DRILLING SERVICES-BOYLES BROS.

a division of Layne Christensen Company

Boyles Bros. DRILLING COMPANY

CLIENT: BHP Copper Co DATE: 9-11-96
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	12"	345	385	40				BHP-2	
		Reaming							
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				3			1				4	
SWING												
NIGHT												

SHIFT	MOVE SETUP	STANDBY	MAINT. REPAIR	HOLE DELAY	WEATHER DELAY	WATER DELAY	WATER HAUL TRUCK #	MILES	HOURS	LOADS	OTHER SERVICES	
DAY	2											
SWING												
NIGHT												

SHIFT		NAME	HOURS	EXPLAIN DELAYS, DIRECTIONS, ETC.
DAY	DRILLER	E. Manguum	10	Moved Equip To BHP-2 Setup
	HELPER	E. Tripp	10	Reamed Hole 16" To 20'
	OTHER	J. Granillo	10	Set & Cemented in 21' of 12" Steel Casing
SWING	DRILLER			Wait on Cement To Set -
	HELPER			Washed 12" Bit To 345' Started
	OTHER			Reaming 8" Core Hole out
NIGHT	DRILLER			
	HELPER			
	OTHER			

CASING

SIZE	QUANTITY	LENGTH		CASING SHOES DAMAGED/LOST	CASING SET IN HOLE
12"	1 - 21' Steel Casing	Customer Supplied	TYPE	DEPTH	SIZE
			NO.	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	11			PORTLAND CEMENT				N BOXES			
CLEARMUD				CALSEAL				H BOXES			
				Casting plaster	2			Stainless Centralizers	5		
				Premix 80#	14						

FOREMAN [signature] GEOLOGIST [signature]

White : Customer Yellow : Office Pink : Foreman

DSC

DRILLING SERVICES-BOYLES BROS.

a division of Layne Christensen Company

Boyles Bros. DRILLING COMPANY

[redacted]ENT: BHP Copper Co DATE: 9-20-96
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								BHP-2	
REAM	12"								
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										8		
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			2									
SWING									Back-Hoe		2	
NIGHT												

[redacted]		NAME	HOURS	EXPLAIN DELAYS, DIRECTIONS, ETC.
DAY	DRILLER	E. Mangum	10	Circulate Bottom of Hole Trip out
	HELPER	E-Tripp	10	Drillpipe Run 8" Pvc in Hole 408'
	OTHER	J. Granillo	10	Mix Barite mud & Cement - Pump
SWING	DRILLER			Cement & mud in place. - Clean
	HELPER			up Service Equip
	OTHER			
NIGHT	DRILLER			
	HELPER			
	OTHER			

CASING

SIZE		QUANTITY	LENGTH		CASING SHOES DAMAGED/LOST	CASING SET IN HOLE
8" Pvc	20	20' Pieces		TYPE	DEPTH	SIZE
8" Pvc	2	4' Pieces	Customer	NO. Supplyed	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	8			PORTLAND CEMENT	[redacted] 115			N BOXES			
CLEARMUD				CALSEAL				H BOXES			
[redacted] 200	96			Cement Retarder	1 - 3gal Can		(Delvo Stabalizer)				
				Cement Plug	1 - 8 3/8"						

FOREMAN [signature] GEOLOGIST [signature] 10/2/96

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: 10-9-96

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

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

DRILLING AND CORING RECORD

SHIFT	HOLE SIZE	FROM	TO	TOTAL	RECOVERY	#RUNS	ROCK TYPE	HOLE #	HOLE CONDITIONS
DAY								BHP-2	
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-2
	HELPER	E-Tripp	2	Run Trimie To [redacted]' mix & pump
	OTHER	J. Granillo	2	400 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	20			N BOXES			
CLEARMUD				CALSEAL				H BOXES			

FOREMAN Earl Young GEOLOGIST Keith [illegible]

White : Customer Yellow : Office Pink : Foreman