H.M.C. 69KV ORO HONDO SUBSTATION

ORO HONDO FAN HOUSE

350 HP

3000 HP

3.6KV/ 110V

750KVA 2.4KV/ 480V

CAP. BANK

3/3.75/4.25MVA 67-2.4KV

2.5MVA 67-2.4KV

METER LOCK

METAL CLAD SWITCH GEAR

STATION SERVICE

37.5KVA 2.4KV/ 120/240V

10/12.5/14 MVA 69KV-12.67/7.2KV

EMERGENCY BUS TIE

4" O/H CONDUIT

N/O

N/C

5 MVA 69KV/12.47KV

50 AMPS

5MVAR CAP. BANK

SPARE

STEEL BUILDING

NEW 12KV FEEDER FOR EAST SUBSTATION

1502 kv

SDSTA #5 SHAFT FAN

Barrick Grizzly Gultch Feeder

OLD LINE 109

OLD LINE 110

Orohondo 12kv Feeder to East Sub

BHP&L KIRK SUB STATION

WEST YELLOW CREEK LINE

SPEARFISH LOOKOUT LINE

EAST YELLOW CREEK LINE

HMC #1 ORO HONDO

69 KV SWITCH STATION

HMC #2 ROSS

H.M.C. 69KV ROSS SUB STATION

Ross 12kv 50 MVA 69KV-12.47/7.2KV

5V-RS-300

5V-RS-SF6-300

BRK-RS-303A

BRK-RS-303B

Spare

8/7 MVA 67KV/4160GV

ROSS HOIST ROOM

ROSS MAN HOIST

ROSS ORE HOIST

LIGHTING

DISCONNECTED

N/O

N/C

ROSS/ELLISON #1

ROSS COMP. (FUTURE)

