

FIELD NOTES: FARO PIT AND DUMPS SEEP SURVEY
September, 1987

Sept 24: Zone 2 pit and bottom of blue line ditch system.

1- Zone 2 pit water. Pond being pumped out. Inflows are Seeps 2 and 31.

2- Zone 2 inflow. This is the water from the blue line ditch system that intercepts seeps from near the Faro Diversion to Zone 2. The ditch system was installed in 1986 and leaks in many places. It does not intercept side channels well, as they tend to erode the point of entry and run under the liner.

3- Blue line ditch at road crossing just above Zone 2 pit. This is by old waste dumps. Sampling point is upstream of the seeps that enter from these dumps at the road crossing (Seeps 4, 5 and 6).

4- Seep to blue line ditch at road crossing. Seep enters ditch just above road. There are gullies on the waste dump slope above the seep. Water flows down and through the dump, through a boggy area and enters the ditch.

5- Seep from bog to blue line ditch. Water that has seeped through the dumps accumulates in the bog and flows out in a stream. This joins Seep 6.

6- Seep from dump to blue line ditch. This flows from the dump toe, joins 5 and then flows under the liner of the blue line ditch. Some of the flow rejoins the ditch at the next join in the liner, some presumably seeps through and emerges in Zone 2 (probably source of Seep 31).

7 and 8 - These two seeps flow from the toe of dumps further up the blue line ditch. There are many very small seeps and damp areas all along this section. This is reflected in the difference in flows in the ditch between Sites 9 and 3.

9- Blue line ditch. The ditch is not lined along this section. None of the seeps and channels running into the ditch have red stains, unless so noted.

Sept 25: Continuing up the blue line ditch system

10- Blue line ditch. This is about 50 m upstream of site 9. Some flow appears to go into the toe of the dump between 10 and 9.

11- Blue line ditch. On bench with power lines. The flow is small in this ditch, but the water is pH 3.3. Sheet metal at the end of the ditch is corroding. Piezometers 2 and 2A are on this bench. The water flowing out of this ditch seeps through the

22- Blue line ditch 22. Red stain in liner. This is a short section, down the pit wall.

Sept 26: More blue line ditch, Faro Diversion.

23- End of blue line ditch (above Zone 2). At this point, the channel used to go into the North Fork, has been diverted to Zone 2. Liner in bad shape through here.

24- Faro Diversion at lower weir (measured as 2.2 km downstream of the point of diversion. This is just above the section where the channel cuts into bedrock.

25- Faro Creek above diversion. Boulder substrate, could not do flow.

26- Interceptor ditch from west, joins Faro Diversion.

Followed the diversion from sites 25 to 24, doing flow measurements every 200 m. However, differences in channel profiles made the flow measurements too inaccurate to pinpoint where water is leaking. Flow calculations at the weirs, measured every 0.1 m, corresponded well with the calculated discharges from the weirs.

Distance from Point of diversion (m)	Type of waste rock on dyke, in channel	Observations
200 to 1000	Sulphide, mainly boulders	Water accumulates in pond at bottom of swamp and some is pumped back to Diversion at 875 m. Only surface seep found at 500 m.
1000 to 2200	Non-sulphide, mainly cobble to gravel plus boulders	Lined portion is about 1350 m to 2200 m. Leakage would be to pits and to blue line ditch system.

Flows at weirs:

Upper weir - 1075 m from point of diversion: 106.3 L/s
Lower weir - 2200 m from point of diversion: 81.4 L/s
Loss of 24.9 L/s (375 USGPM)

There is standing water in the swamp area from the point of diversion down to the bottom of the swamp.

27- Seep through road from Faro Diversion. This is the only surface flow seen. Flow tiny. Seeps through the road, flows into swamp.

28- Cribbed sump in swamp. This is lower than the pump pond. There is a pump line in the sump. There are no surface inflows or outflows, but standing water all around. This is the low point of the swamp.

29- Inflow to swamp pump pond. This is a well-defined channel and flow, presumably outflow of accumulated water from swamp area. It flows into a deep pond (water blue-green) with a pump line in it. Below this, there is a boggy, lower area with puddles and a cribbed sump (Site 28).

30- Outflow from pump pond, to Faro Creek. This is pumped out all year round.