

Homestake Mine Engineer Files 5001

Finding aid prepared by Jessica Michak

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Describing Archives: A Content Standard

Homestake Adams Research and Cultural Center

January 10, 2014

Deadwood History, Inc.

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Summary Information

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| Repository | Homestake Adams Research and Cultural Center |
| Creator | Homestake Mining Company |
| Title | Homestake Mine Engineer Files |
| Date [bulk] | Bulk, 1970-1998 |
| Date [inclusive] | 1905-2001 |
| Extent | 52.5 Linear feet |
| Language | English |
| Abstract | <p>The Mine Engineer Files consist of records created or utilized by the engineering department of Homestake Mining Company and date between 1905 and 2001. These records include maps, budget documents, and development schedules for Divisions 1 through 5. The materials found in this collection were removed from the office after the closure of the Mine in 2001.</p> |

Historical

The Homestake Mining Claim was founded on April 9, 1876 by Fred and Moses Manuel and Hank Harney. They soon sold their interests to a group of men, led by George Hearst. Under Hearst's direction, the Homestake Mining Company was incorporated in November 1877 and grew into the major economic driving force of the Black Hills area until its closure in 2001.

The mine's Engineering Department was responsible for determining the areas and levels of material extraction. This work required the creation and use of thousands of maps, charts, diagrams, and hundreds of correspondence. The records found in this collection were still in use or on file in the engineering department at the time of the mine's closure.

Scope and Contents

This group of records includes maps, charts, budgetary documents, and development schedules for the Homestake Mine for Divisions 1 through Division 5. A Ross Shaft Survey and information on 4th of July events are also found in this collection. The bulk of the records date between 1970 and the mid-1990s, but there are records from 1905 through 2001.

Arrangement

The Homestake Mine Engineer Files have been kept in original order. The files were removed from filing cabinets at the Homestake Mining Company office in 2005 and boxed for preservation purposes. The filing cabinets were divided into three series.

Series I Underground Production Areas consists mostly of Divisions 3,4, and 5 but a small amount of Division 2 files are found in boxes 12 and 13. Please see box list for more information.

Series II Engineering Miscellaneous consists of the files of "Division 2 Archive", Fourth of July files, Beat 23 Maps, and Divisions 1 through 3 files. Please see box list for more information.

Series III Bulk Mining- Cable Bolting consists of files from Divisions 1 through 5. Please see box list for more information.

Administrative Information

Publication Information

Homestake Adams Research and Cultural Center January 10, 2014

Revision Description

In August 2020 Hannah M. Bawden revised the find aid to add additional information and clean up box list. 8/13/2020

Access

This collection is housed at the Homestake Adams Research and Cultural Center with no restrictions to access. The collection may be utilized during normal operating hours, 10-4 M-F, or by appointment.

Acquisition

These materials were transferred as one donation from the Homestake Mining Company on May 26, 2005.

Processing

The bulk of materials in this collection were processed in 2005 by Carolyn Weber and Virginia James. Processing was completed in December 2013/January 2014 by Jessica Michak.

Related Materials

Related Materials

Additional archival materials related to the Mine Engineer Files can be found in the Homestake Mining Company Collection including the following: Homestake Map Collection, 5019 Homestake Survey Records and 5030 Homestake Ore Assay and Reserve Records.

Underground Production Areas

Collection Inventory

| Series I: Underground Production Areas | | |
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| | Box | Folder |
| PR- 123 Holes, 300.3 1984-1987 | 1 | 1 |
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| 46-47 SDF, 11L, 5150 1984 | 1 | 4 |
| 43-44 SC, 11L, 5450 9/14/1984 | 1 | 5 |
| 46-47 SEA (Inactive), 11L; 46-47 SWA, 5450 1983-1984 | 1 | 6 |
| 88-89 PW, ML, 5750 8/27/1984 | 1 | 7 |
| Ring Drill and Cable Bolting, 300.5 1984 | 1 | 8 |
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| 57 PE, 13L, 6200 1983-1984 | 2 | 20 |
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| 3rd Quart. 1991 Forecasts 1990-1991 | 2 | 22 |
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| 13 Ramp System, 200.5 1981-1986 | 2 | 24 |
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| Sand Holes 1989 | 3 | 3 |
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| Holes- 17L- 4250 1986, 1989 | 3 | 5 |

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| 5300 1986-1987 | 3 | 7 |
| Drain Holes, 17L, 5600 to 5750 & 5450 & Decline 1985-1986 | 3 | 8 |
| 40 ext. rse, 17L 5900, Drainhole, etc. 1985 | 3 | 9 |
| Borehole 7' 5300/5600/5900 17 Ledge 1985-1986 | 3 | 10 |
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| 32pD 5150, 19L 3/22/1989 | 3 | 12 |
| SAO Memos 3/1989 | 3 | 13 |
| Up Date, On The Level, & 5.1B 1989 | 3 | 14 |
| Visine Reports 1989 | 3 | 15 |
| 1990 Budget, 1st Draft 1990 | 3 | 16 |
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| 4400 17 Ledge 4/10/1989 | 3 | 42 |
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| 41-43 sB, 17L, 4550 1987-1988 | 3 | 44 |
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| 4700-4550 Incline, 42-43B 4700 1982-1984 | 3 | 53 |
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| 38-41 sBC, 4700 10/25/1988 | 3 | 55 |
| 46 PAB-47 pB, 17L, 4700 1988 | 3 | 56 |
| 4850 Service Cutouts 2/1988 | 3 | 57 |
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| 51 pC, 17L, 5450 Sill 1987-1988 | 4 | 3 |
| 46-52 C 5450 1989 | 4 | 4 |
| 5450 17, 19, 21 Ledge 4/4/1989 | 4 | 5 |
| 5450, 40-42 VCR 1986, 1990 | 4 | 7 |
| 46-52, 17L, MCF, 5450 1985-1988 | 4 | 6 |
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| 29 S F, 19L, 5600 OCF 1984-1985 | 4 | 10 |
| 38-42 S A, 17L, 5600 1980-1981 | 4 | 11 |
| 38-42 A, 17L, 5600 "Ore Estimate" N/A | 4 | 12 |
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| 38-42 C, 17L, 5600 VCR Drill Reports 1983-1984 | 4 | 15 |

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| 39-41 S C, 17L, 5750 1986 | 4 | 18 |
| 54-55 S B, 21L, 5750, Incline Decline 1983 | 4 | 19 |
| 52 SA, 17L, 5750 6/18/1987 | 4 | 20 |
| 32 sD, 17L, 5750 1988 | 4 | 21 |
| 5750, 54-56B, 17L 1991-1996 | 4 | 22 |
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| 46 rse, 19L, 5750/5900 2/11/1986 | 4 | 24 |
| 17L Decline Ramp System, 5450 to 5900 1984-1988 | 4 | 25 |
| 5900 Level Devt. 1988 | 4 | 26 |
| 36-37 SC, 17L, 5900 VCR 1986-1987 | 4 | 27 |
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| 42-44 SD, 9L, 4550, Blast Hole 1984-1985 | 4 | 41 |
| 35 SC, 11L, 4550 3/1986 | 4 | 42 |
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| 42-43 SD, 9L, 4700 1983-1984 | 4 | 44 |
| 41 PD, 9L, 4700 Sill Cut 1985 | 4 | 45 |
| 37 SC, 11L, 4700 1984-1985 | 4 | 46 |
| 68-69 SC, ML, 4700 1984-1985 | 4 | 47 |
| 34 SG, 9L, 4850 1984-1985 | 4 | 48 |
| 35 SH, 9L, 4850 1984-1985 | 4 | 49 |
| 41 SB, 9L, 4850 1984-1985 | 4 | 50 |
| 36-37 SBC, 9L, 4250 1984 | 4 | 51 |
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| Nonel- Ensign- Bickford Co., Non-electrical Blasting N/A | 7 | 22 |
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| Atlas Copco N/A | 7 | 27 |
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| 6950 Level Development 1985-1993 | 8 | 7 |
| 1993 Budget 1992-1993 | 8 | 8 |
| 1994 Budget 1993-1994 | 8 | 9 |
| 37-43 sB, MCF, 7400 21L 1984-1993 | 8 | 10 |

Underground Production Areas

| | | |
|--|---|----|
| 40-43 AB, MCF, 6950 21L 1990-1993 | 8 | 11 |
| 34-36 sA, 21L 7250 1977-1980 | 8 | 12 |
| 34-36 sA, 7250, 35 c also 1985-1987 | 8 | 13 |
| 32-34 sA, 21L, 7250 1980-1984 | 8 | 14 |
| 37 sC, Mined, 38-39 sC, 21L, 7250 Golden Horseshoe 1984 | 8 | 15 |
| 34-36 sC, 21L, 7i250, 33-34 sC, 32-33 sC, Golden Horseshoe 1956-1969 | 8 | 16 |
| 35 sC, 21L, 7250, Golden Horseshoe, Top Cut 1985-1987 | 8 | 17 |
| 39-42 aB, MCF, 7100, 21L N/A | 8 | 18 |
| 38-40 sC, MCF, 7100 21L 1985 | 8 | 19 |
| 40B, 6950 MCF 1984-1985 | 8 | 20 |
| 35 WB & 34C, 21L, MCF, 8000 & 7850 2/20/1985 | 8 | 21 |
| 28A & 25A 6950, 27A, 7100, VCRs N/A | 8 | 22 |
| 39-40 sC, 21L, 7250, Golden Horseshoe, Development 34-36A, 33-34E 1983 | 8 | 23 |

Underground Production Areas

| | | |
|---|---|----|
| 22AM, 7100, 19L 5/21/1984 | 8 | 24 |
| N 38B, VCR, 7550 1981-1984 | 8 | 25 |
| 36 sC, 21L, 7250, Golden Horseshoe 4/27/1984 | 8 | 26 |
| 39B, VCR, 7850 N/A | 8 | 27 |
| 41-42, 7700, Can VCR West Ore Pillar, East Ore 1982-1983 | 8 | 28 |
| 31-32 sA, 21L, 7850; 33 c, 21L, 7850; 36-37 21L, 7850, VCR 1968, 1978, 1985 | 8 | 29 |
| 36A & 36C, 7100, MCF 1980-1988 | 8 | 30 |
| 6950 21L, 42-44 Cable Bolt Layout 12/1987 | 8 | 31 |
| 20-23A, 26-27 sEB, 17L, 7700 VCR 1984 | 9 | 1 |
| 33-35 pDE, 17L, 7400 (T)- 30, 7250, BIM- Scrams or 33-34D, 7400 1980-1981 | 9 | 2 |
| 26A and 22A, 7700, VCRs 1962-1983 | 9 | 3 |
| 45-47 sB, 47-48 sB VCR 7250, 48-50 sB | 9 | 4 |
| 25A and 26A, 19L, MCF & VCR 7400 1991-1992 | 9 | 5 |

Underground Production Areas

| | | |
|---|---|----|
| 45-47, 48-50 7250 VCR 1992 | 9 | 6 |
| 45-48 sBC, MCF, 7400 21L 1987-1992 | 9 | 7 |
| 45-47 sB VCR, 21L, 7700-7400 1990-1993 | 9 | 8 |
| 33-34 sE, 17L, 7250, East Access, Golden Horseshoe, Middle Sill +50 7250, Top Sill (Cut) 1987-1992 | 9 | 9 |
| 6950 35D VCR, 7100 35D VCR 1992-1993 | 9 | 10 |
| 7100 Level Dev. 1987-1992 | 9 | 11 |
| 7250 Level Dev. 1985-1989 | 9 | 12 |
| 7400 Level Dev. 1987-1991 | 9 | 13 |
| 7400 to 7250 New Incline 1991 | 9 | 14 |
| 7550 Level Dev. 1988-1990 | 9 | 15 |
| 7700 Level Dev. 1986-1993 | 9 | 16 |
| 35-38 sB MCF, 7700 21L 1986-1992 | 9 | 17 |
| 7850 Level Dev. 1986-1993 | 9 | 18 |

