

# **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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<b>Repository</b>	Homestake Adams Research and Cultural Center
<b>Creator</b>	Homestake Mining Company
<b>Title</b>	Homestake Mine Engineer Files
<b>Date [bulk]</b>	Bulk, 1970-1998
<b>Date [inclusive]</b>	1900s
<b>Extent</b>	52.5 Linear feet - 42 regular boxes
<b>Language</b>	English
<b>Abstract</b>	<p>The Mine Engineer Files consist of records created by the engineering department at the Homestake Mine. The mine operated from 1877 through 2001. During that time, the Engineering Department was responsible for determining the areas and levels of material extraction. In order to make such determinations, the engineers created a series of records that include maps, diagrams, correspondence, charts, and other related materials. They are organized according to the system imposed by the mine, which includes separation by divisions and major categories, including: Underground Production, Engineering Miscellaneous, and Bulk Mining-Cable Bolting.</p>

## Biographical/Historical

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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.

The mine's Engineering Department was responsible for monitoring the extraction of materials from the mine. The majority of records from this collection were created in the 1970s, 80s, and 90s; however, there are varying records that date to the early 1900s. They include maps and diagrams at a variety of levels and sections of the mine. The collection includes related materials including mining contests and community relationships in regards to its operations.

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## Scope and Contents

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The materials in this collection consist of 42 regular boxes and approximately four oversized maps. The materials are a collection of maps, diagrams, charts, budgets, development schedules, and other documents pertaining to the physical operation of the mine. The Engineering Department was responsible for determining the extent of mining operations in each section of the mine.

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## Arrangement

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The materials in this collection remain in the original order taken from the Homestake Mine in 2005. They were originally housed in several filing cabinets and were removed and boxed directly from them. The original filing system is as follows:

**BOX 1: Series I: Underground Production Areas**

- Division 4: Miscellaneous
- Division 4: Stope Maps
- Division 4: Budget
- Division 4: Miscellaneous

**BOX 2: Series I: Underground Production Areas**

- Division 4: Miscellaneous
- Division 4: Stope Maps
- Division 4: Mining Plans
- Division 4: Culvert Information
- Division 4: 4 Winze Deepening
- Division 4: 4 Winze Skip Pocket

**BOXES 3 and 4: Series I: Underground Production Areas**

- Division 3: Miscellaneous
- Division 3: Stope Folders
- Division 3: Service Holes
- Division 3: Sand Holes
- Division 3: Drain Holes
- Division 3: Life of Mine Study
- Division 3: Budget

**BOX 5: Series I: Underground Production Areas**

- Division 3: Miscellaneous

**BOXES 6 and 7: Series I: Underground Production Areas**

- Division 5: Engineering Plans
- Division 5: Equipment
- Division 5: Life of Mine Study

**BOXES 8 and 9: Series I: Underground Production Areas**

- Division 5: Stope Plans
- Division 5: Life of Mine Study, 1990-1993
- Division 5: Budgets, 1989-1994
- Division 5: Development
- Division 5: Shaft Sumps
- Division 5: 8000 Sump

**BOXES 10 and 11: Series I: Underground Production Areas**

-Division 5 (LMU 26, 36): 6950-8000 Level

-Division 4: 5300-5750, East Ledges

**BOXES 12 and 13: Series I: Underground Production Areas**

-Division 2: 1550-4250 Level

-Shutdown Areas

**BOXES 14 and 15: Series I: Underground Production Areas**

-Division 5 (LMU 26, 36): 6950-8000 Level

-Division 4: Shutdown Areas

-Contract Closes 1995

**BOXES 16 and 17: Series II: Engineering Miscellaneous**

-Division 2 Archive: Beat 21: 50 Scale, Maps/Production Maps, Long Sections

-Division 2 Archive: Beat 22: 50 Scale, Maps/Production Maps, Long Sections

-Division 2 Archive: 1985 Budget, 1983-1984 Forecast

-Division 2 Archive: 1983-1984 Reconciliation Reports

-Division 2 Archive: Borehole Cutouts

-Division 2 Archive: Power Cable Holes

-Division 2 Archive: Sand Study

-Division 2 Archive: Yates Ore Pass System, 1550-2300 Levels

-Division 2 Archive: Geology Notes

-Division 2: Engineer Plan Maps

-Geology Plan Maps (Originals)

**BOXES 18 and 19: Series II: Engineering Miscellaneous**

-4th of July Information

-IRAD Cage

-Geokon

-USBM Overcore Project

-Rock Mechanics

-7100 Extensometers

-Extensometer Readout

-Grizzlies

-Terrametrics

-Intake Spring Capture Report

-Hangy Diamond Drill RE

-Perimeter Blasting

-Timberline Study

-Cable Bolts:

-Division 3: 5450-5750 Level

-Division 1: 6050-6500 Level

-Division 2: 2150-4250 Level

**BOX 20:** Series II: Engineering Miscellaneous

-Beat 23: 50 Scale Maps

-Beat 23: Production Maps

**BOXES 21, 22, and 23:** Series III: Bulk Mining-Cable Bolting

-Division 1: 6200-6800 Level

-Division 1: 1850-2600 Level

**BOXES 24 and 25:** Series III: Bulk Mining-Cable Bolting

-Division 5 (LMU 26, 36): 7250-8000 Level

**BOXES 26, 27, and 28:** Series III: Bulk Mining-Cable Bolting

-Division 2 (LMU 38, 28, 18): 1400-4400 Level

-Division 3: 4400-5900 Level

-Ross Shaft Survey

**BOXES 29 and 30:** Series III: Bulk Mining-Cable Bolting

-Division 3: 4400-5900 Level

-Ross Shaft Survey

-Division 4 (LMU 24): 6050-7700 Level 15 Ledge

-Division 4 (LMU 34): 7400 Level, Main Ledge

**BOXES 31, 32, and 33:** Series III: Bulk Mining-Cable Bolting

-Division 5 (LMU 26): 6840-7100 Level

-Division 5 (LMU 26, 36): 6950-7400 Level

**BOXES 34, 35, and 36:** Series III: Bulk Mining-Cable Bolting

-Division 1: 6050-6800 Level

**BOXES 37 and 38:** Series III: Bulk Mining-Cable Bolting

-Division 2: 1700-4250 Level

**BOXES 39, 40, and 41:** Series III: Bulk Mining-Cable Bolting

-Division 3: 4100-5900 Level

-Division 4: 5000-6800 Level, East Ledges

**BOX 42:** Series III: Bulk Mining-Cable Bolting

-Division 4: 5000-6800 Level, East Ledges

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## Administrative Information

