18
CROSS SECTION L-L'**



—◆— 1995-YR1 -■- 1996-YR2 -▲- 1997-YR3 -×- 1998-YR4

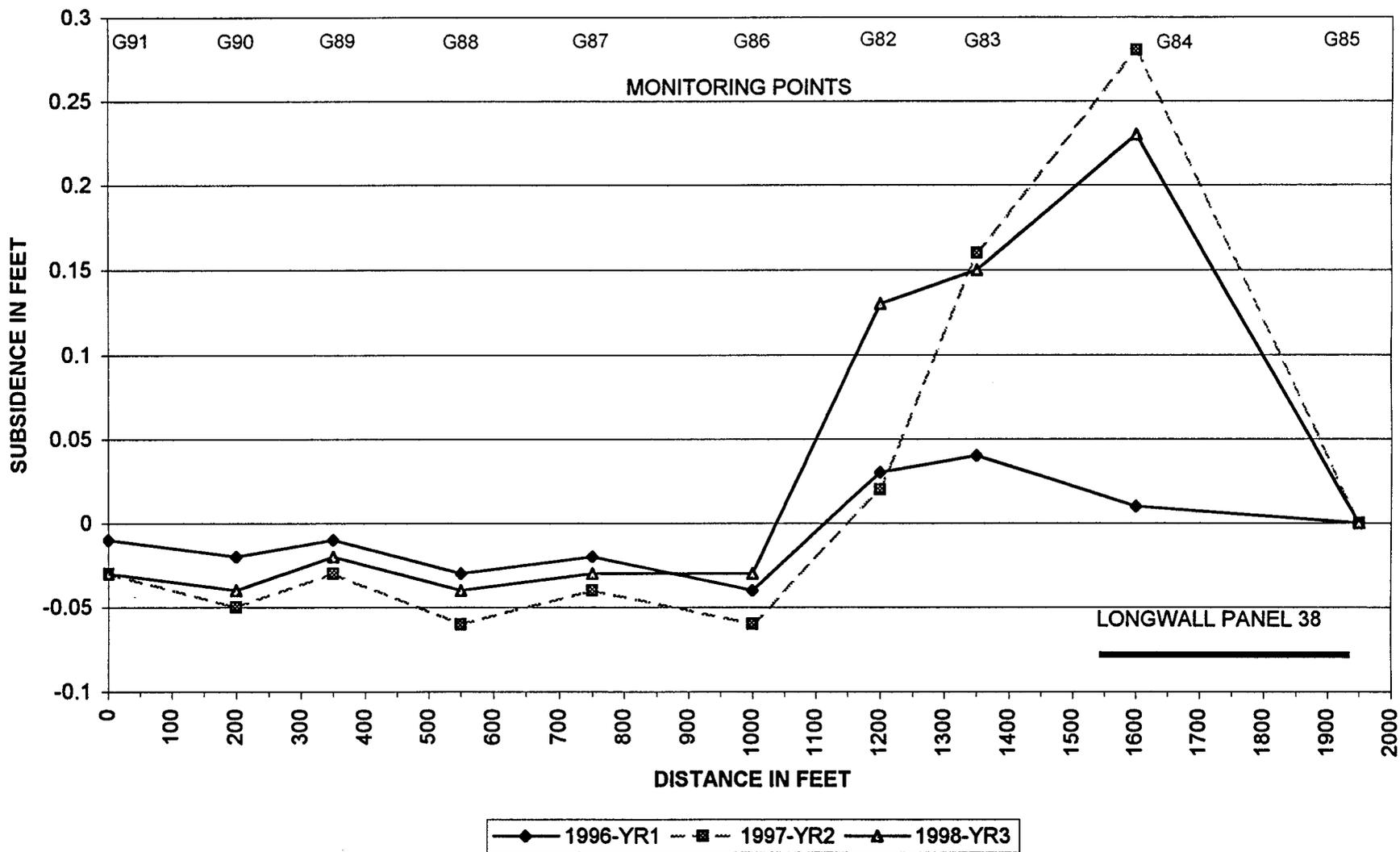
LONGWALL PANEL IS SHOWN IN HORIZONTAL RELATIONSHIP TO SUBSIDENCE ONLY, VERTICAL LOCATION IS NOT TO SCALE

