DRILLING SERVICES-BOYLES BROS.

a division of Layne Christensen Company

Boyles Bros. DRILLING COMPANY

CLIENT: BHP Copper Co DATE: 8-19-96

JOB#: 34-7025 JOB NAME: BHP Florence LOCATION: Florence

DRILL#: b468 ANGLE: Vert MSHA: PRE-SHIFT INSPECTION: EM

DRILLING AND CORING RECORD

SHIFT	HOLE SIZE	FROM	TO	TOTAL	RECOVERY	#RUNS	ROCK TYPE	HOLE #	HOLE CONDITIONS
DAY								BHP-1	
	16"	0	20	20				BHP-5	
REAM									
SWING									
REAM									
NIGHT									
REAM									

HOURLY ACTIVITIES

SHIFT	CORE	ROTARY	REV.CIRC	REAM	REDRILL	MOB/ DEMOB	WASH CLEAN HOLE	REGAIN LOST CIRC	SURVEY	CEMENT	CASING INSTALL	CASING REMOVE
DAY											10	
SWING												
NIGHT												

SHIFT	MOVE SETUP	STANDBY	MAINT. REPAIR	HOLE DELAY	WEATHER DELAY	WATER DELAY	WATER HAUL TRUCK #	MILES	HOURS	LOADS	OTHER SERVICES	
DAY												
SWING												
NIGHT												

SHIFT		NAME	HOURS	EXPLAIN DELAYS, DIRECTIONS, ETC.
DAY	DRILLER	E-Mangum	10	Setup on BHP-1 Reamed Hole out To 16"
	HELPER	E-Tripp	10	Set & Cemented in 20' of 12" Casing
	OTHER	J. Granillo	10	
SWING	DRILLER			Moved To BHP-5 (#27) Drilled To
	HELPER			20' & Set & Cemented in 21' of 12" Casing
	OTHER			
NIGHT	DRILLER			
	HELPER			
	OTHER			

CASING

SIZE	QUANTITY	LENGTH	CASING SHOES DAMAGED/LOST	CASING SET IN HOLE
BHP-1	20' x 12" x .375	Steel	TYPE / DEPTH	SIZE
BHP-5	21' x 12" x .375	Steel	NO Customer Supplied / SIZE	
BIT#	SIZE/TYPE	OFF	ON	TOTAL
BIT#	SIZE/TYPE	OFF	ON	TOTAL

MATERIALS

	QUANTITY DAY	SWING	NIGHT		QUANTITY DAY	SWING	NIGHT		QUANTITY DAY	SWING	NIGHT
MUD2				PORTLAND CEMENT				N BOXES			
CLEARMUD				CALSEAL				H BOXES			
				Premix BHP-1	12	BBDC	Furnished				
				Premix BHP-5	12						

FOREMAN [signature] GEOLOGIST

White : Customer Yellow : Office Pink : Foreman

DRILLING SERVICES-BOYLES BROS.

a division of Layne Christensen Company

Boyles Bros. DRILLING COMPANY

CLIENT: BHP Copper Co DATE: 10-7-96

JOB#: 34-7025 JOB NAME: BHP Florence LOCATION: Florence

DRILL#: 6468 ANGLE: Vert MSHA: PRE-SHIFT INSPECTION: Em

DRILLING AND CORING RECORD

SHIFT	HOLE SIZE	FROM	TO	TOTAL	RECOVERY	#RUNS	ROCK TYPE	HOLE #	HOLE CONDITIONS
DAY		403'						BHP-1	
REAM									
SWING									
REAM									
NIGHT									
REAM									

HOURLY ACTIVITIES

SHIFT	CORE	ROTARY	REV.CIRC	REAM	REDRILL	MOB/ DEMOB	WASH CLEAN HOLE	REGAIN LOST CIRC	SURVEY	CEMENT	CASING INSTALL	CASING REMOVE
DAY										6	4	
SWING												
NIGHT												

SHIFT	MOVE SETUP	STANDBY	MAINT. REPAIR	HOLE DELAY	WEATHER DELAY	WATER DELAY	WATER HAUL TRUCK #	WATER HAUL MILES	WATER HAUL HOURS	WATER HAUL LOADS	OTHER SERVICES	
DAY							259	6		3		
SWING												
NIGHT												