Underground Production Areas

| | | |
|---|---|----|
| 8000 Level Dev. 1985-1993 | 9 | 19 |
| Old 52 Ext. to 8000 1991-1994 | 9 | 20 |
| Stope Section, Finish Comparison 1989 | 9 | 21 |
| 43 Extraction 1985-1986 | 9 | 22 |
| New 52 Extraction Gravity Feed to 8000 1988-1990 | 9 | 23 |
| Miscellaneous 1992 | 9 | 24 |
| Remote Locomotives- RE 10/1993 | 9 | 25 |
| Suggestions 1991 | 9 | 26 |
| Trip to Thompson Canada 1991 | 9 | 27 |
| Deep Level Ventilation Experiments 1991 | 9 | 28 |
| Task Training 11/1991 | 9 | 29 |
| Vacuum Conveyor 1991-1992 | 9 | 30 |
| Forecast Beat 51 1993 | 9 | 31 |
| Cominco Engineering Services Ltd. Information N/A | 9 | 32 |

Underground Production Areas

| | | |
|--|----|----|
| Shaft Sumps 1990-1994 | 9 | 33 |
| 37-39 SA, 21L, 7400, MCF Stope 1982-1983 | 9 | 34 |
| Division 5 Overlay, Levels 6800, 6950, 7100,7250,7400,7550,7700,7850,8000 N/A | 9 | 35 |
| 8000 Sump 1980-1982 | 9 | 36 |
| Div. 5 1983-1988 | 9 | 37 |
| Miscellaneous 1983-1985 | 9 | 38 |
| 6950 Drift to #4 Winze 1982 | 9 | 39 |
| 14 B 6950 1997 | 10 | 1 |
| 6950' Level, 28A, VCR 19L Bottom 1992-1995 | 10 | 2 |
| 28A, 6950 1995-1997 | 10 | 3 |
| 6950' Level, 35D, VCR, Top Sill, 19L 2/5/1992 | 10 | 4 |
| 6950' Level, Refrig. Plant 1987 | 10 | 5 |
| 6950' Level, 35D VCR Midsill, 19L 1992 | 10 | 6 |

Underground Production Areas

| | | |
|---|----|----|
| 6950 35D, 19L 1995-1997 | 10 | 7 |
| 6950 36A, Panel 36, 21L 1993 | 10 | 8 |
| 6950' Level, 37-39 VCR & 40 VCR, 21L 1986-1996 | 10 | 9 |
| 6950 36BC, 21L 1993-1997 | 10 | 10 |
| 6950 40B, Panel 40, 21L 1993-1995 | 10 | 11 |
| 6950 40C, VCR, 21L, 6840 Topsill 1990-1991 | 10 | 12 |
| 6950 N 41WB 1990-1997 | 10 | 13 |
| 6950 40D, P40D, 21L 1993-1995 | 10 | 14 |
| 6950 41-42 VCR, 21L, c/o Solid 14' above 6950 1985 | 10 | 15 |
| 6950 40-43 (41C), 21L, 6950/40-43/MCF Panel 1989-1995 | 10 | 16 |
| 6950 43EA, 19L, View Mining 1995-1996 | 10 | 17 |
| 6950 45D, 19L #1591 1996 | 10 | 18 |
| 44B, ID#1622, 6950 1997 | 10 | 19 |
| 6950, 44C 1994-1997 | 10 | 20 |

Underground Production Areas

| | | |
|---|----|----|
| 7100' Level 38-40, 21L 1990-1993 | 10 | 21 |
| 6950' Level 45-46 Midsill 1992 | 10 | 22 |
| 6950' Level 45-47 C, 19L 1982 | 10 | 23 |
| 6950 43-45 A, 21L, 45-46 SC (North End) 1985-1989 | 10 | 24 |
| 6950 42-48, North End 1988-1992 | 10 | 25 |
| 6950 42-48 MCF, 21L, South End 1987-1992 | 10 | 26 |
| 6950, 48-50A, 21L, VCR Bottom Sill 1989-1990 | 10 | 27 |
| 6950 48-51 A&B, 21L, Panel #6 & #7, North End 1982-1986 | 10 | 28 |
| N50C, 6950 1992-1997 | 10 | 29 |
| 6950 49-51A(VCR) 21L 1990-1991 | 10 | 30 |
| 6950' Level, 49-51 WB, VCR Bottom 1990-1992 | 10 | 31 |
| 6950, 49-51 VCR, Top Sill 1992 | 10 | 32 |
| 6950 50-52 Bt. Access, 21L 1994-1995 | 10 | 33 |
| 50-52 Top Sill, 6950 1/23/1995 | 10 | 34 |

Underground Production Areas

| | | |
|---|----|----|
| 6950 50A, 21L 1993 | 10 | 35 |
| 6950 52 Dump B.H.C.O. 21L 12/30/1997 | 10 | 36 |
| 13B 7100 N/A | 10 | 37 |
| 7100 20 AN, P 20 AN, 21L 1994-1997 | 10 | 38 |
| 7100 20AS, 19L 1992 | 10 | 39 |
| 7100 22AM, MCF, Panel 22AM, 21 L, 6950 1993-1996 | 10 | 40 |
| 7100' Level 27A, VCR, Bottom 1992 | 10 | 41 |
| 7100 N27E, 21L, Panel N27E 1993-1996 | 10 | 42 |
| 7100 33-34E, VCR Sill 1988 | 10 | 43 |
| 7100 34-36D, 21L, VCR Top Sill 1988-1992 | 10 | 44 |
| 7100 34-36 VCR, 21L, 7250 Stope 7100/34-36/VCR & 32-33 VCR 1988-1989 | 10 | 45 |
| 7100 32-35 VCR, 21L 1988 | 10 | 46 |
| 7100 35-C, 21L VCR Below 7100 1988-1990 | 10 | 47 |

Underground Production Areas

| | | |
|---|----|----|
| 36 BC, 7100 1997 | 10 | 48 |
| 7100 38-39/VCR, 21L 1990-1991 | 10 | 49 |
| 7100 38-40 BC, 21L 1988-1989 | 10 | 50 |
| 7100, 40D, VCR Btm 1991 | 10 | 51 |
| 7100 ft. level, 40-42C, 19L 1985-1987 | 10 | 52 |
| 7100 42-44 MCF, 21L 1992-1993 | 10 | 53 |
| 7100' Level, 44-45C, VCR Bottom 1990 | 10 | 54 |
| 7100 to 7400, 52 Ore Dump, East One 1979-1985 | 10 | 55 |
| 34-36, 7250 N/A | 10 | 56 |
| 37-43, P2 on 7100 Sill 1997 | 10 | 57 |
| 7100' Level, N38B, 17L 1992-1994 | 10 | 58 |
| 7250' Level 37-43 Pan 2 1992-1998 | 10 | 59 |
| 37-43 Panel 3, 7250 & Up 1990-1997 | 10 | 60 |
| N22B 7250 1996-1997 | 10 | 61 |

Underground Production Areas

| | | |
|--|----|----|
| 7250 32-34 Access Stope 1994-1996 | 10 | 62 |
| 37-43 (Pan 1) 7250 Up 1993-1995 | 10 | 63 |
| N22WA 7250 1996 | 10 | 64 |
| 24A 7250 1996-1997 | 10 | 65 |
| 25A/24A 7250 1995-1998 | 10 | 66 |
| N25A 7250 1995-1997 | 10 | 67 |
| 26AN 7250 1996-1997 | 10 | 68 |
| 7250' Level 33-34D, 21L, VCR Top Sill 1987 | 10 | 69 |
| 7250 34-36/VCR 21L 1989-1997 | 10 | 70 |
| 7250' Level 33-34 VCR Top Sill 21L 1992 | 10 | 71 |
| 7250 33-34 VCR 21L, Bottom Sill 1988-1989 | 10 | 72 |
| 7250 35C 19L 1994 | 10 | 73 |
| 7250 47A/47A 21L 1993-1994 | 10 | 74 |
| 7250 45-48 Panel VCR 21L 1993-1994 | 10 | 75 |

Underground Production Areas

| | | |
|---|----|----|
| 7250 45-47 Panel 45-47 21L 1992-1994 | 10 | 76 |
| 7400 (45-48) (South End) 46-47 WB 1988-1992 | 10 | 77 |
| 7250 34-36D VCR Btm Sill, 21L 1988-1997 | 10 | 78 |
| 7250 Stope 38-39 VCR, Bottom Sill, 7175-7100 Decline 21L 1989 | 10 | 79 |
| 38-40 VCR, 7250 4/1989 | 10 | 80 |
| 7250' Level 45-47B, VCR Top Sill 1990 | 10 | 81 |
| 7400 26A, Bottom VCR 1993-1995 | 10 | 82 |
| N26A, 7400 1995-1997 | 10 | 83 |
| 7400/2526 MCF Williams-Huber 1991-1992 | 10 | 84 |
| 33E/33B 7400 1997 | 10 | 85 |
| 7400 T26A, Top Sill, Panel T26A 1993 | 10 | 86 |
| 7400 27A, 21L, Panel 27A 1993-1995 | 10 | 87 |
| 26A 7550 1995-1996 | 10 | 88 |
| 6950 25A 1992-1996 | 10 | 89 |

Underground Production Areas

| | | |
|---|----|----|
| 6950 26OD/26 OD 19L, Rock Pick Stabbing 6/25/1996 | 10 | 90 |
| 6950, 26B, 19L #16 OL 1996 | 10 | 91 |
| 26-27 A, 6950 1986 | 11 | 1 |
| 7400 33-34 VCR Btm 21L 1990 | 11 | 2 |
| 7400 33-34E, 21L 1986-1987 | 11 | 3 |
| N35A, 7400 1997 | 11 | 4 |
| 26AS, 7400 1996 | 11 | 5 |
| 7400 26A, Panel 26AS (25-26 MCF) 1993-1995 | 11 | 6 |
| A Team Drift Crew, Stuft 1994-1995 | 11 | 7 |
| 14B 6950 1997 | 11 | 8 |
| 20A 6950 1997-1998 | 11 | 9 |
| 6950 22x Cut 4/24/1989 | 11 | 10 |
| 7400 34 PD VCR, 21L 1991 | 11 | 11 |
| 7400 37-43 B 21L, Panel #3 1985 | 11 | 12 |

Underground Production Areas

| | | |
|---|----|----|
| 37-43 B, 21L, 7400, See also panel #1,2,3 1982-1985 | 11 | 13 |
| 7400 37-43B 21L, Panel #1 & #2 1985-1998 | 11 | 14 |
| 7400 38-39C 21L, Decline Below 7250 1987 | 11 | 15 |
| 7400 Loader Barn 42 Stope 1987-1988 | 11 | 16 |
| 7400 45-48B 21L 1987-1989 | 11 | 17 |
| 38B 7550 1995-1997 | 11 | 18 |
| 39E 7550 1997 | 11 | 19 |
| 41B 7550 1996-1997 | 11 | 20 |
| 45-46B (above) 7550 1995-1997 | 11 | 21 |
| 33D 7700 1997 | 11 | 22 |
| 33EC 7700 1997 | 11 | 23 |
| 7700 35-38 MCF 21L, Ties and Cubics 1986-1993 | 11 | 24 |
| 7700 (Below 7550) 45-46 21L 1993-1995 | 11 | 25 |
| 40B 7700 1995-1997 | 11 | 26 |

Underground Production Areas

| | | |
|--------------------------------|----|----|
| 43AB 7700 1995-1997 | 11 | 27 |
| 7850 32E/VCR Btm 21L 1990-1991 | 11 | 28 |
| 34B 7850 1996-1997 | 11 | 29 |
| 34C 7850 1996-1997 | 11 | 30 |
| 35-36 Bot. 7850 1995-1996 | 11 | 31 |
| 35-36 Top Sill 7850 1996 | 11 | 32 |
| 36B 7850 1997 | 11 | 33 |
| 39B Top (38B) 7850 1996-1997 | 11 | 34 |
| 39B Bottom 7850 1996 | 11 | 35 |
| 41WB (40B) 7850 1997 | 11 | 36 |
| N31B 8000 1995-1997 | 11 | 37 |
| 8000/S32C 1995-1997 | 11 | 38 |
| 8000' Level 34C 1994-1995 | 11 | 39 |
| 8000 N32C/N35A 1995-1997 | 11 | 40 |