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### Publication Information

Homestake Adams Research and Cultural Center January 10, 2014

### 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.



## Underground Production Areas

## Collection Inventory

<b>Series I: Underground Production Areas</b>		
	<b>Box</b>	<b>Folder</b>
PR- 123 Holes, 300.3 1984-1987	1	1
41-42 PA, 11L, 5000 1984	1	2
45 SDF, 11L, 5000 5/13/1983	1	3
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
40 SF, 11L, 5000 1983-1984	1	9
89 SW, ML, 5750	1	10
67-68 SB, 11L, 6500 1981-1983	1	11

## Underground Production Areas

36-38 SF, 9L, 5000 N/A	1	12
70-72 PD, 9L, 6050 Bottom Cut, 202.3 1984-1985	1	13
83-84 SH, 9L, 6500 Crown Est. Bottom Cut, 202.4 10/29/1985	1	14
60-61 CP, 13L, 6500, 200.4 1985-1986	1	15
56-57 SEB, 13L, 6350 1983-1985	1	16
Division 4, Stope Elevations 1966-1977	1	17
Division 4, Stope Elevations (Continued) 1972-1977	1	18
49-53 SC, 11L, 5450, 200.2 1983-1986	1	19
Division 4, General 1985-1987	1	20
1980 Programming & Budget, 1987 1985-1987	1	21
Programming Notes, 100.1 1985-1988	1	22
Division 4 Reg, 100.4 1987	1	23
Budgeting Notes & Manpower, 100.2 1984-1985	1	24
Memos General Div. 4, 100.6 1979-1987	1	25

## Underground Production Areas

Lead Cost System (L.C.S.), 100.7 1983-1988	1	26
Division 4, Mining Costs, Monthly & Y.T.D., 100.9 1983-1988	1	27
Mine Wide Manpower, 100.10 1986	1	28
Small Block Layouts less than 50,000 Tons, 201.6 1986	1	29
OCF Guidelines and (Stopes to Start & Sill Cuts), 202.1 1984-1985	1	30
Level & Subsill Development, 300.4 1983-1986	1	31
5600 Level- 39 PC- 13L 1978, 1987	1	32
Drifting Subsill (Development) 1984-1986	1	33
Winze 4, Deepening & General Maint., 400.2 1981-1986	1	34
Division 4 Projects, (400: Projects) Suggestions, 400.1 1985-1987	1	35
Foster Miller, Mini Mucker, 400.3 1984-1985	1	36
Drainage and Sumps, 400.5 10/12/1984	1	37
Bulk Backfill, Sandlings & Walls, 400.6 1986-1987	1	38
New Mining Method 1985-1986	1	39

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Product Info & Articles 1983	1	41
Requirements: Production Tons vs. Ventilation 1983-1984	1	42
Mock Emergency Drills, 500.7 1987	1	43
Bulk Mining Samples 1982	1	44
In-Mine Exploration 1982	1	45
Stope Section Finish Comparison 1983-1988	1	46
Stope Section Finish Comparison (Continued) 1982-1985	1	47
Grants Equipment Transfer 1985	1	48
#4 Winze Deepening Ventilation 4/13/1989	1	49
4 Winze Redesign Work 1987-1989	1	50
4 Winze Deepening, 6800/7550 1986-1988	2	1
Homestake Memos on 4W 1981-1984	2	2
Contract- GIB System 1988	2	3

## Underground Production Areas

1990 Budget 1989-1990	2	4
VCR Schedule 1990-1991	2	5
1991 1st Quarter Forecast 1990-1991	2	6
Abandoned Levels 5/2/1991	2	7
Contingency Stopes N/A	2	8
Stope Scheduling 1991	2	9
1991 Budget Figures 1990-1991	2	10
Forecasts/Contingency 1991	2	11
ML Ramp System, 200.6 1985-1986	2	12
11L Ramp System, 200.7 1985-1986	2	13
83-84H- 9L- 6500 (Top Sill- South End) 1983	2	14
82-84 SH, 9L, 6500, 201.5 1982-1986	2	15
(Includes 57-58 sc) 56-57 SC, 13L, 6200, 201.4	2	16
60-61 SF 11L, 6050 1981	2	17

## Underground Production Areas

47 SD, 13 L, 6050 1983-1984	2	18
58 PF, 11L, 5600 1983	2	19
57 PE, 13L, 6200 1983-1984	2	20
Stope Section Finish Comparison 1982-1990	2	21
3rd Quart. 1991 Forecasts 1990-1991	2	22
93-95 and 97-99 PE, ML, 6800, 200.3 1979-1986	2	23
13 Ramp System, 200.5 1981-1986	2	24
Geologist's Notes, 100.8 1987-1990	2	25
Miscellaneous 1987-1989	2	26
Life of Mine Study 1988	2	27
Sections X 1989	2	28
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6650- 4 Winze- Dump Changes 1987-1989	2	30
Division 4 Contingency, 1985 1985	2	31

