

SOVEREIGN HYDROSEAL PTY LTD

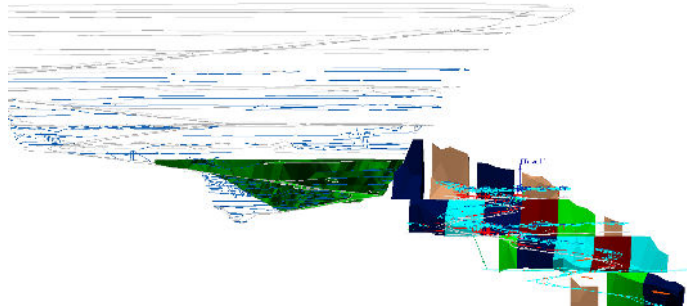
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19 November 2010

Attention: Stephen Simpson & Chad Moloney

XNA Sinclair
Xstrata Nickel Australia
Level 3, 24 Outram Street, West Perth
WA 6005
Report : Curtain Grouting between open cut and the Ore body drive.

Proximity of the designed underground workings to the open cut created a concern. If the ore is removed as shown in "diagram A" without precautionary measures taken to eliminate or reduce the water intake, it could interfere with or make the underground development impossible/unsafe if a flood occurs.

Diagram A


With obvious signs of water being present a dye testing program was done to determine if preventative methods could be undertaken to limit the water intake. Dye tests were conducted at the 1300 Level and referring to report dated 24th September 2010. It was determined that the majority of the water is associated with the water in the open cut. During the drilling of Long hole drilling instruction AN001 large voids and volumes of water were intersected, largely concentrated east/parallel to the ore body. A Dye testing program was done and the information obtained was sufficient to do a methodology and costing, Re. Proposal: Water Sealing, Curtain grouting between the open cut and the 1300 Level, dated 24th September 2010.

Curtain Grouting:
Methodology: In short – Referring to proposal dated 24th September 2010

With the character of the NOH₂O emulsion grout and the compatibility with conventional cement grout, 3 rings were drilled between the existing open cut and the proposed underground development from the 1300 Level, see Diagram B & C. This allowed access into the formation and enabled grouting to isolate the proposed underground development, connected via water bearing fissures. Ring A was used for cement grouting. Ring B was used for NOH₂O grouting to control the cements "washout" effect, and seal water deeper into the formation in smaller cracks and fissures inaccessible to cementitious grouts. During the grouting phase all drilled holes producing water were pressurised to prevent "loss of hole". Two additional holes R(69°) and Q(56°) were drilled 500mm in front of Ring A, used for NOH₂O grouting after the voids were filled using cement. This placed NOH₂O between the cement and the open cut, further reducing the water intake potential.

Program of works completed:

Long hole drilling instruction AN002, Dated 7th October 2010 was designed by Mr. Chad Moloney, Alternate Underground Manager as per our request. Diagram B & C indicates the two rings to be drilled.

Diagram B

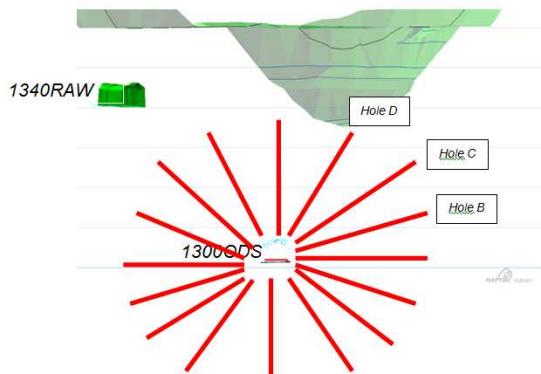
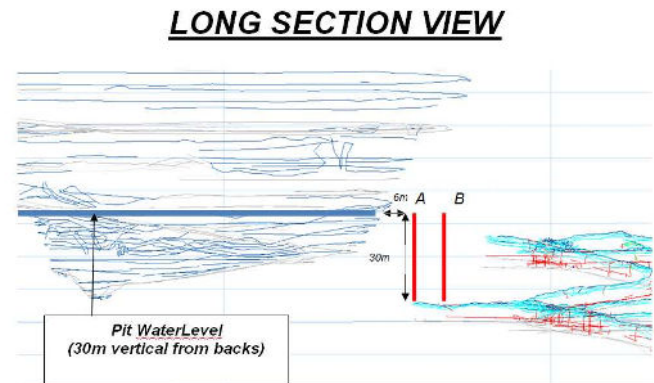