Underground Production Areas

| | | |
|---|----|----|
| 33A 8150 1996-1997 | 11 | 41 |
| 7400 35DE/VCR 21L 1993 | 11 | 42 |
| 7250' Level 49B VCR Top 21L 1992 | 11 | 43 |
| 7400 32-34A VCR Botom Sill 1990 | 11 | 44 |
| 7550 39T VCR 21L 1993-1994 | 11 | 45 |
| 7550 46 48B? VCR 21L 1990-1991 | 11 | 46 |
| 7550 35-40 VCR 21L, Top Sill 1990 | 11 | 47 |
| 7550' Level 35-38 21L 1992 | 11 | 48 |
| 7550 37 VCR, 42 Dec 21L 1/25/1990 | 11 | 49 |
| 7550' Level 45-46B VCR Bottom 1992 | 11 | 50 |
| 7700 33B, 21L, Poanel VCR Top Sill 1989 | 11 | 51 |
| 7850 32-33/Panel 1 21L 1991-1993 | 11 | 52 |
| 7700 32-33 E, VCR Top Sill 1991 | 11 | 53 |
| 7700 45-46 VCR Btm 1991-1994 | 11 | 54 |

Underground Production Areas

| | | |
|--|----|----|
| 7850 39B 21L VCR 1993-1995 | 11 | 55 |
| 8000 5 Stp. D.D. Chamber 21L 1989-1990 | 11 | 56 |
| 7100, 7400, 7700, 8000 52 Ore Pass 21L 1991-1992 | 11 | 57 |
| 26AN 7550 2/1/1996 | 11 | 58 |
| 7550 35D 21L 5/1993 | 11 | 59 |
| 39B 21L 7700' Level 1989-1993 | 11 | 60 |
| 7850 35-38B 21L VCR Top Sill 12/9/1988 | 11 | 61 |
| 7850 33C & 33D VCR Btms 1990 | 11 | 62 |
| 7700 36-37 VCR 21 10/1993 | 11 | 63 |
| X-Sections Below 7700 35-38 1990 | 11 | 64 |
| 7700 34D 21L Panel 34 2/1993 | 11 | 65 |
| 7550 46-48 Panel, VCR 21L 1993 | 11 | 66 |
| 7850 36-37E VCR 21L Bottom Sill 1991 | 11 | 67 |
| 7700' Level 32E VCR Top Sill 1992 | 11 | 68 |

Underground Production Areas

| | | |
|---|----|----|
| 7700 Top Sill 21L, 36-37E VCR 1991 | 11 | 69 |
| 5750 88-89W ML 1983-1985 | 11 | 70 |
| 5300 19L 32-34D 1969-1977 | 11 | 71 |
| 5300 35B-39B 17L, 19L 1983-1985 | 11 | 72 |
| 5300 11L 41-43C 1969-1972 | 11 | 73 |
| 5300 47F 11L 1976-1980 | 11 | 74 |
| 5300 49D 11L 1975-1980 | 11 | 75 |
| 5300 11L 44-45C 1968-1973 | 11 | 76 |
| 5300 11L 44C 1972-1973 | 11 | 77 |
| 5300 41-43C 11L, East Section 1972-1973 | 11 | 78 |
| 5300 44B 11L 8/1/1975 | 11 | 79 |
| 5150 45B Pillar 11L 1976-1981 | 11 | 80 |
| 5300 48D 11L 10/8/1976 | 11 | 81 |
| 5300 49F 11L 1979-1982 | 11 | 82 |

Underground Production Areas

| | | |
|------------------------------------|----|----|
| 5300 49-51F 11L 1976-1979 | 11 | 83 |
| 5300 53-54B 9L 1974-1975 | 11 | 84 |
| 5300 57B 9L 2/14/1973 | 11 | 85 |
| 5150 58B 9L 1976 | 11 | 86 |
| 5300 61A 9L 1975 | 11 | 87 |
| 5300 ML 82E 1969-1972 | 11 | 88 |
| 5300 84s W ML 2/24/1972 | 11 | 89 |
| 5300 85W ML 12/7/1973 | 11 | 90 |
| 5450 19L 32D 11/19/1971 | 11 | 91 |
| 5450 19L 32-34D 1972-1975 | 11 | 92 |
| 5450 28 F 19L 1968-1972 | 11 | 93 |
| 5450 25-26F 19L 1/8/1975 | 11 | 94 |
| 5450 35D 17L 6/6/1905 | 11 | 95 |
| 5450 S ML VCR 39-42C 19L 1980-1986 | 11 | 96 |

Underground Production Areas

| | | |
|----------------------------------|----|-----|
| 5450 44s B 11L 1974-1975 | 11 | 97 |
| 5450 11L 46-47C 1969-1971 | 11 | 98 |
| 5450 47A 11L 6/2/1981 | 11 | 99 |
| 5450 Ft. Level 49C 11L 6/22/1981 | 11 | 100 |
| 5450 54B 11L 1976-1977 | 11 | 101 |
| 5450 54 & 55B 9L 1971-1974 | 11 | 102 |
| 5450 56A 11L 1972-1973 | 11 | 103 |
| 5450 9L 57C 1969-1972 | 11 | 104 |
| 5450 9L 63SA 1969-1970 | 11 | 105 |
| 5450 64-65D 9L 1969-1982 | 11 | 106 |
| 5450 66D 9L 1977-1980 | 11 | 107 |
| 5450 66-67D 9L 8/1978 | 11 | 108 |
| 5450 66-67C 9L 1975-1978 | 11 | 109 |
| 5450 68B 9L 1980-1982 | 11 | 110 |

Underground Production Areas

| | | |
|--|----|-----|
| 5450 82E ML Sill Cut 5/11/1983 | 11 | 111 |
| 5450 82E ML 1974-1975 | 11 | 112 |
| 5450 ML 82E 1968-1976 | 11 | 113 |
| 5450 Ft. Level 82 East 8/8/1974 | 11 | 114 |
| 5450 ML 84E 1970-1971 | 11 | 115 |
| 5450 ML 84 C-W 1971-1972 | 11 | 116 |
| 5450 ML 85 W Pil 1971, 1975 | 11 | 117 |
| 5450 ML 86 W 1972-1975 | 11 | 118 |
| 5600 19L 28D 1968-1969 | 11 | 119 |
| 5600 29F 19L 1976-1980 | 11 | 120 |
| 5750 Sill 54-56D 17L VCR Top Sill 1987 | 11 | 121 |
| 5600 38-40C 17L, VCR Btm Sill 3/1986 | 11 | 122 |
| 5600 39C 13L 9/28/1978 | 11 | 123 |
| 5600 43C 19L 9/15/1978 | 11 | 124 |

Underground Production Areas

| | | |
|---|----|-----|
| 5600 52-53A 21L VCR 1980-1983 | 11 | 125 |
| 5600 54-55B 11L 1970, 1973 | 11 | 126 |
| 5600 55D 11L 1981, 1983 | 12 | 1 |
| 5600 11L 56C 1968-1969 | 12 | 2 |
| 5600 11L 56-57A 1970-1971 | 12 | 3 |
| 5600 56-57F 11L 1981-1983 | 12 | 4 |
| 5600 11L 57 So A 1969 | 12 | 5 |
| 5600 11L 57 So B 1969-1973 | 12 | 6 |
| 5600 58F 11L 12/16/1983 | 12 | 7 |
| 5600 9L 65A 1970-1976 | 12 | 8 |
| 5600 67 Pil A 9L VCR Top Sill 9/24/1986 | 12 | 9 |
| 5600 9L 67C 1970-1975 | 12 | 10 |
| 5600 66-67D 9L 1975-1979 | 12 | 11 |
| 5600' Level 67-68A 9L 8/25/1986 | 12 | 12 |

Underground Production Areas

| | | |
|--|----|----|
| 5600 69D 9L 1976 | 12 | 13 |
| 5600 70B 9L 1975, 1979 | 12 | 14 |
| 5600 ML 85C 9/24/1970 | 12 | 15 |
| 5600 84E-A ML 1972-1973 | 12 | 16 |
| 5600 ML 85E 1969-1970 | 12 | 17 |
| 5600 85E ML 1975 | 12 | 18 |
| 5600 ML 85sW 1972-1975 | 12 | 19 |
| 5600 86W ML 1982, 1985 | 12 | 20 |
| 5600 ML 88W 1971-1973 | 12 | 21 |
| 5600 ML 86-87W 1971-1972 | 12 | 22 |
| 5750 31-32D 19L 1970-1973 | 12 | 23 |
| 5750 32C&D 17L 1/17/1983 | 12 | 24 |
| 5900 35B 19L changed to 36C 19L 5750 1971-1975 | 12 | 25 |
| 5750 39-40D 19L 1971-1975 | 12 | 26 |

Underground Production Areas

| | | |
|--|----|----|
| 5750 Sill 39-41D 17L VCR Bottom Sill 5/29/1986 | 12 | 27 |
| 5750 40C 13L 1969-1972 | 12 | 28 |
| 5750 40E 19L 11/5/1975 | 12 | 29 |
| 5750 Air Shaft Bore Hole 3/1969 | 12 | 30 |
| 5750 40C 13L 11/6/1973 | 12 | 31 |
| 5750 11I 57C 1969-1970 | 12 | 32 |
| 5750 57F 11L 1977-1981 | 12 | 33 |
| 5750 58C 11L 1973-1976 | 12 | 34 |
| 5750 11L 60-61B 1969-1973 | 12 | 35 |
| 5750 11L 60-61 & 6050 62C 11L 1969-1973 | 12 | 36 |
| 5750 62C 11L 1977-1978 | 12 | 37 |
| 5750 64-65A 11L 1976-1984 | 12 | 38 |
| 5750 9L 67A 1970-1971 | 12 | 39 |
| 5750 66C 9L 1975-1986 | 12 | 40 |

Underground Production Areas

| | | |
|---|----|----|
| 5750 67-68A 9L 1975, 1981 | 12 | 41 |
| 5750 67-68D 9L 1976-1979 | 12 | 42 |
| 5750 68C 9L 12/1/1980 | 12 | 43 |
| 5750 68C 9L 1976-1977 | 12 | 44 |
| 5750 ML 85E 1970-1974 | 12 | 45 |
| 5750 88-89W ML 1973-1977 | 12 | 46 |
| 5750 89W ML 1981-1985 | 12 | 47 |
| 800 Main Ledge Assays 1996 1995-1996 | 12 | 48 |
| Beat 21, N42B/N43A/44A #277, 278, 279 1993-1994 | 12 | 49 |
| Beat 21, N53C Est# 331 1850 7L 1993-1994 | 12 | 50 |
| Beat 21, N55B 1550 7L #227 4/15/1994 | 12 | 51 |
| Beat 21, N58 C Est #338 1991-1994 | 12 | 52 |
| Beat 21, N56 1550 7L 1992-1993 | 12 | 53 |
| Beat 21, N56 59 Est #333 1993-1994 | 12 | 54 |

Underground Production Areas

| | | |
|--|----|----|
| Beat 21, N60B 1550 7L #248 1994 | 12 | 55 |
| Beat 21, N47A Est #236 1700, 7L 9/8/1993 | 12 | 56 |
| Beat 21, N47C 1550 7L #237 3/28/1994 | 12 | 57 |
| Beat 21, N48-49 Est #282 1700 7L 1993-1994 | 12 | 58 |
| Beat 21, N50B Pn2 Est#411, 2150 7L 1993-1994 | 12 | 59 |
| Beat 21, N62B Est #297 1550 7L 1993-1994 | 12 | 60 |
| Beat 21, N63D Est #300, 1550 7L 9/8/1993 | 12 | 61 |
| Beat 21, N66TB Est #2015 1550 7L 1993-1994 | 12 | 62 |
| Beat 21, N64A 1700 7L #831 5/12/1994 | 12 | 63 |
| Old Stopes 1992-1996 | 12 | 64 |
| Upper Country Water Control 1/4/1995 | 12 | 65 |
| N21AC 7L 2300 #427 1993-1994 | 12 | 66 |
| N22A/N24A 2300 7L #499, 493 3/29/1994 | 12 | 67 |
| 19-39 7L 2300 22B 1993-1994 | 12 | 68 |