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Back Samples N/A	2	33
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4850 Yates Vent. Drift 1988	2	35
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Extra Crew Plan Maps 1989-1990	2	37
432 Reports 1989-1990	2	38
LOM- 1990 Originals 1990-1996	2	39
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9 ft. Culvert 1976-1980	2	41
HMC Culvert Drawings 1983-1988	2	42
12 ft. - 15 ft. Culvert 1980	2	43
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5 ft., 6 ft., 7 ft. Culvert 1973-1979	2	45

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5000 BH, 17L, North Drift, 5000-5300 1989-1990	2	46
40 stp Rock Pick, 5600/5450 Ramp 1986	2	47
Vibra King, Inc. Information 1989-1991	2	48
Miscellaneous Product Information 1990	2	49
5750, 29-30 Con. Raise 1990	2	50
Crew Performance 1989	2	51
Incline Bypass, Cable Bolting, 38-41, 4700 1990	2	52
32-34 D (Top sill), Cable Bolting, 5600 N/A	2	53
4700 Incline, 38-41 P4 Access 10/17/1990	2	54
Service Holes 1989-1991	3	1
Drain Holes- 17L, Power, Holes 1985-1987	3	2
Sand Holes 1989	3	3
Holes- 17L- 4100 1986-1987	3	4
Holes- 17L- 4250 1986, 1989	3	5



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Sand Holes, 17L 5000/5300 1983-1987	3	6
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
Geology Mine Notes, Div. 3 1989	3	11
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
Miscellaneous Survey 1976-1989	3	17
Miscellaneous Survey (Continued) 1976-1989	3	18
May Safety Talk, Belt Applications 1984-1989	3	19

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Various Devt. Schedules 1989	3	20
S.O.P. for ACAD N/A	3	21
Forecast vs. Budget vs. Actual N/A	3	22
Devt. VCR Act. Vs. Budget 1989	3	23
Budget Work for Original 1988 Budget 1988	3	24
Div. 3 Level Drifts 1988-1989	3	25
VCR, D.D., & B.H. Schedules 1989	3	26
Glenn Johnson 6/20/1988	3	27
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Budget Info. 1988-1989	3	29
4100- 17L- Air Doors 1979-1986	3	30
46-52 SC 17L, 4100 1987	3	31
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Old Stopes, 17, 19-21 1972-1977	3	33

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27-29F 9L, 4400, Stope Study 1983	3	36
39-40 SB 17L 2/11/1985	3	37
38-39 SB 17L, 4400 N/A	3	38
4400 Level, 9 Ledge, 27-29 SF 1967-1979	3	39
42-44 pB, 17L, 4400 1988-1989	3	40
4400/4700 Borehole & Breuk Raise & Drift 1986	3	41
4400 17 Ledge 4/10/1989	3	42
4400, 17L, D.D. Schedules, Drain Holes 1986	3	43
41-43 sB, 17L, 4550 1987-1988	3	44
4550- 15L- IME 12/1986	3	45
4550 17L, Drain Holes 1985	3	46
Ventilation rse, 17L, 4100/4550, 7' Diam. 1979, 1984	3	47

## Underground Production Areas

40-41 pB, 17L, 4550 VCR 1987-1988	3	48
40-41 sB, 17L, 4700 1984-1985	3	49
43 sA 17L, 4700 5/9/1988	3	50
39-40 sB 17L, 4700 N/A	3	51
40 SWB, 17L, 4700 1983-1987	3	52
4700-4550 Incline, 42-43B 4700 1982-1984	3	53
Rock Pick, 17L, 4700 1986	3	54
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
4850 1981-1982	3	58
4850 Level, 19 Ledge, 28-29 S D N/A	3	59
4850 Level, 19 Ledge, 34 S D N/A	3	60
29-41 pBD, 17L, 4850 1987-1988	3	61

## Underground Production Areas

39-41 PA, 11L 1987	3	62
17L, Waste 1988	3	63
38-39B, 17L, 4850 1984	3	64
Pit Drawing- Standard & Drain System 1981, 1986	3	65
4850 Layouts- North Drift, 17L 1987	3	66
38-39B 17L, 4850 N/A	3	67
39-40 SB, 17L, 4850, VCR 1986-1987	3	68
40-44SCD, 9L, 4850 MCF 1987-1988	3	69
4850, 9 Ledge, 42 S D N/A	3	70
43 Borehole, 17L, 4850 1984	3	71
Motor Barn, 17L, 4850 1984-1986	3	72
28 SD, 17L, 5000 1984-1985	3	73
5000 Level, 19 Ledge, 28 S D 1966-1967	3	74
38-39 SA- 5030 est. vs. Act. 1983-1984	3	75

## Underground Production Areas

5000 Ross Sump 4/21/1986	3	76
38 Pillar, Waste Raise 4700/5000 5/12/1986	3	77
37 SWB- 17L- 5000 VCR 1986	3	78
38 PB, 17L, Block #4, 5000-5030 1986	3	79
39 pB, 17L, 5000 1987-1989	3	80
38-39B, 17L, 5000 1980-1981	3	81
37-38B, 17L, 5150 N/A	3	82
37-39 SB, 17L, 5150 VCR 1984-1986	3	83
36 SBC, 17L, 5150 1985-1988	3	84
5150 Level Development, Holes, etc. 1985, 1989	3	85
5300 Level, 19 Ledge, 26 S F 1974	3	86
35-39 SB, 17L, 5300 VCR 1983, 1985	3	87
5300 17, 19, 21 Ledge 10/8/1990	3	88
35 SB, 17L, 5450 1984-1988	4	1

## Underground Production Areas

40-42 A 5450 1981	4	2
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
40-42 SC, 17L, 5450 1987-1988	4	8
32-34 S D, 17L, 5600 Bottom Sill Cut 1985-1988	4	9
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
38-42 C, 17L, 5600 "Ore Estimate" 1981-1982	4	13
5000 Level, 11 Ledge, 38-43 F 1979-1980	4	14
38-42 C, 17L, 5600 VCR Drill Reports 1983-1984	4	15

