BHP - 4

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												
SWING											10	
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	Customer Supplied	DEPTH	SIZE
BHP 3	20' of 12 x .375	Steel		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 Wing 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: 8-5-96
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-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							4			2	4	
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	Run Drill pipe Back in & Cleaned back To
	HELPER	E. Tripp	10	Bottom - Broke out Drill pipe & Collars
	OTHER	J. Granillo	10	Run 8" PVC To bottom
SWING	DRILLER			Set up To Cement
	HELPER			
	OTHER			
NIGHT	DRILLER			
	HELPER			
	OTHER			

CASING

SIZE	QUANTITY	LENGTH		CASING SHOES DAMAGED/LOST	CASING SET IN HOLE
8" PVC	20 x 20' Sch 80	TYPE		DEPTH	SIZE
8" PVC	3' x 8"	Customer Supplied 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			

FOREMAN Earl Mg GEOLOGIST

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DRILLING SERVICES-BOYLES BROS.

a division of Layne Christensen Company

Boyles Bros. DRILLING COMPANY

CLIENT: BHP Copper Co DATE: 9-6-96
JOB#: 34-7025 JOB NAME: BHP Florence LOCATION: Florence
DRILL#: 6468 ANGLE: Vert MSHA: PRE-SHIFT INSPECTION: Ew

DRILLING AND CORING RECORD

SHIFT	HOLE SIZE	FROM	TO	TOTAL	RECOVERY	#RUNS	ROCK TYPE	HOLE #	HOLE CONDITIONS
DAY								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							4			7½		
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												

SHIFT		NAME	HOURS	EXPLAIN DELAYS, DIRECTIONS, ETC.
DAY	DRILLER	E-Mangum	11	Flushed Hole out w/ 10,000 gal water
	HELPER	E-Tripp	11	Mixed Cement & pumped into Casing
	OTHER	J. Granillo	11	Added Cement plug & Started pumping
SWING	DRILLER			Down Casing - Cement started setting -
	HELPER			Requireing Tomuch pump pressure for
	OTHER			PVC Casing Pulled PVC back out of
NIGHT	DRILLER			Hole - ~~[illegible]~~ pumped mud back into
	HELPER			Pits & began Washing ~~out of~~ Cement
	OTHER			out of Hole - Left Good mud in Hole

Pulled Drill Pipe back out of Hole

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	46			PORTLAND CEMENT				N BOXES			
CLEARMUD				CALSEAL				H BOXES			
				Type 5 Cement	104			8" Cement plug	1	Customer Supplied	

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DSC

DRILLING SERVICES-BOYLES BROS.

a division of Layne Christensen Company

Boyles Bros. DRILLING COMPANY

CLIENT: BHP Copper Co DATE: 9-10-96
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-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							4			6		
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											

SHIFT		NAME	HOURS	EXPLAIN DELAYS, DIRECTIONS, ETC.
DAY	DRILLER	E-Mangum	10	Added on 10' Steel Casing & Lower Casing
	HELPER	E-Tripp	10	To bottom Circulate out mud w/10000 gal
	OTHER	J. Granillo	10	Water mixed Cement & pamped in Hole
SWING	DRILLER			Added Cement plug & pamped down Casing
	HELPER			Cement To thick To pump around out side
	OTHER			of Casing - Let Cement Set for 2hrs
NIGHT	DRILLER			& Run Rods in & found Cement plug @
	HELPER			250' - Drilled out plug & Cement To 399'
	OTHER			Pulled Rods out

CASING

SIZE	QUANTITY		LENGTH		CASING SHOES DAMAGED/LOST	CASING SET IN HOLE
8" Pvc	20	20' x Sch 80		TYPE	DEPTH	SIZE
8" Pvc	1	5' x Sch 80	Customer	NO.	SIZE	
BIT# 8" Pvc	2	~~SIZE/TYPE~~ 10' x Sch 80	OFF	Supply 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	4			PORTLAND CEMENT	66			N BOXES			
CLEARMUD				CALSEAL				H BOXES			
				8 3/8" Cement plug	1			10' Steel	8" Casing		

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: 10-8-96
JOB#: 34-7025 JOB NAME: BHP - Florence LOCATION: Florence
DRILL#: 6448 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-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										3		
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		Moved & Setup on BHP-4 Run Trimie
	HELPER	E-Tripp		Pipe in To 120' - Mixed & pumped
	OTHER	J. Granillo		800gal Cement To Fill Hole pulled
SWING	DRILLER			Trimie out
	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	3			PORTLAND CEMENT	52			N BOXES			
CLEARMUD				CALSEAL				H BOXES			

FOREMAN Earl Mang GEOLOGIST [signature]

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