Underground Production Areas

| | | |
|--|----|----|
| N18B, #486 and N19B #484 9/2/1993 | 12 | 69 |
| N35TA #520 1993-1994 | 12 | 70 |
| N32-33A #512 1993 | 12 | 71 |
| Panel 27C 1993-1994 | 12 | 72 |
| N32A 2300 9L #2202 5/1994 | 12 | 73 |
| 44-51 9L, 2300 Panel 48D 6/12/1991 | 12 | 74 |
| 50-51 North 12/22/1992 | 12 | 75 |
| 44-51 9L, 2300 Panel 50-51 South 1992-1993 | 12 | 76 |
| 44-51 9L, 2300 Panel 50-51 Center 11/1992 | 12 | 77 |
| 44-51 9L, 2300 Panels 41TBC & 39TBC 1992 | 12 | 78 |
| 44-51 9L, Panel 59B 1992-1993 | 12 | 79 |
| 54-62 9L 58C 3/23/1993 | 12 | 80 |
| 73-78 9L, 2300 Panel 77 1993-1994 | 12 | 81 |
| 50F 3500 9L 7/13/1994 | 12 | 82 |

Underground Production Areas

| | | |
|---|----|----|
| 3650 9L South Uphole, Wing Pillar, Ross Pillar 1/6/1993 | 12 | 83 |
| 3650 9L Center Pillar Dev. 11/1993 | 12 | 84 |
| Ross Pillar Misc. Dev. Etc. 1993 | 12 | 85 |
| Lower H-Limb, 3800 9L 1994 | 12 | 86 |
| NGH Limbs 1993-1994 | 12 | 87 |
| Ross Pillar - North D Limb 1993 | 12 | 88 |
| 9L Remnant 55H-56H 3650 1994 | 12 | 89 |
| Ross Pillar 9L Decline So. Remnant Mining 1992-1993 | 12 | 90 |
| Ross Pillar, Old Maps 1995-1997 | 12 | 91 |
| 19-21 11L 4100 13-14AB 1992-1993 | 12 | 92 |
| NOA 11L #2371, 3650 1993-1994 | 12 | 93 |
| 19-21 11L, 4100 Panel 12W 1993-1994 | 12 | 94 |
| 5 West 1992, 1994 | 12 | 95 |
| 11B 11L, 3950 1993 | 12 | 96 |

Underground Production Areas

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| 21-22 SAB 9L 3950 1985 | 20 | 8 |
| 16 Stp 11L N.-N.W. Drift 3950 1985 | 20 | 9 |
| 17 Stp 9L 3950, Diag N.W. Drift N/A | 20 | 10 |
| 21 SCD 9L 3950 3/27/1986 | 20 | 11 |
| 3950 19-23 SAC 9L MCF 75,000 @ 4 00 1/1987 | 20 | 12 |
| 2-8 SD 11L 4100 1982-1988 | 20 | 13 |
| 11 Ledge 3600-2600 Extention N/A | 20 | 14 |
| Drift North 11L 3800 750' 2/27/1987 | 20 | 15 |
| 71 Stp. 19L & Ellison 3650, Borehole Cut out. Struble Diagram 1985 | 20 | 16 |
| Sand Hole 3650/4100 17L 1985 | 20 | 17 |

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| Ross Pillar 3650- 9L 1/29/1988 | 20 | 18 |
| Miscellaneous Mine Engineering Plans 1989-1995 | 20 | 19-25 |
| Series III: Bulk Mining-Cable Bolting | | |
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| Experimental Sand Wall 43-45A 21L 6800 1981-1982 | 21 | 1 |
| Yates Shaft Cable Bolting between 3650/3800 1983 | 21 | 2 |
| 41-42A 17L 6350 N/A | 21 | 3 |
| 6950 Level 21 Ledge, 42-43 SAB 6/1/1980 | 21 | 4 |
| 6950 Level 21 Ledge, 42-43 SC 1/1/1981 | 21 | 5 |
| 6950 Level 21 Ledge, 44-46 SC 1/1/1981 | 21 | 6 |
| 48-51 PAB 21L 7100 7/14/1981 | 21 | 7 |
| 6350 Level 19 Ledge 27 SF 6/3/1991 | 21 | 8 |
| 6200 Level 19 Ledge 34-35 SA 1979-1981 | 21 | 9 |
| 6500 Level 21 Ledge, 49-51 SB 1980-1984 | 21 | 10 |

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| 34&35 SA VCR Test 1979-1980 | 21 | 11 |
| 37C 5300 #978 1997 | 21 | 12 |
| 4100 44-50 VCR 17L 1996 | 21 | 13 |
| 4100 North End 44-50 N48B Uphole 1996 | 21 | 14 |
| N46B #755 4100 17L 1996 | 21 | 15 |
| 5450 56 Area 1997 | 21 | 16 |
| Bulk Mining-Cable Bolting Miscellaneous Files 1/8/1997 | 21 | 17 |
| 5600 34D 17L VCR 10/29/1996 | 21 | 18 |
| 5900 31BH Cable Bolt 19L 2/13/1995 | 21 | 19 |
| 6050 23-26 Uphole 19L North 1995-1996 | 21 | 20 |
| N23-26 South Panel 6050 1996 | 21 | 21 |
| 23-26 19L 6050 Conter 1996 | 21 | 22 |
| 6200 28A 19L Uphole 1995 | 21 | 23 |
| 6200 44C Uphole 19L 1995 | 21 | 24 |

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| 6200 37D 19L UPH North End 1996 | 21 | 25 |
| 6200 35 Dump 9/8/1994 | 21 | 26 |
| 6200 Level 17 Ledge 41 & 42 SB 1981-1982 | 21 | 27 |
| 6200 28A 19 Uphole 1996 | 21 | 28 |
| 6200 3500 Bench 1994-1995 | 21 | 29 |
| 6200 35DD VCR Current 1995 | 21 | 30 |
| 28 A & B 19L 6200 1993 | 21 | 31 |
| 6350 28-30 VCR 1995 | 21 | 32 |
| 6200 35DD 19L 1994 | 21 | 33 |
| 6200 47A VCR 19L 1995-1996 | 21 | 34 |
| 6350 41-43 Uphole 19L 1994-1995 | 21 | 35 |
| N50-51 21L 6200 Uphole 1999 | 21 | 36 |
| N30B 19L 6350 Uphole "Midsill" Elev. 1080 2000 | 21 | 37 |
| 41-43B 6350 3/1994 | 21 | 38 |

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| 28WA 19L 6350 Uphole Elev. 1036 1998 | 21 | 39 |
| 53WA 21L 6350 Uphole Elev 1086 9/1998 | 21 | 40 |
| N37D 6350 South 1996 | 21 | 41 |
| 49-51B 6350 1020' 1993 | 21 | 42 |
| N52B 21L 6350 Panels 2 and West Elev. 987 10/1999 | 21 | 43 |
| 28-30A 19L 6350 1991 | 21 | 44 |
| 28-30 19L 6350 Cable bolts 5/24/1993 | 21 | 45 |
| 6350 49WB 19L Uphole 1995 | 21 | 46 |
| 49-51WB 19L 6350 11/17/1997 | 21 | 47 |
| N51-52 6350 11/19/1996 | 21 | 48 |
| 51-52B 21L 6350 UPH 6/17/1995 | 21 | 49 |
| 28-30A, Panel 2 Cable Bolts & 120' Back 6500 1994 | 21 | 50 |
| 6500 28-30 P3 19L Uphole Grid 1995 | 21 | 51 |
| N28-30P1 6500 Uphole 1996 | 22 | 1 |

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| 26 Incline 1996-1997 | 22 | 2 |
| N30B 19L 6500 Bottom sill Uphole Elev 1127 5/2000 | 22 | 3 |
| 14B 6500 #2312 VCR South Panel 19L 1996 | 22 | 4 |
| N14B 6500 #2312 North 1996 | 22 | 5 |
| 6500 14B Top Sill 19L Cable Bolts 4/25/1996 | 22 | 6 |
| 6650 14B 19L Bulk Stope 1996 | 22 | 7 |
| 6650 29-22 Stp 12/11/1996 | 22 | 8 |
| 34C 17L 6650 Cable Bolts 4/1994 | 22 | 9 |
| 6650 17L 36-37C Cable Bolt Layout 1994-1997 | 22 | 10 |
| 6650 41B VCR 19L 1996-1997 | 22 | 11 |
| 6650 45A 19L UPH 4/1996 | 22 | 12 |
| 45XC 6650 C. Bolts 1993 | 22 | 13 |
| 24A 19L 6800 1996-1997 | 22 | 14 |
| Beat 13 6650 19L 36-37C UPH 7/2/1996 | 22 | 15 |

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| 14B 6800 Uphole 1/1997 | 22 | 16 |
| 6800 19L N29A UPH 1995 | 22 | 17 |
| 30A 19L 6650 1994, 1999 | 22 | 18 |
| 34-35SD 17L 6800 1990-1991 | 22 | 19 |
| 37C Cable Bolts 1437' 8/6/1993 | 22 | 20 |
| 6800 45-46A Uphole 19L 1996 | 22 | 21 |
| 1850 7 Ledge 47-49 SA 1/1/1981 | 22 | 22 |
| 1850 Level 7 Ledge 51-54 SC 1981-1983 | 22 | 23 |
| 1850 Level 9 Ledge 53-55F 1980-1982 | 22 | 24 |
| 2000 Level 9 Ledge 51-53 F 1979-1981 | 22 | 25 |
| 2000 Level 7 Ledge 43-46 SC 1983 | 22 | 26 |
| 35-36 SD 9L 4100 VCR 1979-1984 | 22 | 27 |
| 46-47 PA 7L 1850 VCR 2/1984 | 22 | 28 |
| 4100 Level 9 Ledge 28-29 PAC 1980-1981 | 22 | 29 |

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| 4100 Level 9 Ledge 28-29 D 1969-1983 | 22 | 30 |
| 2300 Level 9 Ledge 45-47 GH & 43-44 PH 1980-1982 | 22 | 31 |
| 2450 Level 9 Ledge 27 A 1980-1982 | 22 | 32 |
| 2450 9 Ledge 18 D 1979-1981 | 22 | 33 |
| 2000 Level 9 Ledge 49-51 GH 1979-1981 | 22 | 34 |
| 2150 Level 9 Ledge 56-59 D 10/29/1979 | 22 | 35 |
| 2000 Level 9 Ledge 50-51 SH 1979-1980 | 22 | 36 |
| 2150 Level 9 Ledge 53-55 F 5/14/1979 | 22 | 37 |
| 2600 Level 9 Ledge 10-15 WA N/A | 22 | 38 |
| 2150 Level 9 Ledge 54-57 D 1978-1981 | 22 | 39 |
| Denniston-Uhrig 1700-2000 N/A | 22 | 40 |
| 3950 Level 9 Ledge 34-35 SD N/A | 22 | 41 |
| 4250 Level 9 Ledge 35-38 D 1980 | 22 | 42 |
| 4250 Level 11 Ledge 12 SC 1/1/1979 | 22 | 43 |

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| 45-47 PGH 9L 2300 Dril Reports 2/4/1983 | 22 | 44 |
| 200 Level 9 Ledge 79P DF 1/1/1978 | 22 | 45 |
| 53-55F 2150 Drill Pattern Sheets 6/2/1905 | 22 | 46 |
| 12-15 SEA 9L 2600 Drill Reports 6/3/1905 | 22 | 47 |
| 3950 28-29AC 9L VCR 6/27/1984 | 22 | 48 |
| 6500 24A Uphole 19L 1/1996 | 22 | 49 |
| 56-59D Decline Blasting Memos & etc 1980-1981 | 22 | 50 |
| 52P F & G 9L 2000 Level Memos & Drill Reports 1980-1981 | 22 | 51 |
| 27A 9L 2450 Memos & Blasting Reports 1983 | 22 | 52 |
| 51-53 SF 9L 2000 Blasting Reports & Diagrams 1983 | 22 | 53 |
| Blasting Diagrams & Hole Measurements 53-55F 2000 1980-1981 | 22 | 54 |
| 27A 9L 2450 Blasting Diagrams & Cable Measurements 1981-1982 | 23 | 1 |
| 12-15 EA 2600 1982 | 23 | 2 |
| 2000 Level 9 Ledge 51-53 SF 1981 | 23 | 3 |