## Underground Production Areas

38-42 SC, 17L, 5600 VCR, N & S. Block 1984	4	16
5750 Level, 19 Ledge, 39-40 S C N/A	4	17
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
37-39 SD, 17L, 5900 OCF 1984-1985	4	23
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
54-56 PC, 19L, 5900 VCR- Sill out, Topsill 1986-1988	4	28
26-29 SF, 9L, 4250 BH 1983-1984	4	29



## Underground Production Areas

26-27 SF, 11L, 4400 1983-1986	4	30
64 PW, ML, 4400 1984-1985	4	31
32 SC, 9L, 4400 1984-1985	4	32
28-29 SB, 11L, 4400 1983-1984	4	33
24 SF, 11L, 4400, OCF Permanently Stopped 1983-1984	4	34
64 PW, ML, 4550, OCF Finished 1984	4	35
35-36 SC, 11L, 4700, Small VCR 1985	4	36
39 PB, 9L, 4700, Cable Bolts 1/7/1986	4	37
42 SA, 9L, 4700 1985	4	38
33 SH, 9L, 4700 1983-1984	4	39
35 EB, 9L, 4700 1/28/1985	4	40
42-44 SD, 9L, 4550, Blast Hole 1984-1985	4	41
35 SC, 11L, 4550 3/1986	4	42
41-42 SB, 9L, 4700 1984	4	43

**Underground Production Areas**

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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
21 PD, 11L, 4250 1986	4	52
28-29 SB, 11L, 4250 OCF 1984-1986	4	53
61-62 SW, ML, 4250 OCF 1984	4	54
30 SF, 9L, 4550 OCF 1984	4	55
30-31 SDF, 11L, 4550 OCF 1983-1984	4	56
35 SD, 9L, 4550 OCF Finished 1984	4	57

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37 DWF, 9L, 4550 1984-1985	4	58
Misc. Culvert Drawings 1969-1981	5	1
1996 Life of Mine, Beat 12 & 31, Beat 13 1995-1996	5	2
Division 3 Life of Mine Study Booklet 4/6/1990	5	Loose
CIM Operator's Conference 1991	5	Loose
CIM 10th Underground Operators Conference, Vald'or Quebec 2/24/1991	5	Loose
Division 3 Files, Miscellaneous 1985-1987	5	3
Division 3 Files, Miscellaneous 6/12/1905	5	4
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Division 3 Files, Miscellaneous 1985-1987	5	6
Division 3 Files, Miscellaneous 1985-1987	5	7
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## Underground Production Areas

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Division 3 Files, Miscellaneous 1986-1987	5	12
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40-42 SC, 7100, 21L, Mined Out, 300.6 1985-1987	6	2
26-27 SA, 21L, 6950, Mined Out 1985-1987	6	3
41-42 SD, 17L, 6950, Mined Out, 300.2 1985	6	4
33-34 PD, 17L, 7400 (VCR) (MCF Below to Porphyry), Mined Out 1985-1987	6	5
34-36 SD, 21L, 7250, Mined 1989 1988	6	6

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Sump Designs 1965, 1986-1987	6	7
#4 Winze, 6950 Boreholes etc., 500.4 1988	6	8
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8000 Grizzly/Rock Pick, 500.7 1975-1986	6	11
Electric Power Upgrade, 500.8 1986-1987	6	12
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Motor Barn/Fuel Stor. , 501.3, Includes 7400 Horse Barn 1986-1988	6	15
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Semi Annual Programming, Beat Updates, 100.4 6/10/1987	6	17
Changes to Stope Files, Miscellaneous 1989	6	18
Programming Long Sections, 100.5 1989	6	19
Div. 5 Budget, Haulage, etc. Also: Forms, plans, figures, etc. 1985-1989	6	20

## Underground Production Areas

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Production Estimate Sheets (Previous), 600.3 1983-1987	6	22
Misc. Proj. 1980-1983	6	23
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Division 5, Work Summaries, 1987 1/1987	6	25
Division, 5, Work Summaries, Pre 1987 1985-1986	6	26
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Division 5, 1988 Budget Background & Summary 1985-1988	6	28
Purchase Orders, Work Orders, etc. 1984-1988	6	29
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Suggestion/Evaluation Completed File 1986-1988	7	2
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## Underground Production Areas

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Drift & Raise Reports, 100.8 1981-1985	7	7
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Steel Power Chute Details 1980-1986	7	10
Division 5 Costs 1986-1987	7	11
30 Gage Camel Back 1977-1980	7	12
Memorandums 1985-1987	7	13
Cable Bolting, Cables, Info.- Tensile Tests 1980-1984	7	14
Cable Bolting, Stopes, Layouts 1984	7	15
Chutes/Timberlines 1956-1969	7	16
43 Incline/Decline 6050-7100, 7100-7250 1985-1987	7	17

## Underground Production Areas

Bobcat N/A	7	18
Tamrock 1985	7	19
Pipe Cleaning Tools, Lined Pipe 1984-1985	7	20
Geoweb, 34-35SD, 5750 17L, MCF 2/20/1985	7	21
Nonel- Ensign- Bickford Co., Non-electrical Blasting N/A	7	22
Explosives 1983	7	23
Pipe & Cable Hangers, Anchors, Cables, Bolts, etc. 5/21/1984	7	24
Cable Bolt Grouting 1981-1984	7	25
Over-Coring Project, U.S. Bureau of Mines 4/27/1984	7	26
Atlas Copco N/A	7	27
3 yd. LHD Fuel Storage Door 1982-1983	7	28
30 Gage Air Doors 1968, 1978, 1985	7	29
Fan Bulkheads, Air Doors, etc. 6950 Vent Upgrade 1980-1988	7	30
93-99 SC, 6800, ML 12/1987	7	31