**FIGURE 19
CROSS SECTION M-M'**



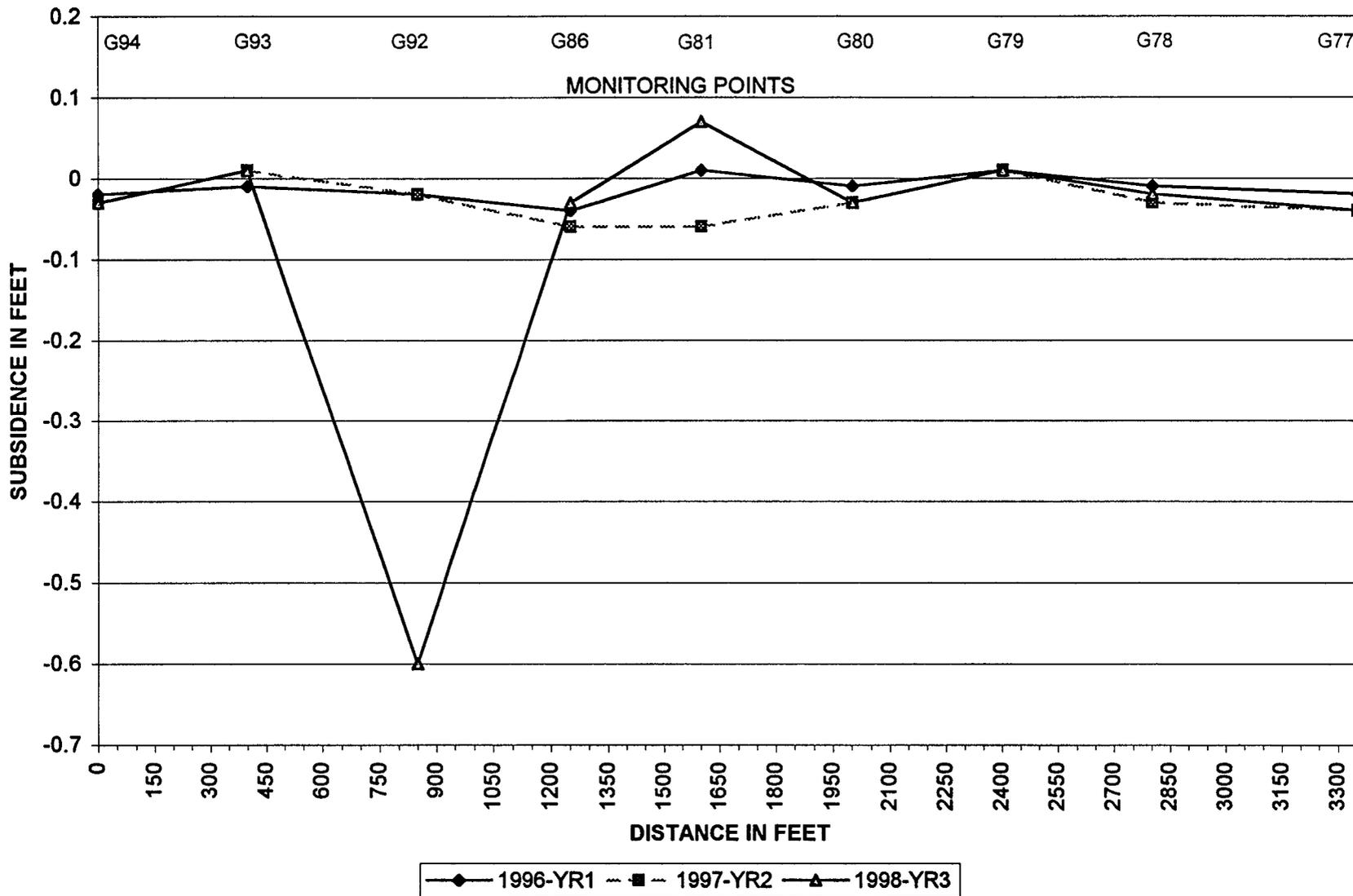
LONGWALL PANEL IS SHOWN IN HORIZONTAL RELATIONSHIP TO SUBSIDENCE ONLY, VERTICAL LOCATION IS NOT TO SCALE.