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| 53 Break Raise 9L 2000 Blasting Diagrams & Hole Measurements 1981-1982 | 23 | 4 |
| 53-55F 9L 1850 Drill Reports 1983 | 23 | 5 |
| 54-57D 9L: 2150 Memos & etc. on Blasting 1980 | 23 | 6 |
| 53-55F 9L 2150 (A-D) Section A Rows 1-6 1980 | 23 | 7 |
| 53-55F 2150 Sec. B Rows 7 thru 12 1980 | 23 | 8 |
| 53-55F 9L 2150 Sec. C Rows 13 thru 18 N/A | 23 | 9 |
| 53-55F 2150 9L Sec. D Rows 19 thru 24 N/A | 23 | 10 |
| 53-55 9L 2150 Sec. E Rows 25 thru 30 1980-1981 | 23 | 11 |
| 18 Pillar D 9L 2450 Memos & Blasting Reports N/A | 23 | 12 |
| 53-55F 9L 2150 Sec. F Rows 31 thru 36 1980 | 23 | 13 |
| 53-55 9L 2150 Sec. G Rows 37 thru 42 1980 | 23 | 14 |
| 53-55F 9L 2150 Sec. H. Rows 43 thru 48 1980 | 23 | 15 |
| 10-15 WA 9L 2600 Section #2 N/A | 23 | 16 |

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| 10-15 WA 9L 2600 Section #3 N/A | 23 | 17 |
| 10-15 WA 9L 2600 Section #4 N/A | 23 | 18 |
| 10-15 WA 9L 2600 Section #5 N/A | 23 | 19 |
| 10-15 WA 9L 2600 Section #6 N/A | 23 | 20 |
| 10-15 WA 2600 Blasting Diagrams & Hole Measurements 1980-1981 | 23 | 21 |
| 13 PEA 9L 2750 Memos & Blasting Reports 1980 | 23 | 22 |
| 27A 9L 2450 Drill Reports 1981 | 23 | 23 |
| 2750 Level 9 Ledge 10-15 SEA 1/2/1980 | 23 | 24 |
| 2000 Level 7 Ledge 43-45 SC 1/1/1978 | 23 | 25 |
| 4250 S29D #766 9L 9/10/1997 | 23 | 26 |
| S02R 9L 3800 East 1997-1998 | 23 | 27 |
| 3650 Sill North 9L Uphole to +40' 2/1997 | 23 | 28 |
| Drifts at the Shaft, Motorbarn & Drifts 1989, 1994 | 23 | 29 |
| Cable Bolts N5A, 2-4 11L, S1A 3200 1997-1998 | 23 | 30 |

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| N42-45 ID 2150 7L 1997 | 23 | 31 |
| N42-45 ID 2150 7L 1996-1997 | 23 | 32 |
| Ross Pillar Cable Bolts, North & South D&F Limbs Cable Bolts 1989-1992 | 23 | 33 |
| 5SA 11L 3800 Cable Bolts 1990 | 23 | 34 |
| Bulk Mining-Cable Bolting Miscellaneous Files (1 of 2) 1989-1995 | 23 | 35 |
| Bulk Mining-Cable Bolting Miscellaneous Files (2 of 2) 1995-2000 | 23 | 36 |
| 15A 15L 7250 South Panel Uphole #2469 5/1999 | 24 | 1 |
| N15A 15L 7250 Uphole #2469 4/7/1999 | 24 | 2 |
| N24A 19L 7250 Panel 2 Uphole #1696 1998 | 24 | 3 |
| 24A 21L 7250 Cable Bolts #1696 1846 elev. 6/29/1998 | 24 | 4 |
| N25 AN 21L 7250 Uphole 1913 elevation Estimate #2359 1997 | 24 | 5 |
| N25 AN 21L 7250 Cables #2359 3/13/1997 | 24 | 6 |
| N25 AN 21L 7250 Estimate #2359 1995-1997 | 24 | 7 |

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| N25 AN 19L 7250 #2359 Uphole 1913 Elev. 1014/1997 | 24 | 8 |
| N26AN 21L 7400 #2463 (Topsill 7400) 1997 | 24 | 9 |
| N32 34A 21L 7250 Uphole ID #1703 1995-1996 | 24 | 10 |
| N32 34A 21L 7250 Ring Drills 1993 | 24 | 11 |
| N33, 34E 17L 7250 VCR 1994-1995 | 24 | 12 |
| 36C 21L 7290 Elev 2000 Uphole ID #1710 1998 | 24 | 13 |
| N37-43 21L 7250 Uphole to 7100 #1713 1997 | 24 | 14 |
| 7100 19L N20AN #1597 Cables also N20 AS 2/23/1996 | 24 | 15 |
| N37-43B 21L 7250 Uphole Panal 1, Estimate 1713 elev. 1902 1999 | 24 | 16 |
| N45-48B 21L 7250 Uphole Est. 1749 Elev. 1876 2000-2001 | 24 | 17 |
| 45-47B 21L 7250 Uphole #1718 North Panel elev. 1914 5/1999 | 24 | 18 |
| N45-47B 21L 7250 Uphole East Panel #1718 Elev 1912 1999 | 24 | 19 |
| N45-47B 21L 7250 Uphole ID #1749 Elevation 19101 2000-2001 | 24 | 20 |
| N37-43B Uphole #1713 1/1996 | 24 | 21 |

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| Panel 3 Uphole 37-43 21L 7250 1993-1995 | 24 | 22 |
| 40E Uphole 7250 1995 | 24 | 23 |
| N36C 21L 7250 Uphole #1710 On Sill 2/1999 | 24 | 24 |
| N42-43C 21L 7100 Panel "2" Uphole Est. #1662 Elev. 1763 2000-2001 | 24 | 25 |
| 7250 Sill Cables Ramp to Ramp 1996 | 24 | 26 |
| N45-48B 21L 7200 #1749 Uphole Elev. 1918 2000 | 24 | 27 |
| N14B 19L 7400 Uphole Panels 1 & 2 ID #2133 Elev. 2133 10/2000 | 24 | 28 |
| N26A 19L 7400 Bench (Top) #1760 1995 | 24 | 29 |
| Est. #1739 N26AS 21L 7400 Uphole 1996 | 24 | 30 |
| N26AN 19L 7400 Uphole #2360 11/1998 | 24 | 31 |
| N26A 19L 7400 Midsill Bench 6 1/2" Holes 1995 | 24 | 32 |
| N27B 7400 1995 | 24 | 33 |
| N35DE #1732 7400 17L Uphole 1996 | 24 | 34 |
| N35DE 17L 7400 11/29/1993 | 24 | 35 |

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| N39E 17L 7400 Uphole Est. #1735 Elev 2044.099 2/2000 | 24 | 36 |
| N22AB 19L 7550 North South Panels ID 4073 Elev 2202.5 2000-2001 | 24 | 37 |
| N22A 19L 7550 Uphole Est. #4037 Elev. 2322 2000-2001 | 24 | 38 |
| N26AN 21L 7550 Bottom Sill Uphole #2463 1997 | 24 | 39 |
| N26AN 21L 7550 Uphole #2462 1996 | 24 | 40 |
| N33E 17L 7550 Uphole #1728 1998 | 24 | 41 |
| N34D 17L 7550 Uphole #1754 4/1999 | 24 | 42 |
| N34D 17L 7550 Uphole #1754 1998 | 24 | 43 |
| N41B #1770 Topsill Cables 7550 1998 | 24 | 44 |
| N38B 17L 7550 Bench #2361 1998 | 24 | 45 |
| N35C 21L 7550 Uphole Elev 2171 ID #1765 1999-2000 | 24 | 46 |
| 36 BC 21L 7850 I.D. 2635 Elev 2495 back 1/29/1999 | 24 | 47 |
| 38B 21L 7550 P3 & P4 Uphole 1995 | 24 | 48 |
| N41B 21L 7550 #1770 Uphole 1995-1997 | 25 | 1 |

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| 41WB 21L 7550 Uphole #2836 Elev 2191 1998 | 25 | 2 |
| 41B 17L 7550 #1770 2156 Elev. Top Sill 1998 | 25 | 3 |
| 39B 21L 7550 VCR (Panel 1) 1993-1994 | 25 | 4 |
| 38B 21L 7550 S. Panel VCR 1993 | 25 | 5 |
| N40E 17L Uphole ID #1758 Elev. 2236 2000-2001 | 25 | 6 |
| N42-43B 21L 7250 Uphole Est. #1663 Elev. 1846 2000-2001 | 25 | 7 |
| N45-46B 19L 7550 Uphole 6/21/1995 | 25 | 8 |
| 45-46WB 21L 7550 Uphole #2367 1/1999 | 25 | 9 |
| 45-46WB 21L 7550 Bench Est. #2366 1996 | 25 | 10 |
| 45-46WB 21L 7550 North Bench #2366 1997 | 25 | 11 |
| N43AB 21L 7700 Uphole Estimate #1803 1997 | 25 | 12 |
| 46-48B 21L 7550 Uphole 1993-1994 | 25 | 13 |
| 7700 36-37E 17L VCR 1991-1993 | 25 | 14 |
| N40B 21L 7700 Uphole #1800 1997 | 25 | 15 |

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|---|----|----|
| N40C 21L 7700 Uphole #1801 1997 | 25 | 16 |
| N45-46WB 21L 7700 Uphole 1995 | 25 | 17 |
| 45-46B 21L 7700 VCR 1992-1993 | 25 | 18 |
| 38 Xcut 7700 Cable Bolts 5/1999 | 25 | 19 |
| N25B 19L 7850 Panel 2 Uphole ID #2810 Elev 2458 2000 | 25 | 20 |
| 34C 21L 7850 ID 1841 1/1999 | 25 | 21 |
| N25A 19L 7850 Uphole Estimate #2859 Elev 2595 2000-2001 | 25 | 22 |
| N25B 19L 7850 Uphole Panels 1 & 2 Est. #1810 Elev. 2524 10/1999 | 25 | 23 |
| N32C 21L 8000 Uphole #1838 6/1997 | 25 | 24 |
| N31A 19L 7850 Uphole #2831 Elev. 2500 5/11/2000 | 25 | 25 |
| N31A 19L 7850 ID #2831 Elev. 2516 3/2000 | 25 | 26 |
| Uphole Also N31B #1836 ITH #11 1996-1997 | 25 | 27 |
| 32-33E 17L 7850 1991-1997 | 25 | 28 |
| 35A 21L 7850 Uphole Stope #2634 Elev. 2525 4/23/1999 | 25 | 29 |

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|---|----|----|
| N35 BC 21L 7850 Uphole ID #2256 Elev. 2492 12/14/1998 | 25 | 30 |
| N35-36EB 19L 785D Bench 1996 | 25 | 31 |
| N36B 21L 7850 Bench #2635 1997-1998 | 25 | 32 |
| N35A 21L 8000 Uphole & Cables #2634 1996-1997 | 25 | 33 |
| N34C 21L 8000 Uphole 4/1995 | 25 | 34 |
| 38B 21L 7850 Center Panal Uphole #2636 Elev. 2457 3/8/1999 | 25 | 35 |
| N38B 21L 7850 ID #2636 11/1998 | 25 | 36 |
| 39B 21L 7850 1996 | 25 | 37 |
| 39B 21L 7850 VCR 1994-1995 | 25 | 38 |
| N39B 21L 7850 Uphole Salavage Est. 6032 Elev. 2450 2/4/2000 | 25 | 39 |
| 38B P2 #2361 7550' L 21L 11/1997 | 25 | 40 |
| 64-65 Bulk #2464 1996-1997 | 26 | 1 |
| N 111-115B 7L 1400 Cable Bolts ID #2814 Elev. 3866 5/2000 | 26 | 2 |
| 36-41 Bulk Stope 1995 | 26 | 3 |