## Underground Production Areas

Invoices, Parking Slips 1984	7	32
Misc. Drawings 1980-1981	7	33
Misc. Drawings 1962-1983	7	34
Low Gold Contingency 1988-1991	8	1
Blanks 1990	8	2
1989, 1991 Budget 1988-1991	8	3
LOM 1990-1991 1990-1991	8	4
'93 LOM 1993	8	5
1992 Budget 1991-1992	8	6
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
40-43 AB, MCF, 6950 21L 1990-1993	8	11

## Underground Production Areas

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, 7250, 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
22AM, 7100, 19L 5/21/1984	8	24

## Underground Production Areas

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
45-47, 48-50 7250 VCR 1992	9	6

## Underground Production Areas

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
8000 Level Dev. 1985-1993	9	19

## Underground Production Areas

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
Shaft Sumps 1990-1994	9	33

## Underground Production Areas

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
6950 35D, 19L 1995-1997	10	7

## Underground Production Areas

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
7100' Level 38-40, 21L 1990-1993	10	21

## Underground Production Areas

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
6950 50A, 21L 1993	10	35



## Underground Production Areas

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
36 BC, 7100 1997	10	48

## Underground Production Areas

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
7250 32-34 Access Stope 1994-1996	10	62

## Underground Production Areas

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
7250 45-47 Panel 45-47 21L 1992-1994	10	76

## Underground Production Areas

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
6950 26OD/26 OD 19L, Rock Pick Stabbing 6/25/1996	10	90

## Underground Production Areas

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
37-43 B, 21L, 7400, See also panel #1,2,3 1982-1985	11	13

## Underground Production Areas

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
43AB 7700 1995-1997	11	27

## Underground Production Areas

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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
33A 8150 1996-1997	11	41

## Underground Production Areas

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
7850 39B 21L VCR 1993-1995	11	55



## Underground Production Areas

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
7700 Top Sill 21L, 36-37E VCR 1991	11	69

**Underground Production Areas**

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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
5300 49-51F 11L 1976-1979	11	83

## Underground Production Areas

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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
5450 44s B 11L 1974-1975	11	97

Underground Production Areas

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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
5450 82E ML Sill Cut 5/11/1983	11	111

## Underground Production Areas

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
5600 52-53A 21L VCR 1980-1983	11	125

## Underground Production Areas

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
5600 69D 9L 1976	12	13

## Underground Production Areas

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
5750 Sill 39-41D 17L VCR Bottom Sill 5/29/1986	12	27

Underground Production Areas

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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
5750 67-68A 9L 1975, 1981	12	41



## Underground Production Areas

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
Beat 21, N60B 1550 7L #248 1994	12	55

## Underground Production Areas

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
N18B, #486 and N19B #484 9/2/1993	12	69

## Underground Production Areas

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
3650 9L South Uphole, Wing Pillar, Ross Pillar 1/6/1993	12	83

## Underground Production Areas

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
Ross Pillar- Panel O2R 1992-1993	12	97

## Underground Production Areas

19-21, U9L, 4250 Panel 27D 1992-1993	12	98
54PS- 3950 11L 1994	12	99
S02R Upper 3800 11L 1993-1994	12	100
19-21 4100, Panel 23-24 1993	12	101
11L 3800 10 Tea 1993-1994	12	102
11 Tel 3800 11L 12/10/1993	12	103
19-21 11L, 4100 Panel 19B 1992-1993	12	104
19-21 4250 9L, 23F 1993-1994	12	105
S16F #732, 11L 4100 4/3/1994	12	106
Panel 17A 2-8, 11L 1993	12	107
4100 11L 17A #734 1993	12	108
S24D 4100 11L #746 6/14/1994	12	109
S26F 9L 4250, #1921 4/12/1994	12	110
58-65 ML 55-57W, 4100 ML 1993-1994	12	111

## Underground Production Areas

S59C 58-65ML, 3950 1993-1994	12	112
58-65 ML 4100, Panel 58-65 1993	12	113
58-65 ML 3950, 63C 1993	12	114
56-65 PC ML, 4100 Blasthole retreat 1966-1993	12	115
S 64 CVC 58-65 ML 3950 #205-7 1994	12	116
S67 ED 4100 ML #1236 4/7/1994	12	117
Main Ledge, So. 9 Lg 1994-1997	12	118
Main Ledge, So. 9 Lg. (Continued) 1994-1997	12	119
Beat 21 19-39/44-51 (2300) 1992-1993	13	1
Beat 21 6wks (2000) 1992-1994	13	2
44-51 9L 2300 1992	13	3
19-39, 73-78 6 wks 1993	13	4
2-8 D, 9L 3800 1992-1995	13	5
59-65 ML 1992-1994	13	6

## Underground Production Areas

19-21 11L 3950 1992-1993	13	7
Division 2/Beat 21 Shutdown File 1992	13	8
Ross Pillar 6 wk, Archive 1993-1994	13	9
Division 3 Shutdown File 1992	13	10
81-87 AF 9L, 6800 Shutdown File 11/92 1991-1992	13	11
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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

## Bulk Mining-Cable Bolting

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
14B 6800 Uphole 1/1997	22	16
6800 19L N29A UPH 1995	22	17
30A 19L 6650 1994, 1999	22	18



## Bulk Mining-Cable Bolting

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
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

## Bulk Mining-Cable Bolting

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
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

## Bulk Mining-Cable Bolting

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
53 Break Raise 9L 2000 Blasting Diagrams & Hole Measurements 1981-1982	23	4
53-55F 9L 1850 Drill Reports 1983	23	5

## Bulk Mining-Cable Bolting

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
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

## Bulk Mining-Cable Bolting

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
N42-45 ID 2150 7L 1997	23	31
N42-45 ID 2150 7L 1996-1997	23	32