**FIGURE 20
CROSS SECTION N-N'**

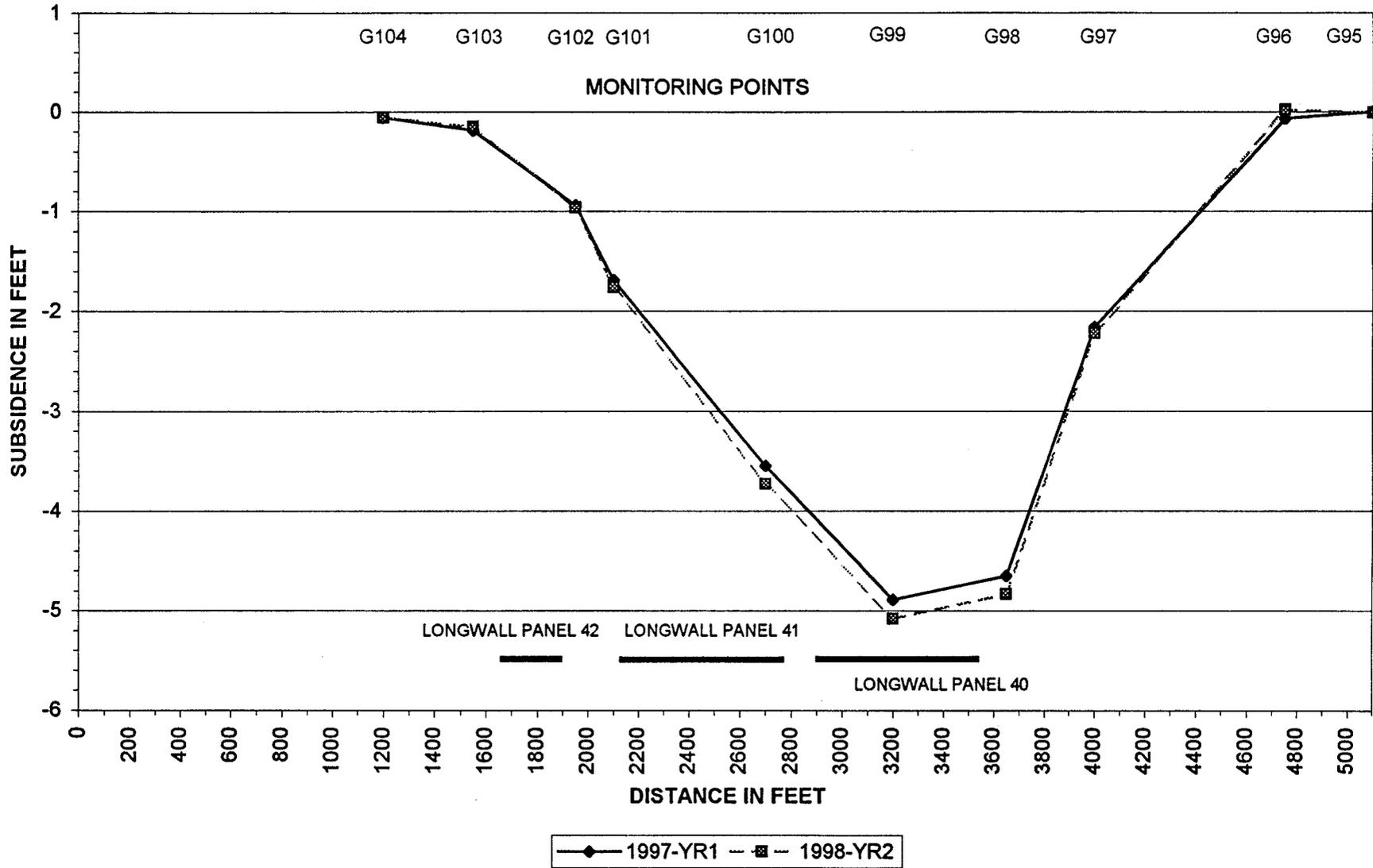


LONGWALL PANEL IS SHOWN IN HORIZONTAL RELATIONSHIP TO SUBSIDENCE ONLY, VERTICAL LOCATION IS NOT TO SCALE

FIGURE 21
CROSS SECTION O-O'



**FIGURE 22
CROSS SECTION P-P'**



LONGWALL PANEL IS SHOWN IN HORIZONTAL RELATIONSHIP TO SUBSIDENCE ONLY, VERTICAL LOCATION IS NOT TO SCALE.

Surface Affects of Underground Mining
on the Major Plant Communities
Of the Star Point Mine, Utah

A Study From Aerial Photography
(1980-1998)



Prepared by

MT. NEBO SCIENTIFIC, INC.

330 East 400 South, Suite 6

Springville, Utah 84663

(801) 489-6937

Patrick D. Collins, Ph.D.

for

CYPRUS PLATEAU MINING CORPORATION

847 Northwest Highway 191

Helper, Utah 84526

February 1999

INTRODUCTION

It has long been postulated that underground coal mining and subsequent subsidence could impact or at least influence the native plant communities that exist on the surface of the land. As land owners and managers of the property, the USDA Forest Service had requested previously that Cyprus Plateau Mining Corporation (CPMC) monitor potential impacts by using aerial photography as a method to identify and quantify *major* vegetation changes or even *minor* changes near springs.

A similar study to monitor the affects of subsidence to vegetation was conducted in 1994 by the JBR Environmental, Inc. (JBR). The results in JBR's report were utilized in this study so that: 1) efforts would not be duplicated, 2) it would be possible to monitor the changes in the vegetation as reported by them, and 3) existing information could be expanded upon by more recent aerial photography.

METHODS

The study was prepared in its entirety by the use of five (5) sets of stereo-scope aerial photograph pairs taken from above the Star Point Mine's permit area. The five sets of photographs were taken on four different years including 1980, 1985, 1993 and 1998 (there were two sets of photographs for the year 1985). All aerial photographs were color infrared with the exception of

the second set of 1985 photographs which were standard color. All photographs were taken in August or September of the year. The flight lines for each year of photography along with the approximate sequential position of each photograph are shown in Figures 1-5.

All aerial photograph flight lines were placed in the appropriate position to make comparisons for the study. Permit area boundaries of the Star Point Mine were superimposed over the 1980 and 1998 aerial photographs, and also USGS 7.5 minute quadrangle maps.

The 1994 JBR study compared and noted possible changes in vegetation patterns in the 1980 and 1993 aerial photographs. If a change was noted in a specific area, the 1985 photographs (they cited 1986) in that area were also compared in an effort to determine when the changes may have occurred. Because these changes had already been noted by JBR, our study focused on the changes from 1993 to 1998, but also used the 1980 and both sets of 1985 photographs for additional reference information. The entire permit area, with the exception of a few relatively small areas that were not covered in the flight lines, was examined in the 1993 and 1998 photographs using two 7 cm x 7 cm view finders and stereo scopes. When potential changes were noted, the remaining 1980 and two sets of 1985 aerial photographs were also utilized. All photographs for 1980, 1985, and 1993 were utilized to monitor or update the changes noted in the JBR study by comparisons with the new 1998 photographs.

All spring areas noted on the USGS quadrangle and JBR maps were scrutinized. All photographs taken in 1980, 1985, 1993 and 1998 were utilized to assess all spring areas.