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| 36-41 Bulk Stope (Continued) 1994-1995 | 26 | 4 |
| 1700' Level 43A Uphole 1995 | 26 | 5 |
| 56A 1550 Uphole 1996 | 26 | 6 |
| 60B 7L 1550 VCR 1994-1997 | 26 | 7 |
| 48-49 ID 282 1700 7L 1994 | 26 | 8 |
| N55B (UPH Section) #227 1440 7L 2/1995 | 26 | 9 |
| Bulk Mining-Cable Bolting Miscellaneous Files 1996-1997 | 26 | 10 |
| Bulk Mining-Cable Bolting Miscellaneous Files (Continued) 1996-1997 | 26 | 11 |
| 55B 7L 1440 4/1/1987 | 26 | 12 |
| 1550 N59C 1996-1997 | 26 | 13 |
| 53C 1700 Cable Bolting Plan 9/13/1996 | 26 | 14 |
| 1700' L/ 44A Uphole (#279) 1995 | 26 | 15 |
| #2464 N64-65 Bulk 1996-1997 | 26 | 16 |
| 64SA 7L 1700 1989-1990 | 26 | 17 |

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| 64B 7L 1550 Est #831 1989-1995 | 26 | 18 |
| 1850/2000 54PA VCR 9L 1992-1994 | 26 | 19 |
| 1700/1550 47A VCR 7L 1993-1994 | 26 | 20 |
| 2000 N51A #2679 7L Uphole 1997 | 26 | 21 |
| 36-41 Bulk Stope (VCR) 2000' L 9L #2447 1995 | 27 | 1 |
| 77F 9L 2150 1997 | 27 | 2 |
| 2150/2300 N 19 AC 7L VCR (21A) 1992-1997 | 27 | 3 |
| 21A 7L 2150' Level Uphole 1995-1997 | 27 | 4 |
| ID #0368 N97-98A 7L 2000 Level 2000-2001 | 27 | 5 |
| N123-124B 7L 1400 Panel 4 Top Est. #2697 Elev. 3980 2000-2001 | 27 | 6 |
| N123-124B 7L 1400 Panel "2" Uphole ID #5852 2000-2001 | 27 | 7 |
| N123-124B 7L 1400 Uphole Panel "3" I.D. #5851 Elev. 3982 2000-2001 | 27 | 8 |
| N123-124 7L 1400 Panel 6 Est. #2697 Back = 3891' 2001 | 27 | 9 |
| N86-89B 7L 2300 Mid Uphole #0397 Elev. 3039 2000-2001 | 27 | 10 |

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| N86-89 Bottom "East" Panel 7L 2300 Uphole Est. #0397 Elev. 2986 2000-2001 | 27 | 11 |
| N86-89B Bottom "West Panel" 7L 2300 Uphole ID #0397 Elev. 2986 2000-2001 | 27 | 12 |
| NOA #2371 1996 | 27 | 13 |
| Beat 23 Bullk Rock 1996-1997 | 27 | 14 |
| 23F 9L 4250 Uphole 1997-1998 | 27 | 15 |
| 23-24 CD 9L 4400 Panel 3 #2749 1999 | 27 | 16 |
| 23-24CD 9L 4400 East & West Panels #2749 Elev. 942 1999 | 27 | 17 |
| N42C 11L 4100 Uphole Estimate #5945 Elev. 1136 2000 | 27 | 18 |
| N43B 11L 3950 L Uphole Est. #5843 12/1999 | 27 | 19 |
| N111-115B 7L 1400 Uphole Estimate #2814 Elev. 3869 2000 | 27 | 20 |
| N54WC 11L 3800 (SO2R) Uphole #5905 Elev. 1450 1998, 2000 | 27 | 21 |
| N48-52AB Top Est. #2717 3650 11L 7/2001 | 27 | 22 |
| ID #0713 N40-41F 11L 3950 @ 1328 2000 | 27 | 23 |

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| N21A 1995-1996 | 27 | 24 |
| Bulk Mining-Cable Bolting Miscellaneous Files 1994-1997 | 27 | 25 |
| N40-41F 11L 3950 Midsill UPH #713 2000 | 27 | 26 |
| 3800 SO2R 11L #702 10/30/1997 | 28 | 1 |
| NOH +84' to +107' 9L 3800 1997 | 28 | 2 |
| N43F 11L 3800 Uphole North Estimate #5029 Elev 1468 3/2001 | 28 | 3 |
| N43F 11L 3800 South Panels 1 & 2 Uphole Estimate #5029 Elev 1468 2001 | 28 | 4 |
| N40 41F 11L 3950 "Top" Uphole Est. #0713 Elev. 1410 2001 | 28 | 5 |
| No Pan N86-89B 7L 2150 ID #0397 Elev 3087' 2000 | 28 | 6 |
| N48-52AB Midsill Est #2717 3650 11L 2001 | 28 | 7 |
| N39AB 11L 3800 UPH ID #6034 Elev. 1302 2000 | 28 | 8 |
| 111-115 7L 1400 Bench M. Ne Panel Row 2 South to Row 42N ID #2814 2000 | 28 | 9 |
| 111-115 7L 1400 Bottom Lifting 6/14/2000 | 28 | 10 |

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|---|----|----|
| ID #2814 (#6066) So UPH Pan N111-115B 7L 1400 Elev. 3869 2/15/2000 | 28 | 11 |
| N99A (54A) 7L 1850 Uphole Elev. 3397 ID #0067 2000 | 28 | 12 |
| N123-124B 7L 1400 Pan 1 Estimate #5853 Elev. 3984 6/2001 | 28 | 13 |
| N123-124B Panel 4 BTM Est. #2697 1400 7L 8/2001 | 28 | 14 |
| 2337 Uphole Layout SF Limb Cables +35' Back 6/1995 | 28 | 15 |
| N53H 9L 3500 Ross "Center" Pillar VCR Bench Est. #2338 Top Elev. 1744 2001 | 28 | 16 |
| N52A Top Sill Cable Bolt Pass 1997-1998 | 28 | 17 |
| N53H +18 9L 3500 Ross Pillar Uphole #2338 7/2001 | 28 | 18 |
| 3500 NORF +18' #2340 9L 1992, 1997 | 28 | 19 |
| NORF 9L +40' to +90' 3650 1997 | 28 | 20 |
| NORG 9L +40' to +90' 3650 7/1997 | 28 | 21 |
| North Wing Pillar 9L 3650 Uphole to North "D" Limb 1997 | 28 | 22 |
| Wing Pillar Uphole Stope 1994 | 28 | 23 |

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| N41F UPH Est #5036 3800 11L 2001 | 28 | 24 |
| 8/2001 | 28 | 25 |
| 26-27F 11L 4400 1986-1987 | 28 | 26 |
| N39A 17L 4400 1992 | 28 | 27 |
| 39-40B 17L 4400 VCR 1990 | 28 | 28 |
| 47PB 17L 4400 VCR 1991 | 28 | 29 |
| 46-52 Allard-Fisher 1990-1991 | 28 | 30 |
| 40-41SB 17L 4550 1988-1989 | 28 | 31 |
| 43SA 17L 4550/4700 1989-1990 | 28 | 32 |
| Cable Bolting 39B 4700 1991 | 28 | 33 |
| 39-40SB 17L 4850 1988 | 28 | 34 |
| 4850 42A UPH 17L 1996 | 28 | 35 |
| 38-39SB 17L 4850 1984 | 28 | 36 |
| Bulk Mining-Cable Bolting Miscellaneous Files 1998-2000 | 28 | 37 |

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| #6 Shaft Bypass Raise 1982-1983 | 29 | 1 |
| 37SB 17 Ledge 5000 1986-1987 | 29 | 2 |
| 38PB 17 Ledge 5000 1986-1990 | 29 | 3 |
| 38-39B 17L 5000 "West Wedge" 7/1984 | 29 | 4 |
| 38-39B 17 5000 Panel #3 1981-1982 | 29 | 5 |
| 38-39SB 17L 5000 VCR 13,000@ 4 50 Block #2 33SOS 8 1984-1985 | 29 | 6 |
| 38-39SB 17L 5000 1981-1982 | 29 | 7 |
| 38-39SB 17L 5000 1986-1987 | 29 | 8 |
| 39 PB 17L 5000 1989 | 29 | 9 |
| 38-39B 17L 5000 VCR Stope 1981, 1984 | 29 | 10 |
| 41D 17L 5000 1990-1991 | 29 | 11 |
| 5000 45B 17L Uphole 10/22/1996 | 29 | 12 |
| Cable Bolting 5000 to 5065 Levels 2/6/1991 | 29 | 13 |
| 36BC 17L 5150 1988-1989 | 29 | 14 |

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| 38PB 17L 5150 1990-1991 | 29 | 15 |
| 38-39A 17L 5030 (Bulk Mining) VCR Layouts 1983 | 29 | 16 |
| 5150 49C 17L Uphole 1/19/1995 | 29 | 17 |
| 26F 19L 5300 5/1991 | 29 | 18 |
| Cable Bolts 40-42C 17L 5300 N/A | 29 | 19 |
| N49C 5300 17L 4/1992 | 29 | 20 |
| 34SD 17L 5450 74,300 @ 6 90 1987 | 29 | 21 |
| 32-34D 17L 5450 Cable Bolting 12/12/1990 | 29 | 22 |
| 34D 17L 5450 1987 | 29 | 23 |
| 35B 17L 5450 VCR Layouts 1984 | 29 | 24 |
| 35SB 17L 5450 1987-1988 | 29 | 25 |
| 35B 17L 5450 12/1989 | 29 | 26 |
| 42SC 17L 5450 1990 | 29 | 27 |
| 42C 17L 5400 Upper Panel 1986-1991 | 29 | 28 |

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| 52C 17L 5300/5450 1991 | 29 | 29 |
| 49SC 17L 5450 1990 | 29 | 30 |
| 52C 17L 5450 30' Crown 4/1991 | 29 | 31 |
| 5450 56A 19L VCR 2/9/1996 | 29 | 32 |
| 29-30F 17L 5600 1991 | 29 | 33 |
| Cable Bolts for 32D 17L 5600 1/30/1989 | 29 | 34 |
| 5600 36C 17L Uphole 1996 | 29 | 35 |
| 38-40 17L 5600 30,450 @ 5 90 1986-1987 | 29 | 36 |
| 51PC 17L 5600 1990 | 29 | 37 |
| 56B 17L 5600 1991-1992 | 29 | 38 |
| N30F 5750 19L #2153 1993 | 29 | 39 |
| 32B 17L 5750 1989 | 29 | 40 |
| 34-35SD 17L 5750 MCF 44,921 @ 3 30 1984-1987 | 29 | 41 |
| 34-35SA 17L 5750 1986-1987 | 29 | 42 |

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| 39-41SC 17L 5750 1989 | 29 | 43 |
| 5600/5750 39-41C 17L 1992 | 29 | 44 |
| 43C 17L 5600/5750 1991 | 29 | 45 |
| Bulk Mining-Cable Bolting Miscellaneous Files 6/3/1981 | 29 | 46 |
| 52-53A 21L 3750 North End (Additional) 1983 | 30 | 1 |
| 5750 N55B Cable Bolts 3/19/1992 | 30 | 2 |
| 32CD 17L 5900 VCR 29,000 @ 4 10 1985 | 30 | 3 |
| 36-37SC 17L 5900 1988 | 30 | 4 |
| 54-56B 17L 5900 1989 | 30 | 5 |
| 55A 5900 19L 1984, 1990 | 30 | 6 |
| N56A 5600 Off 5450 Sill 2/9/1996 | 30 | 7 |
| Cage NE 7700 1990 | 30 | 8 |
| SW Cage 7850 1987-1990 | 30 | 9 |
| Cage SE 7100 1989-1990 | 30 | 10 |

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| N Skip NE Cor. 7250 1987-1990 | 30 | 11 |
| N11B ML 7400 East & West Panel Upholes Top #5947 Elev. 2040 to 2037 2000 | 30 | 12 |
| N11B ML 7400 "West" Panel ID 5946 Elev. 2095 2000 | 30 | 13 |
| N11B ML Bottom "East" Panel 7400 Est. #5947 Elev. 2095 2000 | 30 | 14 |
| N4B 15L 7700 Uphole Est. #2864 Elev. 2436 2/2000 | 30 | 15 |
| N8A 15L (Uphole) #2432 2085 Elev. 1/1999 | 30 | 16 |
| N8B 15L 7550 Panel 3 Uphole ID #2428 Elev. 2333 5/9/2000 | 30 | 17 |
| N17B 15L 6050 Est. 2453 South Panel Uphole 7/1999 | 30 | 18 |
| N17B 15L 6050 Upper Panel Uphole #2453 688 Elevation 10/1999 | 30 | 19 |
| 13A P2 TS 15L 6200 1/1997 | 30 | 20 |
| 14A 1401 15L 6200 11/13/1997 | 30 | 21 |
| 14A BTM 6200 15L 1996-1997 | 30 | 22 |
| 16A 15L 6200 1996-1997 | 30 | 23 |

