

CS-4000 Unit #726 SLM Spot Check
13 June 2000
US Borax Mine Site, Boron, California

Site Description

This spot check SLM survey was conducted between 1130 and 1200 on 13 June 2000 at the US Borax Mine. This active borate mine is located near the southern California town of Boron. It is a high desert area with rocky soil and scrub brush. The altitude is approximately 4,000 feet above sea level. The site was in the desert terrain outside of the town and inside of an inactive mine pit. The drill rig was on a pad area with no barriers within 300 feet (Figure 1). There were some additional noise sources such as heavy equipment and aircraft that could have contributed to noise levels in the survey.

Environmental Conditions

During the entire survey there were winds from the north at approximately 10 mph. The temperature was 95° F during the course of the survey with very low humidity. The background noise level taken with the SLM before drilling operations commenced was less than 75.0 dBA.

Site Equipment

The drill surveyed was unit #726 based out of Chandler, Arizona. The main engine of the drill rig is a deck mounted, six cylinder, 653 Detroit diesel. Associated equipment included with the rig is an FMC W1122BCD hydraulic powered water pump, which runs off of power supplied by the drill rig engine and a Ford F-250 driller's pick-up truck. The rig is mounted on a 1984 F-2275 Freightliner truck.

Technical Approach

Layne Christensen Safety Coordinator, Jim Wright, conducted this survey. During the survey, the drill crew was performing routine drilling operations. This survey would constitute an "average" time frame of drilling on a CS 4000 core drill rig.

Instantaneous Sound Level Measurement Results

Instantaneous SLM results for the CS-4000 drill rig at Boron showed noise levels above 85 dBA up to forty feet (40') away from the rig during drilling operations. These levels were dependent upon the direction of the rig. The front showed the lowest levels beginning at ~ 90 dBA. The noise levels at the left and right sides of the drill produced levels of ~ 103 dBA due to the close proximity of the engine.

Conclusion

The 85 dBA line and instantaneous SLM reading taken during this survey are within the other historical surveys conducted. The 85 dBA line stretched to forty feet (40') most likely due to the wide open space around the drill and constant wind.

Equipment List	
Instrument	Serial Number
Quest Model 215 Sound Level Meter	M2050070
Quest CA12 Acoustical Calibrator	6100450

Calibration		
Serial Number	Pre-Cal	Post-Cal
M2050070	110 dBA @ 1,000 Hz	110 dBA @ 1,000 Hz

Instantaneous SLM Readings				
Distance from Rig in feet	SLM Readings in dBA from Position			
	Front	Rear	Left	Right
0	87.0	99.0	103.0	103.0
5	87.0	97.0	100.5	102.0
10	86.0	95.0	98.0	98.0
15	85.0	92.5	97.0	95.5
20	83.5	89.0	95.5	93.5
25	82.0	87.0	93.0	91.0
30	80.5	85.0	90.0	90.0
35	78.5	82.0	88.5	88.0
40	-	78.0	85.0	85.0
45	-	-	83.0	83.5
50	-	-	82.0	80.5
55	-	-	80.5	78.5
60	-	-	79.0	-

Misc. Instantaneous SLM Readings	
Operator's Station	99 dBA

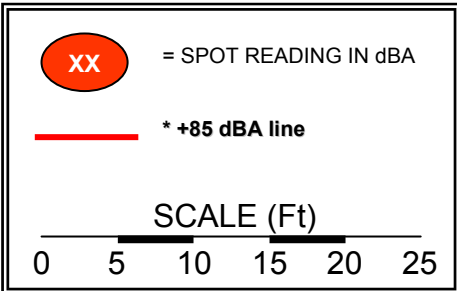
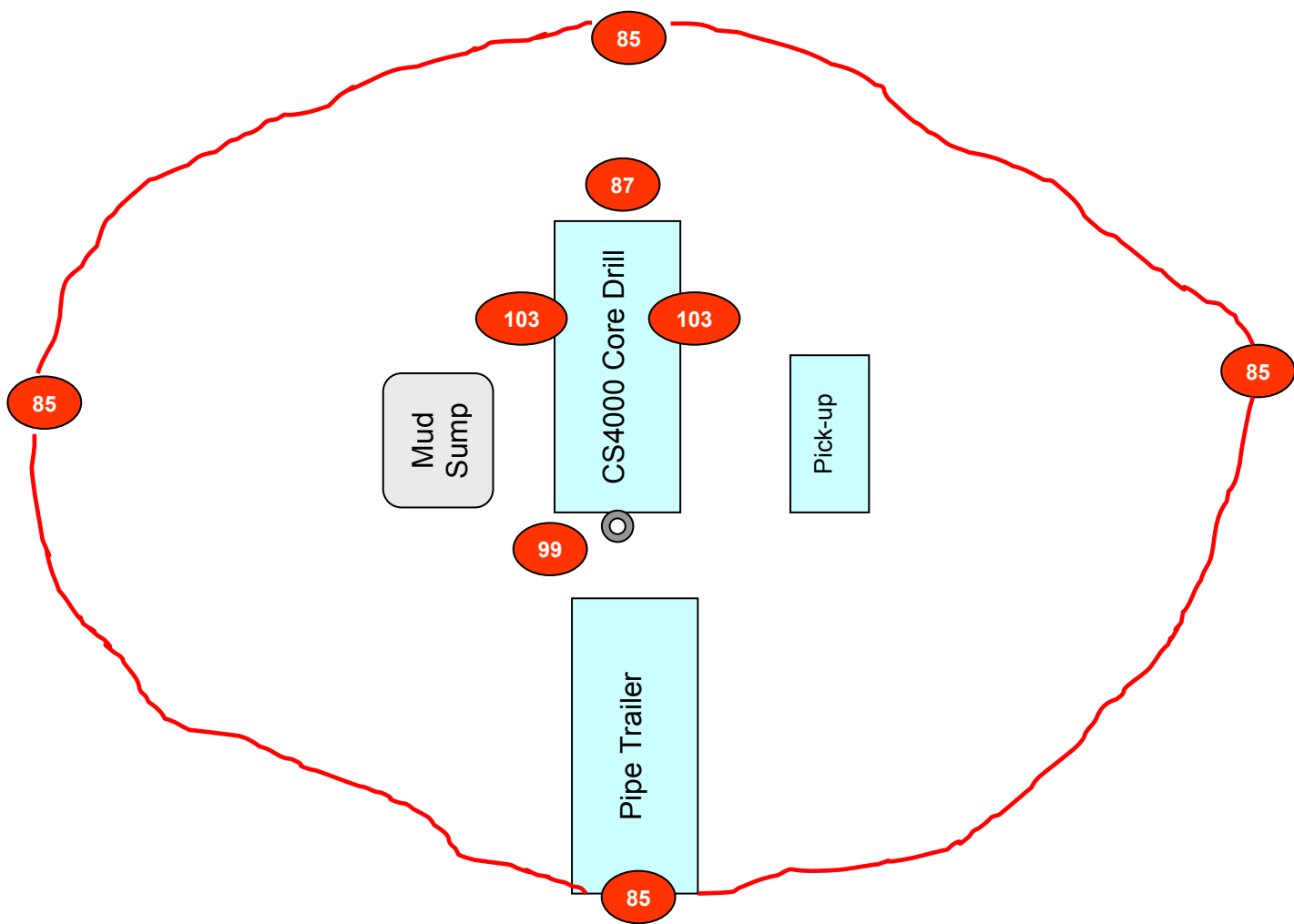


Figure 1 US Borax Mine CS4000
 #726
 13 June 2000