RESULTS

There were no major changes as a result from underground mining activities and subsequent subsidence to the plant communities observed from 1993 and 1998 photographs.

There were 11 locations in the vegetation and 2 locations of springs for changes noted in the 1994 JBR study from 1980 to 1993. (A copy of this report excluding their map has been included in an appendix in this document). In an attempt to monitor the changes noted in this study, each of these changes was also scrutinized with the new photography. Site Number 1 was observed in a Mountain Grassland community and was approximately 0.5 acres. To us, this appeared to be man-made disturbance using heavy equipment, not the affects of subsidence by mining. This disturbance was also visible in the 1998 photographs, but was not as obvious, probably because the area has begun to re-colonize with native pioneer and “weedy” plant species.

Site Numbers 2 and 3 were changes noted in the Douglas Fir/Aspen community with 3.0 and 1.0 acres of disturbance, respectively. These changes were noted as “potential dead aspen”. In the 1998 infrared photographs these areas appeared to have recovered now showing no significant differences when compared back to the 1980 photographs. Site Numbers 5-11 and 13 were also noted as changes in the vegetation or potentially “dead aspen” by the earlier study. These areas comprised approximately 11.2 acres in the Aspen community. When each of these areas were observed comparing all early photographs with the 1998 photographs, the areas also seem to have recovered and show no significant differences when compared to the earliest photographs. Site

Number 12 was definitely a stand of dead aspen. Further examination of the earliest photographs (1980) revealed the cause was most likely fire. The later photographs showed the fire damaged area being invaded by herbaceous and small woody species. It has become an “open meadow” area within the aspen forest at this time.

The spring areas were more difficult to assess using only aerial photography. First, 5 springs were noted on the USGS Wattis, Utah 7.5 minute quadrangle map (1979). The spring located in the NW1/4 of Section 15, T15S, R7E “appeared” more dry in 1998 when compared to 1980 and 1993 (there was no coverage in this area in the two 1985 photograph sets). This statement is speculative, however, and may be a result of different flight dates between years and the relative small acreage of these sites. September is a better time of year to observe wetlands by aerial photography when compared to August. All photographs were taken in September with the exception of the most recent photographs (1998) which were flown in August.

There were also 3 spring sites observed in the NE1/4 of Section 14, T15S, R7E. These sites appeared similar in 1998 when compared to 1980, so the years in-between were not compared. Another spring was noted in the SE1/4 of the same section. This spring “appeared” drier in 1998 when compared to 1980 and 1993. There was no coverage of this area in the 2 sets of the 1985 maps.

The JBR report noted only 2 springs in their study. These springs were also compared in 1998 and all earlier photographs. These springs were reported as “potentially dry” marked on the aerial

photographs by JBR. These sites were marked in the NE1/4 of Section 23 and the SW1/4 of T15S, R7E. Again, they appeared dry in the 1998 photographs, but as mentioned in the paragraph above, it may be a result of different flight dates between years and the relative small acreage of these sites.

DISCUSSION

There was a very good representation of aerial infrared and color photographs to be used to observe and compare between the years' 1980 and 1998 [1980, 1985 (2 sets), 1993 and 1998]. The later 2 years were at a slightly different scale (1"=500') compared to the earlier photographs (1"=400'). This made comparisons somewhat more difficult, but did not change the results of the study. Additionally, the most recent photographs were taken in August compared to September for the previous years' photographs. This made it more difficult to differentiate between herbaceous, shrub and sub-shrub community changes. Again, with careful observation, significant changes would have been observed – at least in the major vegetation types. However, as mentioned previously, the observable differences in the spring areas may be the result of these different flight dates and also the relative small acreage of these sites. September is a much better time of year to observe wetlands by aerial photography when compared to August. To assess the differences for the spring areas, on-site field work would need to be conducted during the growing season and/or the comparison of aerial photographs flown on dates closer to each other.

Most of the changes to the vegetation observed and noted in the 1994 JBR study do not appear to

be significant in our study. This could be explained several ways. First, perhaps in 1993 these areas were defoliated by insects or even clonal variations in the genotype linked to when the trees loose their leaves in the Fall. Also, camera angle, light differences, flight date differences, and time-of-day variations could account for vegetation patterns to appear dissimilar, or in the previous study's case, dead or dying trees.

However, with the possible exception of the spring areas for the reasons explained above, it appears that underground mining and subsidence as a result from it has not significantly changed major plant community types in the Star Point Mine permit area.

**Figure 1:
Star Point Mine
Aerial Flight Lines
(1980)**

					6-181		
					6-180		
			4-152	5-167	6-179	7-192	
		3-126	4-151	5-166	6-178	7-191	
		3-125	4-150	5-165	6-177	7-190	8-204
		3-124	4-149	5-164	6-176	7-189	8-203
		3-123	4-148	5-163	6-175	7-188	8-202
1-88	2-105	3-122	4-147	5-162	6-174	7-187	8-201
1-87	2-104	3-121	4-146	5-161	6-173	7-186	8-200
1-86	2-103	3-120	4-145	5-160	6-172	7-185	8-199
1-85	2-102	3-119	4-144	5-159	6-171	7-184	8-198*
1-84	2-101	3-118	4-143	5-158	6-170	7-183	8-197*
1-83	2-100	3-117	4-142	5-157	6-169	7-182	8-196
1-82	2-99	3-116	4-141	5-156	6-168		8-195
1-81	2-98	3-115	4-140	5-155			
1-80	2-97	3-114	4-127	5-154			
1-79	2-96	3-113	4-127	5-153			
1-78	2-95	3-112	4-129				
1-77	2-94	3-111	4-130				
1-76	2-93	3-110	4-131				
1-75	2-92	3-109	4-132				
1-74	2-91	3-108	4-133				
1-73	2-90	3-107	4-134				
	2-89	3-106	4-135				
			4-136				
			4-137				

* Photographs missing from the set.