## Bulk Mining-Cable Bolting

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
N25 AN 19L 7250 #2359 Uphole 1913 Elev. 1014/1997	24	8
N26AN 21L 7400 #2463 (Topsill 7400) 1997	24	9

## Bulk Mining-Cable Bolting

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
Panel 3 Uphole 37-43 21L 7250 1993-1995	24	22
40E Uphole 7250 1995	24	23

## Bulk Mining-Cable Bolting

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
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



## Bulk Mining-Cable Bolting

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
41WB 21L 7550 Uphole #2836 Elev 2191 1998	25	2
41B 17L 7550 #1770 2156 Elev. Top Sill 1998	25	3

## Bulk Mining-Cable Bolting

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
N40C 21L 7700 Uphole #1801 1997	25	16
N45-46WB 21L 7700 Uphole 1995	25	17

## Bulk Mining-Cable Bolting

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
N35 BC 21L 7850 Uphole ID #2256 Elev. 2492 12/14/1998	25	30
N35-36EB 19L 785D Bench 1996	25	31

## Bulk Mining-Cable Bolting

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 Salvage 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
36-41 Bulk Stope (Continued) 1994-1995	26	4
1700' Level 43A Uphole 1995	26	5

## Bulk Mining-Cable Bolting

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
64B 7L 1550 Est #831 1989-1995	26	18
1850/2000 54PA VCR 9L 1992-1994	26	19

## Bulk Mining-Cable Bolting

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
N86-89 Bottom "East" Panel 7L 2300 Uphole Est. #0397 Elev. 2986 2000-2001	27	11

## Bulk Mining-Cable Bolting

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
N21A 1995-1996	27	24

## Bulk Mining-Cable Bolting

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
ID #2814 (#6066) So UPH Pan N111-115B 7L 1400 Elev. 3869 2/15/2000	28	11



## Bulk Mining-Cable Bolting

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
N41F UPH Est #5036 3800 11L 2001	28	24

## Bulk Mining-Cable Bolting

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
#6 Shaft Bypass Raise 1982-1983	29	1

## Bulk Mining-Cable Bolting

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
38PB 17L 5150 1990-1991	29	15

## Bulk Mining-Cable Bolting

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
52C 17L 5300/5450 1991	29	29

## Bulk Mining-Cable Bolting

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
39-41SC 17L 5750 1989	29	43

## Bulk Mining-Cable Bolting

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
N Skip NE Cor. 7250 1987-1990	30	11

## Bulk Mining-Cable Bolting

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
6200 15L 17B 45 1997	30	24

## Bulk Mining-Cable Bolting

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
12A P1 (2 Stopes) 15L 7400 1997	30	38



## Bulk Mining-Cable Bolting

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
6A Bench 15 Ledge 7700 Level 10/1997	31	7

## Bulk Mining-Cable Bolting

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
N44-46C 21L 6840 Pan 7 West North #2382 Elev. 1560 2000-2001	31	20

## Bulk Mining-Cable Bolting

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
N28A 19L 6950 Uphole #1604 1997	31	33

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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
N35D 17L 6950 Uphole "Top" Estimate #1631 Elev. 1623 2000-2001	31	46

## Bulk Mining-Cable Bolting

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
6950 N44B West Panel #1622 1/1998	32	12

## Bulk Mining-Cable Bolting

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
6950 N35XCut Cables 7/3/1996	32	26

## Bulk Mining-Cable Bolting

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
N36BC #1656 7100 21L Uphole 12/1996	33	4

## Bulk Mining-Cable Bolting

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
40SC 21L 6950 1991	33	17



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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
48-51AB 21L 7100 VCR Panel 2 4/8/1986	33	31

## Bulk Mining-Cable Bolting

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
40-42SC 21L 7100 Panel 3 Ring Drills 2/19/1985	34	6

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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
7700/7850 32E VCR 21L 1992	34	20

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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
Break-Raise 48-51AB Panel #1 1984	34	34

## Bulk Mining-Cable Bolting

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
29-30SF 19L 6050 Ring Drills 1984-1985	35	9

## Bulk Mining-Cable Bolting

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
N52B 21L 6200 Uphole (on 6200) #0045 3/1999	35	23

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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
6350 47A Uphole 19L 1996	35	37

## Bulk Mining-Cable Bolting

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
33-37D 17L 6350 VCR Panel 7 1989	36	7



## Bulk Mining-Cable Bolting

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
39A 6650 Uphole Stope 1993-1994	36	21

## Bulk Mining-Cable Bolting

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

## Bulk Mining-Cable Bolting

N34-35D 17L 6650 Uphole #5668 Elev. 1327 3/2000	36	36
6650 3637 UPH 19L 7/1996	36	37
N28A Cable Bolts 6800 19L 1995	36	38
34-37C 17L 6800 VCR Panel 1 1989	36	39
40-41A 17L 6800 Cable Bolts 1994	36	40
31 Exhaust 6800 Level Cable Bolts 11/5/1986	36	41
42PD 17L 6800 VCR 1989-1990	36	42
Chicago Pneumatic Tool Co. 1/30/1990	36	43
44B 21L 6800 1991	36	44
48SB 21L 6800 VCR 4/1991	36	45
26-27SA 17L 6800 Cable Bolts 3/1986	36	46
N27EA 19L 6800 VCR 1992	36	47
Bulk Mining-Cable Bolting Miscellaneous 1990-1991	36	48
53-55F 9L 2150 Rows 30-49 VCR 1/1980	37	1