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| 6200 15L 17B 45 1997 | 30 | 24 |
| 17B 6200 15L 6/1997 | 30 | 25 |
| 17B Bench 6200 15L 6/24/1997 | 30 | 26 |
| 17B 15L 6200 1997 | 30 | 27 |
| 19A VCR 6200 15L 1997-1998 | 30 | 28 |
| 14A 13AP1 13AP2 6350 9/1995 | 30 | 29 |
| 13A P1 15L 6350 11/1997 | 30 | 30 |
| 13A P2 6350 15L 10/1997 | 30 | 31 |
| 14A Uphole 15L 6350 9/1997 | 30 | 32 |
| 14A P3 15L 6350 8/1996 | 30 | 33 |
| 10A 15L 6500 12/11/1997 | 30 | 34 |
| 8A 15L 7400 3/25/1997 | 30 | 35 |
| 10A 15L 7400 1996 | 30 | 36 |
| 12 AP1 Bench 15L 7400 1997 | 30 | 37 |

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| 12A P1 (2 Stopes) 15L 7400 1997 | 30 | 38 |
| 12B 15L 7400 45* & Bottom 1997 | 30 | 39 |
| 15A P1 15L 7400 Beat 42 VCR 6" Holes 8/26/1997 | 30 | 40 |
| 15A P2 Bench 7400 Beat 42 15L 6" Holes 8/1997 | 30 | 41 |
| 8A Take up BTM 7550 11/1997 | 30 | 42 |
| 8A Bench 15L 7550 1997-1998 | 30 | 43 |
| 12A P2 B1S 15L 7550 1996-1997 | 30 | 44 |
| 12A P2 TS 15L 7550 1996-1997 | 30 | 45 |
| N15A 15L 7250 South Panel ID #4002 Elev. 1880 8/18/2000 | 31 | 1 |
| N15A 15L 7250 North Panel ID 4002 Elev. 1855 2000 | 31 | 2 |
| N15A 15L 7250 Subsill 3 "UPH" ID 4002 Elev. 1752 11/2000 | 31 | 3 |
| N15A 15L 7250 Sub 2 Uphole ID #4002 Elev. 1823 12/4/2000 | 31 | 4 |
| N12A 15L 7400 Uphole Est. #2467 1/2000 | 31 | 5 |
| 15A 7400 15L (Estimate #2452) Cable Bolt Pattern 8/23/1995 | 31 | 6 |

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| 6A Bench 15 Ledge 7700 Level 10/1997 | 31 | 7 |
| 7AA Bench 2 1/2" Holes 7700 15 L 1997 | 31 | 8 |
| 45-46AB 21L 6840 Ringdrills & Slot (Subsill) 1985-1987 | 31 | 9 |
| 45-46AB 21L 6800 VCR Panel 2 1983-1996 | 31 | 10 |
| 45-46AB Panel 2 Ringdrills 6800 Level 4/1984 | 31 | 11 |
| 6840 Cables 44S Setions #2382 12/29/1997 | 31 | 12 |
| #199 N45-46B 6840 21L 5/3/1995 | 31 | 13 |
| 6840 Panel 0 #2382 N45-46B 21L 6950 7/1998 | 31 | 14 |
| 6840 Panel 2W 21L ID 2382 1/25/1999 | 31 | 15 |
| Panel 2E 21L 6840 Uphole Stope #2382 Elev. 1545 8/1999 | 31 | 16 |
| 6840 Panel 3W 21L Est. 2382 9/1999 | 31 | 17 |
| Pan 4W N44-46C 21L 6840 ID #2382 Uphole Elev. 1568 2000 | 31 | 18 |
| Panel 7W South End 6840 N44-46C 21L 6840 Est. #2382 Elev. 1537.83 11/2000 | 31 | 19 |

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| N44-46C 21L 6840 Pan 7 West North #2382 Elev. 1560 2000-2001 | 31 | 20 |
| 49-51 WB 6950 Cable Bolts 5/8/1992 | 31 | 21 |
| N14B 19L 6800 Uphole Elev. 1490 #0165 1/2000 | 31 | 22 |
| N14B 19L 6950 Uphole ID #1594 Elev. 1620 3/22/2000 | 31 | 23 |
| N35E L 6800 Uphole Est. #0514 Elev. 1515 2000-2001 | 31 | 24 |
| N25A 21L 6950 Uphole 1992-1994 | 31 | 25 |
| N25WA 19L 6950 Uphole ID #4502 1588 Elev. 10/27/2000 | 31 | 26 |
| N25AN 19L 7100 Sill (North Panel) Uphole Est. #2359 Elev. 1809 10/11/2000 | 31 | 27 |
| N26B 19L 6950 Bench #1601 1996-1997 | 31 | 28 |
| N26B 19L 6950 Uphole ID #1601 1996 | 31 | 29 |
| N25A 19L 6950 Uphole ID #1600 6/14/1996 | 31 | 30 |
| 6950 N27EA #1603 8/15/1996 | 31 | 31 |
| 6950 19L N28A Cables 1996 | 31 | 32 |

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| N28A 19L 6950 Uphole #1604 1997 | 31 | 33 |
| 6950 N28A #1604 S. Uphole 1996 | 31 | 34 |
| N28WA 19L 6950 Uphole #1604 Elev. 1632 1996-1998 | 31 | 35 |
| N34A 17L 7100 Uphole Est. #6075 Elev. 1731 2000-2001 | 31 | 36 |
| N34E 17L 6950 Uphole ID #1579 Elev. 1620 2000-2001 | 31 | 37 |
| N34E 17L 6950 Uphole #1579 Elev. 1570 11/1999 | 31 | 38 |
| N35E 17L 6950 Uphole Estimate #1579 1997, 2000 | 31 | 39 |
| 35D 17L 6950 Uphole (Panel 4) #1580 Elev. 1580 12/1998 | 31 | 40 |
| 35D 17L 6950 Panel 3 Uphole #1523 Elev. #1580 8/1998 | 31 | 41 |
| N35D 17L 6950 "Panel 2" Uphole #1580 1998 | 31 | 42 |
| N35D 17L 6950 Panel 1 Uphole Est .#1580 1/12/1998 | 31 | 43 |
| N35D 21L 6950 Bench from 6950 Sill to Midsill Cables and Uphole #1580 1996-1997 | 31 | 44 |
| N35D 17L 7100 Bottom Uphole North Estimate #1631 1709 Elev. 2000 | 31 | 45 |

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| N35D 17L 6950 Uphole "Top" Estimate #1631 Elev. 1623 2000-2001 | 31 | 46 |
| N42-43B 21L 6950 North Panel 7 Shaft "Y" Elev. 1660 ID #4390 2000 | 31 | 47 |
| N35D 17L 7100 Bottom South Panel Estimate #1631 1709 Elev. 2000-2001 | 32 | 1 |
| Bench from 6950 Sill- So. Of 35XC to Mid Sill, #1580 N35D 17L 6950 Uphole 7/1996 | 32 | 2 |
| N35D 17L 6950 Bench from Upper Sill to 6800 Sill Uphole #1580 1995, 1998 | 32 | 3 |
| N40D 17L 6950 Uphole 1995-1996 | 32 | 4 |
| N41B Cables (6950) 1995 | 32 | 5 |
| NE Pan 2 41B-21L 6950 Uphole Est. #1615 Elev. 1582 10/18/1999 | 32 | 6 |
| N41B 21L 6950 NW Panel 1 & 2 ID #1615 Elev. 1550 2000 | 32 | 7 |
| NE 41B 21L 6950 #1615 1591 Elev. 2/16/1999 | 32 | 8 |
| N41B 19L 6950 NW Panels # & 4 ID #1615 Elev. 1569 2000-2001 | 32 | 9 |
| N40B 17L 6950 Uphole 1994-1995 | 32 | 10 |
| N41B 21L 6950 Bench ID #1615 1/1996 | 32 | 11 |

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| 6950 N44B West Panel #1622 1/1998 | 32 | 12 |
| 6950 43EA #1621 1996 | 32 | 13 |
| N44C 21L 6950 South Uphole Panel #1623 1994, 1997 | 32 | 14 |
| N44B 21L 6950 Uphole #ID 1622 8/1997 | 32 | 15 |
| N45D 17L 6950 Bench #1591 1996-1997 | 32 | 16 |
| N45TD 17L 6950 Uphole 1619 Elev. Est. 1591 1997 | 32 | 17 |
| N45TD 17L 6950 Uphole ID #1591 6/10/1997 | 32 | 18 |
| N44C 21L 6950 Uphole North Panel ID #1623 1994-1998 | 32 | 19 |
| N48-49B 21L 6950 1995 | 32 | 20 |
| N50-52B 21L 6950 1995 | 32 | 21 |
| N50A 21L 6950 #1629 Uphole 7/1997 | 32 | 22 |
| 50SA 21L 6950 VCR 1993-1994 | 32 | 23 |
| 50-52B 21L 6950 So. Panel ID 1630 1998 | 32 | 24 |
| N50-52B 21L 6950 Uphole Estimate #1630 1995-1998 | 32 | 25 |

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| 6950 N35XCut Cables 7/3/1996 | 32 | 26 |
| N20AN #1597 7100 19L Bench 1997 | 32 | 27 |
| 22AM Uphole BK 1600 to 1560 6950 1996 | 32 | 28 |
| N25AN 21L 7100 Uphole ID #2359 Elev. 1788 2000-2001 | 32 | 29 |
| N27A 19L 7100 VCR 12/1992 | 32 | 30 |
| N27A 19L 7100 Uphole ID 1650 1996 | 32 | 31 |
| N28A 19L 7100 Panel Bench 10/1995 | 32 | 32 |
| 28A 19L 7100 P2 #1604 9/1995 | 32 | 33 |
| N28A 19L 7100 Panel 1 Bench 5/1995 | 32 | 34 |
| N35DE 17L 7100 Uphole #1632 12/12/1997 | 32 | 35 |
| N35E 17L 7100 Uphole ID #1632 Elev. 1710' 5/2000 | 32 | 36 |
| N35E 17L 7100 Bench Est. #1632 Elevation 1756 8/1999 | 33 | 1 |
| N36BC 21L 7100 Bottom Uphole Est. #1652 Elev. 1771 2000-2001 | 33 | 2 |
| N36BC 21L 7100 Bench #1656 6/20/1997 | 33 | 3 |

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| N36BC #1656 7100 21L Uphole 12/1996 | 33 | 4 |
| N36BC 21L 7100 UPH "Top Panel & Cables" Elev. 1725 ID #1652 5/2000 | 33 | 5 |
| 35D (Midsill) 17L 7100 VCR 1993 | 33 | 6 |
| 38-39B 21L 7100 VCR 1993 | 33 | 7 |
| 40D 21L 7100 Uphole 2/24/1994 | 33 | 8 |
| N42-43C 21L 7100 Panels 4 & 5 Est. #1662 Elev. 1818 2000-2001 | 33 | 9 |
| N42-43 "C" 21L 7250 Uphole Est. #4388 Elev. 1884 2000-2001 | 33 | 10 |
| N42-43C 21L 7250 "Panel 3" Uphole Est. #4388 Elev. 1966 2000-2001 | 33 | 11 |
| 7100 Storage Area Cable Bolts 1/16/1998 | 33 | 12 |
| 6950-7100 Ramp Cables 3/25/1997 | 33 | 13 |
| 7100 35D VCR Topsill on 6950 Sill 1992 | 33 | 14 |
| N49-51 WB 21L 6950 Panel 1 1992 | 33 | 15 |
| 44-45 SC 21L 7100 6/1991 | 33 | 16 |