Figure 2: Star Point Mine Aerial Flight Lines (1985)					
2-91					
2-90					
2-89		4-133	5-134	6-147	7-170
2-88	3-92A	4-132	5-135	6-148	7-169
2-87	3-92B	4-131	5-136	6-149	7-168
2-86	3-92C	4-130	5-137	6-150	7-167
2-85	3-92D	4-129	5-138	6-151	7-166
2-84	3-92E	4-128	5-139	6-152	7-165
2-83	3-92F	4-127	5-140	6-153	7-164
2-82		4-126	5-141	6-154	7-163
2-81		4-125	5-142	6-155	7-162
2-80		4-124	5-143	6-156	
2-79		4-123	5-144		
2-78		4-122	5-145		
		4-121	5-146		
		4-120			

Figure 3: Star Point Mine Aerial Flight Lines: Color (1985)					
		4-41	5-76	6-79	7-97
	3-37	4-42	5-75	6-80	7-96
2-5	3-36	4-43	5-74	6-81	7-95
2-6	3-35	4-44	5-73	6-82	7-94
2-7	3-34	4-45	5-72	6-83	7-93
2-8	3-33	4-46	5-71	6-84	7-92
2-9	3-32	4-47	5-70	6-85	7-91
2-10	3-31	4-48	5-69		
2-11	3-30	4-49	5-68		
	3-29	4-50			
	3-28	4-51			
	3-27	4-52			

**Figure 4:
Star Point Mine
Aerial Flight Lines
(1993)**

1-01						
1-02						
1-03	2-01				6-01	
1-04	2-02	3-01			6-02	
1-05	2-03	3-02	4-01	5-01	6-03	
1-06	2-04	3-03	4-02	5-02	6-04	
1-07	2-05	3-04	4-03	5-03	6-05	
1-08	2-06	3-05	4-04	5-04	6-06	7-01
1-09	2-07	3-06	4-05			7-02
1-10	2-08		4-06			7-03
1-11	2-09					7-04
1-12	2-10					
1-13	2-11					
1-14	2-12					

**Figure 5:
Star Point Mine
Aerial Flight Lines
(1998)**

1-01							
1-02	2-01	3-01			6-01	7-01	
1-03	2-02	3-02			6-02	7-02	
1-04	2-03	3-03	4-01	5-01	6-03	7-03	
1-05	2-04	3-04	4-02	5-02	6-04	7-04	
1-06	2-05	3-05	4-03	5-03	6-05	7-05	
1-07	2-06	3-06	4-04	5-04	6-06	7-06	8-01
1-08	2-07	3-07	4-05	5-05	6-07	7-07	8-02
1-09	2-08	3-08	4-06	5-06	6-08	7-08	
1-10	2-09	3-09	4-07	5-07	6-09		
1-11	2-10	3-10		5-08			
	2-11	3-11					
	2-12	3-12					
	2-13	3-13					
	2-14	3-14					
		3-15					

APPENDIX



CONSULTANTS GROUP

GEOLOGY

ENGINEERING

ENVIRONMENT

HYDROLOGY

April 26, 1994

Ben Grimes - Senior Environmental Engineer
Cyprus Plateau Mining Corporation
P.O. Box PMC
Price, Utah 84501

Dear Ben:

We have completed our examination of the aerial photographs you delivered to us. According to Carter Reed and Bob Thompson with the Manti-LaSal National Forest, our objective was to note and quantify any major vegetation changes, or any small changes near springs, which could be associated with ground subsidence or groundwater alterations within an area which you defined on a map you included with the photos, and which could be associated with the Cyprus Plateau Mining Company's underground mining operation (Figure 1).

METHODS

To accomplish this task, we first compared aerial photos of the study area taken in 1993 with those taken in 1980. Any changes noted on the 1993 photos were then compared with 1986 photos in an effort to determine when such changes may have occurred. Following this, changes were then digitized using Autocadd. Changes were then quantified by area and the resultant map was plotted for use in any subsequent groundtruthing (Figure 2).

RESULTS

Possible changes in vegetation were noted at 11 locations. Possible changes to springs were also noted at 2 locations. None of these changes should be considered significant, as none encompassed more than 4.0 acres. Sites #5 through #11 are in close proximity, but cumulatively encompass only 7.2 acres. Table 1 below lists these changes by vegetation type, and approximate acreage.

