DRILLING SERVICES-BOYLES BROS.

a division of Layne Christensen Company

Boyles Bros. DRILLING COMPANY

CLIENT: BHP Copper Co DATE: 8-16-96
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 3	
								BHP 4	
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	Set up on BHP 3 Reamed Hole To 16"
	HELPER	E. Tripp	10	Set & Cemented in 20' of 12" Casing
	OTHER	J. Granillo	10	Moved To BHP 4 Reamed To 16"
SWING	DRILLER			Set & Cemented in 21' of 12" Casing
	HELPER			
	OTHER			
NIGHT	DRILLER			
	HELPER			
	OTHER			

CASING

SIZE	QUANTITY	LENGTH		CASING SHOES DAMAGED/LOST	CASING SET IN HOLE
BHP 4	21' of 12 x .375 Steel		TYPE Customer Supplied	DEPTH	SIZE
BHP 3	20' of 12 x .375 Steel		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				PORTLAND CEMENT				N BOXES			
CLEARMUD				CALSEAL				H BOXES			
				Premix BHP 3	12	BB DC Supplied					
				Premix BHP4	14						

FOREMAN Earl Mang GEOLOGIST

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: 10-3-96
JOB#: 34-7025 JOB NAME: BHP Florence LOCATION: Florence
DRILL#: 6468 ANGLE: Vert MSHA: PRE-SHIFT INSPECTION: SM

DRILLING AND CORING RECORD

SHIFT	HOLE SIZE	FROM	TO	TOTAL	RECOVERY	#RUNS	ROCK TYPE	HOLE #	HOLE CONDITIONS
DAY	12	403						BHP-3	
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										5	5	
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												
SWING												
NIGHT							Rock-Hoe				2	

SHIFT		NAME	HOURS	EXPLAIN DELAYS, DIRECTIONS, ETC.
DAY	DRILLER	E-Mangom	10	Circulate bottom Trip out & Run Casing To bottom w/ Elect. Wire along Side - Circulate 12000 gal clear water pump Cement - Plug & Barite mud - Clean up
	HELPER	E-Tripp	10	
	OTHER	J. Granillo	10	
SWING	DRILLER			
	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	1		4'	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				N BOXES			
CLEARMUD				CALSEAL				H BOXES			
[redacted] Gel	6			Stainless Centralizers	14						
				8 5/8 Cement plug	1						

FOREMAN [signature] GEOLOGIST [signature]

White : Customer Yellow : Office Pink : Foreman

DRILLING SERVICES-BOYLES BROS.

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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: Em

DRILLING AND CORING RECORD

SHIFT	HOLE SIZE	FROM	TO	TOTAL	RECOVERY	#RUNS	ROCK TYPE	HOLE #	HOLE CONDITIONS
DAY								BHP-13	
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. Mangum	2	Move & Setup on BHP-13 Run Tremie
	HELPER	E. Tripp	2	40' mix & pump 600 gal Cement
	OTHER	J. Granillo	2	Pull Tremie
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	30			N BOXES			
CLEARMUD				CALSEAL				H BOXES			

FOREMAN Earl Mang GEOLOGIST Keith Ei

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