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| 40SC 21L 6950 1991 | 33 | 17 |
| 41-42D 17L 6950 1985 | 33 | 18 |
| 48-50S AB 21L 6950 1990 | 33 | 19 |
| 49-51SWB 21L 6950 VCR Panel 1 1990 | 33 | 20 |
| 26-27SA 19L 6950 VCR 1986 | 33 | 21 |
| 40-42SC 21L 6950 Level Cable Bolts 1985-1987 | 33 | 22 |
| 37-38SC and 38-39C 21L 7100 Level Cable Bolts 7/7/1986 | 33 | 23 |
| 38-40SC 21L 7100 VCR 5/1/1989 | 33 | 24 |
| 45-47AB 21 Ledge 7100 Cable Bolting Panel #1 & 2 1982 | 33 | 25 |
| 45-47AB 21 Ledge 7100 VCR Holes Panel #1 1980-1983 | 33 | 26 |
| 45-47AB 21L 7100 Rings & Slot Drilling 1981-1982 | 33 | 27 |
| 45-47AB 21L 7100 Panel 2 1985 | 33 | 28 |
| 7100 21L 45-47AB Cable Bolts- Sill Pillar 1/18/1982 | 33 | 29 |
| 48-51AB 21L 7100 Panel 4 VCR 1982-1986 | 33 | 30 |

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| 48-51AB 21L 7100 VCR Panel 2 4/8/1986 | 33 | 31 |
| 48-51AB 7100 1983 | 33 | 32 |
| 48-51AB 21 Ledge 7100 VCR 1983 | 33 | 33 |
| Break-Raise 48-51AB Panel #1 1984 | 33 | 34 |
| 48-51AB 21L 7100 Panel #3 1984 | 33 | 35 |
| 48-51AB 21L 7100 Panel #3 1982 | 33 | 36 |
| 48-51AB 21L 7100 Panel 2, Rings & Cables 1986 | 33 | 37 |
| 48-51AB 21L 7100 Cable Bolt 1983 | 33 | 38 |
| 48-51AB 21L 7100 Panel 4, Cable Bolts 10/3/1985 | 33 | 39 |
| 37-38SC 21L 7250 (Panel 3) 1987 | 34 | 1 |
| 48-51AB 21 Ledge 7100 Panel #1 Ring Drilling 1980-1982 | 34 | 2 |
| 40-42SC 21L 7100 Panel 1 1986 | 34 | 3 |
| 40-42SC 21L 7100 Panel 2 VCR 3/17/1987 | 34 | 4 |
| 48-51AB 21L 7100 Cable Bolts Panel 2 2/10/1986 | 34 | 5 |

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| 40-42SC 21L 7100 Panel 3 Ring Drills 2/19/1985 | 34 | 6 |
| 40-42C 21L 7100 Panel 3 VCR 8/26/1985 | 34 | 7 |
| Cross Sections of Back Height 1984 | 34 | 8 |
| 37SC 21L 7250 4/1/1987 | 34 | 9 |
| 39-40SC 21L 7250 VCR 1989-1990 | 34 | 10 |
| 32-33C 21L 7250 VCR 1991-1992 | 34 | 11 |
| 33-34C 21L 7250 VCR 7/21/1989 | 34 | 12 |
| 33-34D 17L 7250 Cable Bolts 7/1/1987 | 34 | 13 |
| 34-36D 17L 7250 VCR 1988-1989 | 34 | 14 |
| 35SC 21L 7250 1990 | 34 | 15 |
| 7250/7400 N 33-34E 17L Topsill 50' Above the 7250 1992 | 34 | 16 |
| 38-39SC 21L 7275 Cable Bolts 3/12/1987 | 34 | 17 |
| 33-34D 21L 7400 VCR Holes 1987 | 34 | 18 |
| 7700 32-33E VCR Cable Bolts 1991-1992 | 34 | 19 |

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| 7700/7850 32E VCR 21L 1992 | 34 | 20 |
| 33C 21L 7700 VCR 1990-1991 | 34 | 21 |
| 52 Bypass 7700 5/1986 | 34 | 22 |
| 33-37 17L 6500 1980, 1985 | 34 | 23 |
| N16A S19L 6350 Uphole Est. #2317 Elev. 1052 1999 | 34 | 24 |
| N47B 17L 6350 VCR 1993 | 34 | 25 |
| N35DD 17L 6200 VCR N/A | 34 | 26 |
| 23-26 19L 6050 7/1992 | 34 | 27 |
| N43-44D 17L 6350 1993 | 34 | 28 |
| 34-36D 17L 6050 1992 | 34 | 29 |
| N27F 19L 6200 1997 | 34 | 30 |
| 48-51AB 21L 7100 VCR Panel 2 4/8/1986 | 34 | 31 |
| 48-51AB 7100 1983 | 34 | 32 |
| 48-51AB 21 Ledge 7100 VCR 1983 | 34 | 33 |

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| 48-51AB 21L 7100 Panel #3 1984 | 34 | 35 |
| 48-51AB 21L 7100 Panel #3 1982 | 34 | 36 |
| 48-51AB 21L 7100 Panel 2, Rings & Cables 1986 | 34 | 37 |
| 48-51AB 21L 7100 Cable Bolt 1983 | 34 | 38 |
| 48-51AB 21L 7100 Panel 4, Cable Bolts 10/3/1985 | 34 | 39 |
| 50-53B 21L 6050 North Panel 1984 | 35 | 1 |
| 39-43SB 17L 6050 Panel 1 1985 | 35 | 2 |
| 27-28F 19L 6050 1990 | 35 | 3 |
| 50-53B 21L 6050 Panels 1 and 2 1986 | 35 | 4 |
| 6050 Level 19 Ledge 34-35SB N/A | 35 | 5 |
| 34-36D 19L 6050 VCR Panel 1 1989 | 35 | 6 |
| 41-43B 17L 6350 VCR Holes Panel 2 1986-1987 | 35 | 7 |
| N47A UPH 6050 #31 1995-1996 | 35 | 8 |

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| 29-30SF 19L 6050 Ring Drills 1984-1985 | 35 | 9 |
| 23-25SF 19L 6200 6/8/1987 | 35 | 10 |
| 29-30F 19L 6050 VCR Panel 3 1988 | 35 | 11 |
| 29-30F 19L 6050 Panel 1 VCR 1989 | 35 | 12 |
| 23-25F 19L 3200 1987 | 35 | 13 |
| Cable Bolting Layout 6200 to 6350 27F 19 Ledge 4/3/1980 | 35 | 14 |
| 39-43SB 6050 17L VCR 164,550@ 5 65 1985 | 35 | 15 |
| 39-43B 17L 6050 Panels 4 & 5 VCR 2/25/1984 | 35 | 16 |
| 39-43B 17L 6050 Panel 3 2/13/1986 | 35 | 17 |
| 39-43B 17L 6050 Panel 3 4/16/1986 | 35 | 18 |
| VCR 39-43B 17L 6050 Panel 2 1983 | 35 | 19 |
| 41-42B 19L 6050 Panel 1 1980 | 35 | 20 |
| 34-35SA 19L 6200 10/12/1979 | 35 | 21 |
| 34-35A 19L 6200 1980 | 35 | 22 |

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| N52B 21L 6200 Uphole (on 6200) #0045 3/1999 | 35 | 23 |
| 52SA 21L 6350 4/1993 | 35 | 24 |
| N52A 21L 6350 Bench Down Elev. 914 #0076 11/1998 | 35 | 25 |
| 6350 43-44D 19L Uphole 1994-1995 | 35 | 26 |
| N43-45B 17 6350 Uphole Elev. 1001 ID #0043 8/2000 | 35 | 27 |
| N52 21L 6200 #0076 Elev. 914 6/23/1999 | 35 | 28 |
| 27F 19L 6200 VCR Stp 1980 | 35 | 29 |
| 28-29F 19L 6350 Panel 1 1985 | 35 | 30 |
| 28-29F 19L 6350 1984 | 35 | 31 |
| 28-29F 19L 6350 VCR Panel 2 9/3/1985 | 35 | 32 |
| 28-29SF 6350 19L VCR 72,000@ 4 00 1985 | 35 | 33 |
| 28-29F 19L 6350 Panel 2 Cable Bolts 1985 | 35 | 34 |
| 27F 19L 6350 VCR Stp Blasting & Drilling Diagrams 1980 | 35 | 35 |
| 41-43B 17L 6200 Level Cable Bolts 4/16/1987 | 35 | 36 |

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| 6350 47A Uphole 19L 1996 | 35 | 37 |
| 49-51 6350 19L Cable Bolt Layout 1980 | 35 | 38 |
| 29-30SF 19L 6050 Panel 2 10/18/1985 | 35 | 39 |
| 33-37D 17L 6350 Panel 1 2/9/1986 | 35 | 40 |
| 33-37D 17L 6250 Panel 2 1988 | 35 | 41 |
| 33-37D 17L 6350 Panel 3 1990 | 35 | 42 |
| N30B 19L 6350 Upper Sill Uphole ID #0066 Elev. 1029 2000-2001 | 35 | 43 |
| Bulk Mining-Cable Bolting Miscellaneous 1985, 1993 | 35 | 44 |
| 41-43B 17L 6350 6/14/1990 | 36 | 1 |
| 14B 19L 6350 #2312 Cable Bolts Elev. 1146 8/4/1998 | 36 | 2 |
| N14B 21L 6350 Uphole ID #5951 Elev. 1040 11/1999 | 36 | 3 |
| 33-37D 17L 6350 Panel 4 1988 | 36 | 4 |
| 33-37D 17L 6350 Panel 5 12/1988 | 36 | 5 |
| 33-37D 17L 6350 Panel 6 1991-1992 | 36 | 6 |

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| 33-37D 17L 6350 VCR Panel 7 1989 | 36 | 7 |
| 33-35C 19L 6500 Cable Bolt Diagrams 1980-1983 | 36 | 8 |
| 41-43B 17L 6350 Level Cable Bolts 1984 | 36 | 9 |
| Cable Bolting 33-37D 17L 6350 1985 | 36 | 10 |
| 43-44D 17L 6350 3/1995 | 36 | 11 |
| 6500 Motor Barn 1994 | 36 | 12 |
| 49-51B 21L 6500 Panel 3 Ring Drill 1982-1983 | 36 | 13 |
| N50-51WB 6350 21L #2670 1998 | 36 | 14 |
| 51B Cable Bolting 6650 1981 | 36 | 15 |
| 41B 17L 6500 Cable Bolting Layout N/A | 36 | 16 |
| N14B 19L 6500 Panels EWM Est. 2312 Uphole Elev. 1108 2000 | 36 | 17 |
| 49-51AB 21L 6500 Panel 4 Ring Drills 1986 | 36 | 18 |
| 53WB 19L 6500 Cable Bolts 7/27/1984 | 36 | 19 |
| 47-48SA 21L 6500 Panel 2 4/1992 | 36 | 20 |

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| 39A 6650 Uphole Stope 1993-1994 | 36 | 21 |
| 41-42A 21L 6800 10/1/1993 | 36 | 22 |
| 49-51SB 21L 6500 Cable Bolts 1986-1992 | 36 | 23 |
| 49-51AB 21L 6500 Panel 4 1986 | 36 | 24 |
| 49-51B 21L 6500 Panel 3 VCR 1981-1982 | 36 | 25 |
| 49-51B 6350 (6500) 19L Ring Drill 50' Sill Layouts Panel 1 1980-1981 | 36 | 26 |
| 6500 53A Cable Bolt Layout 2/1994 | 36 | 27 |
| 49-51B 21L 6500 VCR 1981-1982 | 36 | 28 |
| 49-51AB 21L 6500 Panel 2, Ring Drills & VCR Drilling 1988 | 36 | 29 |
| 6500 Motor Barn Cables 8/17/1994 | 36 | 30 |
| 45A 21L 6650 Cables 8/31/1994 | 36 | 31 |
| 47-48SA 21L 6500 Panel 1 1990 | 36 | 32 |
| 48-53AB 21L 6050 Cable Bolting 1987-1989 | 36 | 33 |
| 38-39EA & WA Cables 1993 | 36 | 34 |

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| N14B 19L 6650 Cable Bolts & Uphole #0122 1999-2000 | 36 | 35 |
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