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53-55SF 9L 1850 Cable Bolting 2/1981	37	2
49-51 2000 1979	37	3
27 PA 9L 2450 VCR 1981-1983	37	4
1925 Level 9 Ledge 50-51 SH 1979	37	5
51-53SF 9L 1775 Subsill Ring Drill Patterns 1982	37	6
49 X Cut Pillar 2150 11/3/1981	37	7
45-47SGH 9L 2300 Ring Drills for Bottom & VCR 1983	37	8
28 and 29D 9L 410 VCR Patterns 1980-1981	37	9
28-29 Pillar A-C 9L VCR Hole Patterns 4100 1981-1983	37	10
51-53SF 9L 2000 Cable Bolting 11/1980	37	11
10-15WA 2600 Memos & Blasting Reports 12/1980	37	12
18 Pillar "D" 9L 2450 1980	37	13
12-15SEA 9L 2600 VCR Hole Patterns 1981	37	14
51-54C 7L 1850 Ring Drills for Bottom 1983	37	15

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N54A 7L 1850 1992, 1998	37	16
53-55F 9L 1850 VCR 12/1983	37	17
53-55SF 9L 1850 1981	37	18
79PF 9L 2000 VCR Stope 1987	37	19
N13 Pillar EA 9L 2750 1980	37	20
28-29PAC 9L 4100 Cable Bolting 3950 2/1981	37	21
2150 :Level 9 Ledge 54-57D 1979-1981	37	22
75F 9L 2150 1991	37	23
80-81D 9L 1700 VCR 1991	37	24
80D 9L 1550 VCR 5/4/1992	37	25
82D 9L 1700 VCR 1/13/1992	37	26
79PD 9L 1850 1990-1991	37	27
35-38D 9L 4250 VCR Drill Patterns 1982-1983	37	28
52-54PB 7L 1700 VCR 58,850 @ 6 75 1986-1987	37	29

## Bulk Mining-Cable Bolting

35-38D 9L 4250 VCR Stp 1980-1981	37	30
Bulk Mining-Cable Bolting Miscellaneous 3/1992	37	31
35-36D 9L 4100 VCR Stope 1984	38	1
43-44PH 9L 2300 1982-1983	38	2
52-55PB 7L 1550 1989	38	3
56-59SD Decline 2150 to 2181 Cable Bolting 4/1980	38	4
56-59SD 9 Ledge 2182 Decline 2/1980	38	5
17-18SD VCR 11L 4100 1986-1987	38	6
3950 13AB VCR 11L 1992-1993	38	7
19-21AC 11L 4100 Bench Layouts 1987-1990	38	8
51-54C 7L 1850 1983-1984	38	9
53-54AB 7L 1850 1985-1986	38	10
53-54PAB 7L 1850 VCR 1985-1986	38	11
12-15 SEA 9L 2450 Blasthole Stope 1985-1986	38	12

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47-49SA 7L 1850 SS 1982	38	13
47-49SA 7L 1850 VCR for Top 1982-1983	38	14
46-47A 7L 1850 1985	38	15
51-53 SF 9L 2000 & 1925 Subsill Ring Drilling 10/1980	38	16
51-53SF 9L 1850SS 1982	38	17
1850 Level N 58 C Uphole 1996	38	18
52 Pil F & G 2150 Ft. Level 1980	38	19
52P F & G 9L 2150 Blasting Memos 1981	38	20
39-42SA VCR 7L 54,320@ 5 10 2000 1986	38	21
55-56B 7L 1700 5/1986	38	22
47-49A 7L 1700 Drop Raise 10/30/1986	38	23
57CD 9L 2300 Blast Footages 1985	38	24
57SCD 9L 2300 7/20/1985	38	25
58-61B 7L 1700 1987-1988	38	26

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58-61B 7L 1700 Top Section Above 1550 1988	38	27
51-54C 7L 1850 VCR 1983-1984	38	28
58-59C 7L 1550 1988-1989	38	29
57-58B 7L 1850 1989	38	30
54-55F 9L 1700 1992	38	31
43-46SC 7L 2000 1984-1985	38	32
21 SA 9L 2600 1988	39	1
NORH 1992-1997	39	2
SO2R Lower #702 3950'L/11L NV 1996-1997	39	3
3950 S11B 11L #256 Uphole 1997	39	4
14PD VCR 4100 11 Ledge 1989-1991	39	5
21PD 11L 4250 1986-1990	39	6
23WD 11L 4250 1990	39	7
S24TL (#776) 4250' L 11 Ledge 1995-1996	39	8



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56-57C ML 4100 1986	39	9
56SB 7L 1850 1990	39	10
14PD 11L 4100 1991	39	11
28 & 29 SD 4100 Cable Bolting 1980	39	12
4100 43B Top Uphole 17L 1996	39	13
4100 47-49C VCR 17L 1993-1994	39	14
26-29F 9L 4250 Ring Drills on 4190 1984	39	15
4250 43B 17L Uphole Both Sill 1993, 1996	39	16
4250 47B 17L Uphole #784 1996	39	17
43 Drop Raise 4400 1986-1987	39	18
N38B 4400 17L 4/3/1992	39	19
28 Stp 9L 4430 Ft. Subsill Cable Bolt Layout 8/1980	39	20
43B 17L 4250 1991-1992	39	21
Drill 16-17, 26,000 tons @3 00 1989-1991	39	22

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35SC 11L 4550 1986	39	23
41-42SB 17L 4550 1987-1988	39	24
N56 WC #2483 5450 Dec 1997	39	25
N50C 4100 Lvl 17 Ldg 1997	39	26
N38B 4250 Lvl #823 3/24/1997	39	27
40 WB Drop Raise 1986	39	28
42-44D 9L 4550 Blast Hole 1984-1989	39	29
43-44SB 17L 4550 1987	39	30
41-42PB 17L 4550 N/A	39	31
64 PW ML 4550, 4400 Sill Cable Bolting 1981	39	32
42B 9L 4550 Cable Bolt Layouts 9/8/1981	39	33
45PB 17L 4550 1988	39	34
47PB 17L 4700 1/17/1990	39	35
46PB 17L 4700 1989-1990	39	36