SHIFT		NAME	HOURS	EXPLAIN DELAYS, DIRECTIONS, ETC.
DAY	DRILLER	E. Mangum	10	Circulate & Trip out Rods & Collar
	HELPER	E-Tripp	10	Run 8" PVC To Bottom - Pumped
	OTHER	J. Granillo	10	15000 gal Water - Pumped Cement - Cement Plug
SWING	DRILLER			& Barite mud - Clean up
	HELPER			
	OTHER			
NIGHT	DRILLER			
	HELPER			
	OTHER			

CASING

SIZE	QUANTITY	LENGTH		CASING SHOES DAMAGED/LOST	CASING SET IN HOLE
8" PVC	20	20'	TYPE Customer	DEPTH	SIZE
8" PVC	2	2'	NO. Supplied	SIZE	
BIT#	SIZE/TYPE	OFF	ON	TOTAL	
BIT#	SIZE/TYPE	OFF	ON	TOTAL	

MATERIALS

	QUANTITY DAY	QUANTITY SWING	QUANTITY NIGHT		QUANTITY DAY	QUANTITY SWING	QUANTITY NIGHT		QUANTITY DAY	QUANTITY SWING	QUANTITY NIGHT
MUD2	12			PORTLAND CEMENT				N BOXES			
CLEARMUD				CALSEAL				H BOXES			
				Baro 200 50# (Barite)	112			8 5/8" Cement plug	1		
				Stainless Centralizer	20						

FOREMAN [signature] GEOLOGIST [signature]

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DSC

DRILLING SERVICES-BOYLES BROS.

a division of Layne Christensen Company

Boyles Bros. DRILLING COMPANY

CLIENT: BHP Copper Co DATE: 10-9-96
JOB#: 34-7025 JOB NAME: BHP-Florence LOCATION: Florence
DRILL#: 6468 ANGLE: Vert MSHA: PRE-SHIFT INSPECTION:

DRILLING AND CORING RECORD

SHIFT	HOLE SIZE	FROM	TO	TOTAL	RECOVERY	#RUNS	ROCK TYPE	HOLE #	HOLE CONDITIONS
DAY								BHP-1	
REAM									
SWING									
REAM									
NIGHT									
REAM									

HOURLY ACTIVITIES

SHIFT	CORE	ROTARY	REV.CIRC	REAM	REDRILL	MOB/ DEMOB	WASH CLEAN HOLE	REGAIN LOST CIRC	SURVEY	CEMENT	CASING INSTALL	CASING REMOVE
DAY										1		
SWING												
NIGHT												

SHIFT	MOVE SETUP	STANDBY	MAINT. REPAIR	HOLE DELAY	WEATHER DELAY	WATER DELAY	WATER HAUL TRUCK #	WATER HAUL MILES	WATER HAUL HOURS	WATER HAUL LOADS	OTHER SERVICES
DAY	1										
SWING											
NIGHT											

SHIFT		NAME	HOURS	EXPLAIN DELAYS, DIRECTIONS, ETC.
DAY	DRILLER	E-Manqum	2	Moved & Set up on BHP-1
	HELPER	E. Tripp	2	Run Trimie To 50' Mix & Pump
	OTHER	J. Granillo	2	700 gal Cement Pull Trimie
SWING	DRILLER			
	HELPER			
	OTHER			
NIGHT	DRILLER			
	HELPER			
	OTHER			

CASING

SIZE	QUANTITY		LENGTH	CASING SHOES DAMAGED/LOST	CASING SET IN HOLE
			TYPE	DEPTH	SIZE
			NO.	SIZE	
BIT#	SIZE/TYPE	OFF	ON	TOTAL	
BIT#	SIZE/TYPE	OFF	ON	TOTAL	

MATERIALS

	QUANTITY DAY	QUANTITY SWING	QUANTITY NIGHT		QUANTITY DAY	QUANTITY SWING	QUANTITY NIGHT		QUANTITY DAY	QUANTITY SWING	QUANTITY NIGHT
MUD2	2			PORTLAND CEMENT	40			N BOXES			
CLEARMUD				CALSEAL				H BOXES			

FOREMAN [signature] GEOLOGIST [signature]

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