ROSS/ELLISON #2

ROSS/ELLISON #3

MINE FANS

2 MVAR CAP. BANK

BUS 2

BUS 1

N/C BUS TIE

STATION SERVICE

NO.1 10/12.5/14MVA 67KV/2.4KV

2.5MVA 120/240V

ROSS SHAFT #4

SPARE

ROSS SHAFT #3 TO MINE

ROSS SHAFT #2 TO MINE

ROSS SHAFT #1

1.7 MVAR @ 2.4 KV

3 MVAR CAP. BANK

KIRK FANS

WEST FAN

EAST FAN

LIGHTING XFMR

SPARE

WHITEWOOD CRK STATION POWER

2.4 kv Engy Tie

ROSS BOILER ROOM

1000KVA 2.4KV/ 480V

ROSS FUEL PUMPS

ROSS BOILER

3-750KVA 2.4KV/208V

ROSS DRY

ROSS SHAFT #1 TO MINE

SHORT HEAD CRUSHER

STANDARD & 30" INCH CRUSHER

750KVA 2.4KV/ 345/480V

ROSS HEADFRAME

H.M.CO. ROSS HEADFRAME SUB STATION

RS_12KV_01

RS_12KV_02

Up Shaft

Down Shaft

1250 Pump

NEW SDSTA ROSS 1250 Pump Room 1000 KVA 120V/416GV OIL Filled Transformer

Soft Start control 700hp

2450 Pump room

NEW SDSTA ROSS 2450 Pump Room 1500 KVA 120V/416GV OIL Filled Transformer

Soft Start control 700hp 2450

Temp Feed 20 MVA

Soft Start control 700hp 3650

1250 pumproom sub 300 KVA 416GV/480V OIL Filled Transformer

New SDSTA 3650 pump room 150hp Pump

Future SDSTA ROSS 3500 L 1000 KVA 120V/416GV OIL Filled Transformer

3650 pumproom sub 300 KVA 416GV/480V Dry earthTransformer

3650 level 480 v power

sump pump and fans

4000 Level portable sub 1000 KVA 12V/2400V Dry earthTransformer

2.4 kv

480

1500 kva

Yates 4850 mine power

NEW SDSTA ROSS 4850 level Substation 1500 KVA 120V/416GV OIL Filled Transformer

4850 Level sub 225 KVA 416GV/480V OIL Filled Transformer

4850 Level 480 power

5000 Level Pump room Soft Start control 700hp

5000 Level 480 power

Ross / Yates Back tie cable via Kirk fan 500 mcm

12 KV YATES HOIST SUB STATION

8000 KVA 120/4.160V/ 2.4KV

2.4 kv Engy Tie

ORE HOIST

MAN HOIST

YATES SHAFT POWER

HMC 2.4KV YATES SUB STATION

INCOMING TO BOTTOM OF SVITCH

OUTGOING FROM TOP OF SVITCH

S/S SVITCH

112KVA 2.4KV/ 208V

DUST COLLECTORS

YATES CRUSHER CONVEYORS

OLD XFMR'S 777KVA 2.4KV/777

SPARE DISCONNECTED FROM BUS

SAFETY

500KVA 2.4KV/ 120/240V

225KVA 2.4KV/480V

MINE OFFICE

H.M.C. 12KV YATES COMPRESSOR SUB STATION

4000KVA 120V/ 4160V

FEEDER #5

FEEDER #4

FEEDER #3

FEEDER #1

CPT

1250V/ 480V

Located behind FusedYates SW Hoist

2 awg overhead ascr

WASTE WATER TREATMENT PLANT 12KV SUB.

1500 KVA 120V/480V

TRANSFER SVITCH

500KW Emg. Gen.

HOMESTAKE MINING CO. GRIZZLY GULCH DAM AREA

1000 KVA 120V/480V

DECANT BARGE PUMPS

120V~ 220/110V 50 KVA

TO #2 MONITORING WELL

TO #1 MONITORING WELL

TAILINGS VALVE HOUSE

600 KVA 120V/480V DRY CORE

TO CARBON CONE BUILDING

1/0 Blue Cable

HOMESTAKE MINING CO. #5 AIR SHAFT 12KV SUBSTATION

NOTE: INTERLOCKS - BOTH SWITCHES MAY BE OPENED YET ONLY ONE MAY BE CLOSED

NEW #5 SHAFT 1000 KVA 120V/480V OIL Filled Transformer

TO SEEPAGE PUMP HOUSE & SHAFT HOIST ROOM & SHAFT HEATERS

SDSTA #5 Shaft Sub 12KV/480v SUBSTATION

NEW SDSTA #5 SHAFT 1000 KVA 120V/480V OIL Filled Transformer

SDSTA #5 SHAFT EXHAUST FANS

H.M.C. 69KV EAST SUB STATION

TRANSFORMER Secondary LEADS ARE REMOVED FROM MAIN SW AND ARE IN DITCH

4.8 MVAR CAP. BANK

BUS 2

BUS 1

STATION SERVICE

AUTO

BUSS TIE IS CLOSED FOR NORMAL FEED

Yates Shaft 12kv cables

Yates Shaft

250 mcm

Yates 4850 level

250 mcm

H.M.C. 2.4KV MACH SHOP SUB.

MACHINE SHOP

YATES MAIN GATE

YATES PARKING LOT LIGHTING

3-167KVA 2.4KV/ 480V

H.M.CO. MACHINE SHOP SUB STATION

3-75KVA 2.4KV/ 120V/208V

FOUNDRY 12 KV SUBSTATION

METAL CLAD SWITCH GEAR

FOUNDRY 2.4 KV SUBSTATION

pole top disconnects N/O

S/C METAL CLAD SWITCH GEAR

3.6 MVA 12 KV/ 2.4 KV

2.4 KV MOTOR TEST CIRCUIT

1000 KVA 2.4KV/ 277/480V

TO FOUNDRY BLDG.

LEGEND:

GENERATOR
COMPRESSOR
TRANSFORMER
P.T.
CURRENT XFMR (WITH POINTS)
REACTOR
FUSE
FUSED DISCONNECT
L.B. - LOAD BREAK
L.B.F. - FUSES LOAD BREAK
F FAN
GROUND
SVITCH
GANG SVITCH
O OIL BREAKER
A AIR BREAKER
G GAS BREAKER
V VACCUM BREAKER
CIRCUIT BREAKER
STR - STARTER
MCC - MOTOR CONTROL CENTER
VFD VARIABLE FREQUENCY DRIVE

VOLTAGE
69 kV
33 kV
12 kV
4.16 kV
2.4 kV
480 V
240 V
120 V

DATE	BY	REVISIONS

Homestake Mining Co.
630 East Kansas
LEAD, SOUTH DAKOTA 57754-1700
ELECTRICAL ENGINEERING DEPARTMENT

DESIGNED BY _____ APPROVED _____
DRAWN BY Gary Lishman SCALE NONE
CHECKED _____ DATE 12-18-2008

SDSTA POWER DISTRIBUTION
SDSTA / BHP&L SVITCHING DIAGRAM
REPLACES HMC DRAWING EE0566

CLASS. AREA SUB.
SEQ. NO. DRAWER
DWG. NO. LabEE001 PROJ.

REV