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Bulk Mining-Cable Bolting Miscellaneous 1985-1997	39	37
Bulk Mining-Cable Bolting Miscellaneous (Continued) 1996-1997	39	38
42-43B 17 Ledge 1985-1987	40	1
42SA 9L 4700 Small Block VCR 1985	40	2
35-36C 11L 4700 (East Side) "No Sand" 1985-1986	40	3
35-36C 11L 4700 VCR Stope 1985	40	4
40PA 11L 4700 6/1988	40	5
42C 4700 5/1997	40	6
43SA 17L 4700 1988-1989	40	7
40-41 SB 17L 4700 1985-1986	40	8
39-40SB 17L 4700 1985-1986	40	9
39-41PA 11 Ledge 4850 1987-1988	40	10
43SB 17L 4700 1985-1986	40	11
28 SD 17 Ledge 5000 1984-1985	40	12

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5000 47B 17L VCR 1995	40	13
5000-5150 52D VCR 1994	40	14
37-38 SB 17L 5150 1984	40	15
5150 46C 17L Uphole 6/16/1993	40	16
38-39B 17L 5000 VCR 1980	40	17
5300 30F 17L Uphole 1995	40	18
35-39B 17L 5300 VCR Panel #1 (North End) 1983	40	19
35-39B 17L 5300 South Panel 1984-1985	40	20
35-39B 17L 5300 VCR Middle Panel, Stp 1983-1984	40	21
5300/5150 52 VCR 17L 1993	40	22
5450 37C 17L Uphole 1992-1995	40	23
5450 37C 17L VCR 1994-1995	40	24
40-42C 17L 5450 1984-1987	40	25
47SC 17L 5450 1990	40	26

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5450/5600 31F VCR 17L 1992, 1995	40	27
5450/5600 est. N56A Uphole 1995	40	28
N40-42C 5300 Panel 2 1992	40	29
40-42SC 17L 5300 Mined 11/16/1990	40	30
40-42C 17L 5300 Panel 4, 5, 6 2/10/1993	40	31
Bulk Mining-Cable Bolting 4/10/1989	40	32
5300 49C 17L Uphole 1991-1995	41	1
Bench Drilling, Working Cooperatively 1992, 1994	41	2
North 30F 17L 5600 7/17/1991	41	3
N32-34D 17L 5600 VCR 1992-1993	41	4
34D 5600 1997	41	5
5600 39B 17L Uphole Cable Bolts 1995-1996	41	6
38-42C 17L 5600 Old Blasting Info. 1983-1984	41	7
39-42A 19L 5600 Cable Bolting Diagrams 1981	41	8

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38-42C 17L 5600 North End Panel 1982, 1984	41	9
39-42A 19L 5600 Ring Drill Bottom Sill 1980-1984	41	10
38-42A 17L 5600 Estimate 1981-1982	41	11
38-42C 17L 5600 North End Panel 1983	41	12
38-42C 17L 5600 1983-1984	41	13
38-42C 17L 5600 VCR South Block 1983-1984	41	14
52-53A 21L 5600 East Panel 1981, 1983	41	15
52-53A 21L 5600 VCR Stp 1980-1983	41	16
52-53A 21L 5600 West Panel 1980-1984	41	17
82-84SF 6500 9L South End Ring Drills 3/8/1985	41	18
82-84F 9L 6500 1986-1987	41	19
83-84H 9L 6500 VCR Layouts 1980	41	20
38-43F 11L 5000 VCR Stope 4/1980	41	21
38-43F 11L 5000 Sec D N/A	41	22

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38-43F 11L 5000 Section C Contract #05624 9/14/1979	41	23
38-43S Section B 11L 5000 2/1979	41	24
Cable Bolting for 49-53SC MCF 5450 11L 10/8/1985	41	25
56-57 P & B 13L 6200 1/1986	41	26
38-43S Section A 11L 5000 1979	41	27
38-43F 11L 5000 Sec E 1979-1980	41	28
89W ML 5750 Cable Bolting, 86 PIL 5600 Cable Bolting 1982, 1984	41	29
67-68D 9L 5750 Contract #06546 1980	41	30
6200 Level 9 Ledge 70SD & 71-72 PD 1979-1980	41	31
13 Ledge Ore Bodies Model, Between 6200 & 6350 Sections 56 to 59 1985-1986	41	32
67-68D 9L 5750 Blast Hole 1979-1980	41	33
38-43F 11L 5000 Sec. F 1979	41	34
64A 11L 6200 12/1997	41	35

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62F Uphole 11L 6200 11/1997	41	36
56-57C 13L 6200 (-32) 1986	41	37
38-43 11L 5000 1979-1980	41	38
55 WB 13L 6200 1987-1988	41	39
56-57 SEB 13L 6200 Cable Bolts 1985-1986	41	40
57PE 13L 6200 Hanging Wall Cable Bolt 3/1983	41	41
54 PE 6200 13L CB Rings 1978-1979	41	42
57 PIL E 6200 13L VCR DIA 1982-1983	41	43
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33-37 17L 6250 Cable Bolts 1983-1987	42	1
94B ML 6350 1996-1997	42	2
95C ML 6350 4/1997	42	3
95ED UPH ML 6350 1997	42	4
96 E ML 6350 1996	42	5



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82SC VCR 1989-1990	42	6
61A 11L 6350 1996-1997	42	7
80-82A 9L 6500 VCR 1988-1989	42	8
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6800 Level 11 Ledge 73 PB 4/1978	42	10
54 PE 13L 6200 1979-1981	42	11
6200 Level 13 Ledge 56 PB & 57 PB N/A	42	12
6800 Level 13 Ledge 64 PC N/A	42	13
6350 Level 13 Ledge 50 PC N/A	42	14
83-84H 9L 6650 1980	42	15
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97A Midsill UPH 6650 1997	42	18
97A VCR ML 6650 1997	42	19

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97B Uphole 6650 ML 97B 1995, 1997	42	20
97B UPH 6650 ML 1997	42	21
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