Principal Office:
8160 South Highland Drive, Suite A-4
Sandy, Utah 84093
(801) 943-4144
Fax: (801) 942-1852

Reno Office:
1575 Delucchi Lane, Suite 220
Reno, Nevada 89502
(702) 828-4558
Fax (702) 828-4651

Cedar City Office:
865 South Cedar Knolls West
Cedar City, Utah 84720
(801) 586-8793

Table 1 Possible Vegetation Changes

SITE NUMBER	VEGETATION TYPE	APPROXIMATE ACREAGE
1	Mountain Grassland	0.5
2	Douglas Fir/Aspen	3.0
3	Douglas Fir/Aspen	1.0
4	Spring	0.3
5	Aspen	0.4
6	Aspen	3.0
7	Aspen	0.8
8	Aspen	0.4
9	Aspen	0.4
10	Aspen	1.8
11	Aspen	0.4
12	Spring	0.3
13	Aspen	4.0

DISCUSSION

Only site #13 is truly a dead stand of trees - in this case Aspen. However, this apparent "die-off" predates 1980 and is not in the area identified by you as the area of concern. All other apparent changes are questionable. We do not feel that any of the changes listed above should be considered significant as in no instance do these changes exceed four acres per site.

There may be several possible explanations for the changes we observed including; insect damage, disease, possible ground subsidence, groundwater alterations, weather conditions, etc. However, we feel that the changes we observed are most likely season related, manifested by the defoliation of deciduous trees in late September of 1993.

Ben Grimes
Cyprus Plateau Mining Corp.

Page 3

The differences in the flight dates of the 1980 and 1993 photos may explain the apparent differences observed. The 1980 photos taken in early September (September 3, 1980) and the 1993 photos taken later in the month (September 27, 1993). Photos, of areas not in the immediate area of concern, showed similar changes, and snow cover is apparent in the 1993 photos, whereas it is not in the 1980 photos. Upon comparison with photos taken on October 15, 1986, there were similar differences which were even more pronounced. In addition, these 1986 photos showed an even greater snow cover than the 1993 photos.

If the Forest Service desires further information regarding these possible changes, we would be happy to conduct a follow-up field check to determine their actual status.

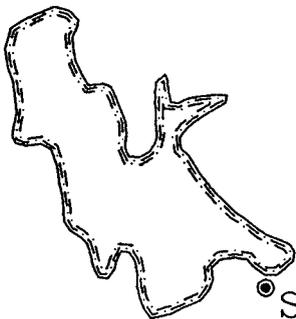
If you have any questions regarding this study please call me.

Sincerely,



Paul W. West
Environmental Analyst/
Wetland Regulatory Specialist

U T A H

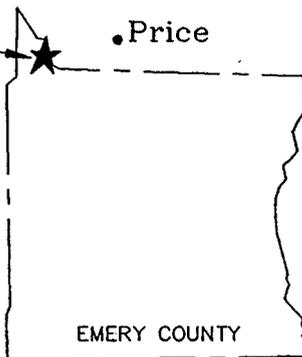


SALT LAKE CITY

• Provo

**SITE
LOCATION**

• Price



EMERY COUNTY

PLATEAU MINING COMPANY

FIGURE 1
LOCATION MAP

jbr environmental consultants, inc.				DATE DRAWN 4/25/93
Salt Lake City, Utah Cedar City, Utah Reno, Nevada Elko, Nevada				REVISION
DESIGN BY PW	DRAWN BY CP	CH'D BY	SCALE NO SCALE	

CYPLT1-1

1110 N. PINE ST. STAR POINT

REC_NO	DATE	EASTING	NORTHING	ELEVATION	SPECIES	TYPE	STATUS	QUAD
98_92	5/27/98	507620	4374153	6153	Golden Eagle	Cliff	Active	PinaciPk
98_93	5/27/98	507885	4373978	6124	Golden Eagle	Cliff	Tended	PinaciPk
98_94	5/27/98	504455	4372228	6559	Unidentified	Cliff	Tended	PinaciPk
98_95	5/27/98	504026	4372281	6592	Golden Eagle	Cliff	Active	PinaciPk
98_96	5/27/98	503899	4372253	6603	Unidentified	Cliff	Inactive	PinaciPk
98_97	5/27/98	503178	4372581	6711	Golden Eagle	Cliff	Inactive	PinaciPk
98_98	5/27/98	502982	4372826	6732	Golden Eagle	Cliff	Old/Dilapidat	PinaciPk
98_99	5/27/98	503030	4373118	6750	Golden Eagle	Cliff	Old/Dilapidat	PinaciPk
98_100	5/27/98	502964	4373149	6762	Golden Eagle	Cliff	Old/Dilapidat	PinaciPk
98_101	5/27/98	502360	4373608	6813	Golden Eagle	Cliff	Tended	PinaciPk
98_129	5/27/98	500893	4378908	6843	Golden Eagle	Cliff	Old/Dilapidat	PinaciPk
98_130	5/27/98	501825	4379924	6892	Golden Eagle	Cliff	Inactive	PinaciPk
98_131	5/27/98	501922	4380002	6892	Golden Eagle	Cliff	Inactive	PinaciPk
98_132	5/27/98	502614	4380159	6870	Golden Eagle	Cliff	Active	PinaciPk
98_133	5/27/98	502595	4381265	6907	Raven	Cliff	Active	PinaciPk
98_134	5/27/98	502724	4380276	6835	Golden Eagle	Cliff	Inactive	PinaciPk
98_135	5/27/98	502733	4380275	6841	Golden Eagle	Cliff	Tended	PinaciPk
98_136	5/27/98	501898	4383776	6898	Golden Eagle	Cliff	Old/Dilapidat	PinaciPk
98_137	5/27/98	501785	4383182	6985	Golden Eagle	Cliff	Inactive	PinaciPk
98_138	5/27/98	501327	4383153	6936	Raven	Cliff	Inactive	PinaciPk
98_139	5/27/98	501476	4382756	6972	Raven	Cliff	Active	PinaciPk
98_140	5/27/98	500341	4382256	6986	Golden Eagle	Cliff	Inactive	PinaciPk
98_142	5/27/98	500582	4381802	6935	Golden Eagle	Cliff	Tended	PinaciPk
98_143	5/27/98	500571	4381498	6933	Golden Eagle	Cliff	Old/Dilapidat	PinaciPk
98_146	5/29/98	508349	4377356	6192	Redtail Hawk	Cliff	Tended	PinaciPk
98_147	5/29/98	508718	4377390	6202	Unidentified	Cliff	Inactive	PinaciPk
98_148	5/29/98	508729	4377390	6196	Unidentified	Cliff	Old/Dilapidat	PinaciPk
98_149	5/29/98	509543	4377853	6266	Golden Eagle	Cliff	Inactive	PinaciPk
98_150	5/29/98	509558	4377870	6255	Golden Eagle	Cliff	Old/Dilapidat	PinaciPk
98_151	5/29/98	509708	4377933	6300	Golden Eagle	Cliff	Inactive	PinaciPk
98_152	5/29/98	509327	4378296	6298	Golden Eagle	Cliff	Active	PinaciPk
98_153	5/29/98	509083	4378581	6281	Raven	Cliff	Tended	PinaciPk
98_154	5/29/98	508850	4379192	6303	Golden Eagle	Cliff	Inactive	PinaciPk
98_155	5/29/98	507467	4379318	6249	Buteo	Cliff	Inactive	PinaciPk
98_156	5/29/98	507477	4379322	6253	Unidentified	Cliff	Active	PinaciPk
98_157	5/29/98	507831	4379520	6284	Golden Eagle	Cliff	Old/Dilapidat	PinaciPk
98_158	5/29/98	508610	4380460	6274	Golden Eagle	Cliff	Tended	PinaciPk
98_159	5/29/98	509002	4380747	6310	Golden Eagle	Cliff	Old/Dilapidat	PinaciPk
98_160	5/29/98	508933	4380899	6295	Golden Eagle	Cliff	Tended	PinaciPk
98_161	5/29/98	508869	4381097	6310	Golden Eagle	Cliff	Inactive	PinaciPk
98_162	5/29/98	508290	4379443	6433	Golden Eagle	Cliff	Tended	PinaciPk
98_163	5/29/98	508603	4379247	6522	Unidentified	Cliff	Active	PinaciPk
98_164	5/29/98	508412	4378640	6423	Buteo	Cliff	Tended	PinaciPk
98_165	5/29/98	508975	4382382	6299	Golden Eagle	Cliff	Inactive	PinaciPk
98_166	5/29/98	509341	4381616	6321	Golden Eagle	Cliff	Old/Dilapidat	PinaciPk
98_167	5/29/98	508874	4381103	6352	Golden Eagle	Cliff	Inactive	PinaciPk
98_168	5/29/98	508934	4380900	6287	Golden Eagle	Cliff	Tended	PinaciPk
98_169	5/29/98	508955	4380867	6310	Golden Eagle	Cliff	Inactive	PinaciPk
98_170	5/29/98	508928	4380913	6310	Buteo	Cliff	Inactive	PinaciPk
98_171	5/29/98	508997	4380743	6314	Golden Eagle	Cliff	Old/Dilapidat	PinaciPk
98_172	5/29/98	509230	4382035	6453	Golden Eagle	Cliff	Tended	PinaciPk
98_173	5/29/98	507027	4381839	6155	Golden Eagle	Cliff	Inactive	PinaciPk
98_174	5/29/98	507155	4381815	6163	Golden Eagle	Cliff	Inactive	PinaciPk
98_175	5/29/98	507976	4382048	6216	Golden Eagle	Cliff	Tended	PinaciPk
98_176	5/29/98	508554	4382273	6248	Golden Eagle	Cliff	Active	PinaciPk
98_177	5/29/98	508727	4382302	6242	Golden Eagle	Cliff	Inactive	PinaciPk
98_178	5/29/98	508744	4382394	6254	Golden Eagle	Cliff	Tended	PinaciPk
98_179	5/29/98	508714	4382463	6197	Buteo	Cliff	Inactive	PinaciPk
98_180	5/29/98	507578	4382852	6282	Golden Eagle	Cliff	Tended	PinaciPk
98_181	5/29/98	508654	4383482	6336	Golden Eagle	Cliff	Tended	PinaciPk
98_182	5/29/98	505371	4384370	6208	Golden Eagle	Cliff	Inactive	PinaciPk
98_183	5/29/98	505358	4384367	6219	Golden Eagle	Cliff	Inactive	PinaciPk
98_184	5/29/98	505284	4384344	6219	Golden Eagle	Cliff	Tended	PinaciPk

YEAR_REC_NO	DATE	EASTING	NORTHING	ELEVATION	SPECIES	TYPE	STATUS	QUAD
98_185	5/29/98	505280	4384350	6217	Golden Eagle	Cliff	Tended	PinaciPk
98_190	5/29/98	510649	4385286	6120	Buteo	Cliff	Tended	PinaciPk
98_191	5/29/98	507924	4385110	6031	Buteo	Cliff	Tended	PinaciPk
98_192	5/29/98	508078	4384923	6076	Buteo	Cliff	Inactive	PinaciPk
98_193	5/29/98	507971	4384795	6083	Golden Eagle	Cliff	Old/Dilapidat	PinaciPk
98_194	5/29/98	507834	4384401	6101	Buteo	Cliff	Tended	PinaciPk
98_195	5/29/98	508074	4384685	6092	Falcon	Cliff	Inactive	PinaciPk
98_196	5/29/98	508363	4384716	6105	Golden Eagle	Cliff	Tended	PinaciPk
98_221	5/29/98	501896	4384667	6899	Golden Eagle	Cliff	Inactive	PinaciPk
98_222	5/29/98	502684	4385652	6452	Golden Eagle	Cliff	Old/Dilapidat	PinaciPk
98_223	5/29/98	502707	4385647	6454	Buteo	Cliff	Inactive	PinaciPk
98_224	5/29/98	503028	4385701	6440	Buteo	Cliff	Inactive	PinaciPk
98_225	5/29/98	503685	4385158	6257	Golden Eagle	Cliff	Old/Dilapidat	PinaciPk
98_226	5/29/98	503720	4385127	6256	Golden Eagle	Cliff	Old/Dilapidat	PinaciPk
98_480	5/22/98	484523	4389382	9353	Buteo	Cliff	Inactive	Scofield
98_481	5/22/98	484500	4389387	9372	Redtail Hawk	Tree	Active	Scofield
98_85	5/19/98	498223	4373950	8383	Buteo	Cliff	Active	Wattis
98_88	5/19/98	496942	4372275	7865	Golden Eagle	Cliff	Old/Dilapidat	Wattis
98_141	5/27/98	499982	4382083	6996	Buteo	Cliff	Inactive	Wattis
98_277	5/18/98	498625	4372426	8350	Buteo	Cliff	Inactive	Wattis
98_278	5/18/98	497164	4376876	8169	Golden Eagle	Cliff	Inactive	Wattis
98_279	5/18/98	497860	4377110	8209	Golden Eagle	Cliff	Old/Dilapidat	Wattis
98_280	5/18/98	498566	4377758	8157	PeregrineFalcon	Cliff	Active	Wattis
98_281	5/18/98	497245	4378408	8272	Golden Eagle	Cliff	Inactive	Wattis
98_282	5/18/98	496141	4378004	8318	Golden Eagle	Cliff	Active	Wattis
98_283	5/18/98	496262	4377679	8219	Golden Eagle	Cliff	Inactive	Wattis
98_284	5/18/98	495496	4378429	8302	Golden Eagle	Cliff	Inactive	Wattis
98_285	5/18/98	495680	4378763	8328	Golden Eagle	Cliff	Old/Dilapidat	Wattis
98_286	5/18/98	494321	4378998	8626	Redtail Hawk	Cliff	Inactive	Wattis
98_287	5/18/98	493981	4378801	8661	Golden Eagle	Cliff	Inactive	Wattis
98_288	5/18/98	493890	4378280	8515	Golden Eagle	Cliff	Inactive	Wattis
98_289	5/18/98	494674	4374977	9522	Golden Eagle	Cliff	Active	Wattis
98_290	5/18/98	494753	4374989	9522	Golden Eagle	Cliff	Inactive	Wattis
98_291	5/18/98	494956	4374880	9184	Golden Eagle	Tree	Inactive	Wattis
98_292	5/18/98	495271	4375018	9472	Golden Eagle	Cliff	Inactive	Wattis

APPENDIX C

Legal, Financial, Compliance and Related Information
Annual Report of Officers
as submitted to the Utah Department of Commerce
and other changes in ownership and control information
as required under R645-301-110.

CONTENTS

Annual Report of Officers

**Cyprus Plateau Mining Corporation
9100 East Mineral Circle
Englewood, Colorado 80112**

List of Officers and Directors

OFFICERS

J.M. DeMichiei
G.J. Malys
N.P. Moros
P.C. Wolf
F.S. Hakimi
P.J. Panzarino
F.J. Wood
J.M. Coyner
J.D. Flemming
S.J. Fetherhuff
G.A. Walker
D.E. Huffman
S.E. Chetlin

President
Sr. Vice President
Sr. Vice President, Sales and Marketing
Sr. Vice President, General Counsel and Secretary
Vice President and Treasurer
Vice President, Sales and Marketing
Vice President and Controller
Assistant Treasurer
Director of Tax
Assistant Secretary
Assistant Secretary
Assistant Secretary
Assistant Secretary

DIRECTORS

J.M. DeMichiei
G.J. Malys
P.C. Wolf

N.P. Moros
M. Maekita
K. Kinoshita

APPENDIX D

Mine Maps

as required under R645-301-525.270.

CONTENTS

Map T-1 showing Mining for 1998 is in the Subsidence Report

APPENDIX E

Other Information

in accordance with the requirements of R645-301 and R645-302.

CONTENTS

None