Diagram C



Drilling commenced on the 8th October 2010 in the 1300SOD. Sovereign made an experienced staff member available, to give directions during the process and assist when large volumes of water was intersected. After drill ring B was completed it was evident that most of the water was concentrated between holes A (0°) and Hole E (90°). Hole C (45°) and D (67.5°) intercepted large volumes of water and voids between 3 and 8 meters in drill depth. **Drill holes between 0° and 67.5° could not be drilled to required 30m in length due to the amount of water the holes were producing, on average the holes were drilled to 12m. The volume of water was sufficient to "overflow" the sumps in the main decline, see Photo A & B.** The Solo operator was instructed to stop drilling when significant water was intersected, retract rods and pulled out the drive. Holes were temporarily plugged with grouting packers equipped with valves.

Photo A



Photo B



Drilling of Ring A commenced on 10th October 2010 and only holes A (0°), B (22.5°), C (45°) and D (67.5°) were drilled. Holes B, C and D intercepted large water fissures between 3 to 8 meters drill depth. These holes were also plugged with grouting packers to stop inflow of water into underground workings. Drilling was partially completed on the 11th October 2010.

Note: Voids intersected in Ring A & B caused a concern due to the hydrostatic pressure that would be applied during the grouting phase, injection pressures were capped at 25 Bar as per Xstrata instructions and strictly adhered to throughout the project.

Phase 1 - The grouting phase began on the 12th October 2010, Cementation started with Ring A, and systematically grouted, starting with hole A (0°) through to E (90°). Grouting ratios was strictly adhered to, to achieve the desired effect. Ratios of 1/8 (cement/water) to 1/1 were used. On average 1.7 ton cement was injected into Ring A, Holes A – D. NOH₂O was used to "control" the cement in the desired area between Ring B and the open cut. The first phase of the project was completed on 15th October 2010, all holes were pressurised to 25 bar.

Additional drilling was required, where previously hampered by volume of water, to extend the curtain to 30m in depth in all directions to ensure all water bearing voids were intersected.

Phase 2 - Re. Long hole drill instruction AN 003 Dated 16th October 2010. Drilling commenced on the 19th October 2010. Drill Holes B, C and D in both rings A and B were drilled up to 30meters. **It was evident the grouting application thus far was successful; no fissures producing water were intercepted to previous total depth of hole.** Two additional holes were drilled 500mm in front of Ring B marked Q (56°) and R (69°). Holes B, C and D in both rings were grouted in sequence with phase 1 and Q & R used for NOH₂O grouting and creation of impermeable seal between the cementitious base and the open cut.

Please see photo's (C – H) below giving more insight into the project completed.

Photos C & D showing installation of grouting packers and hose.

Photo C



Photo D



Photos E, F and G showing grouting equipment used and final result.

Photo E



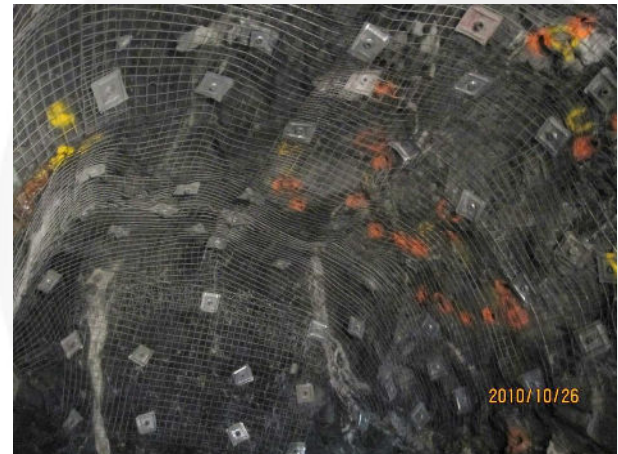
Photo F



Photo G

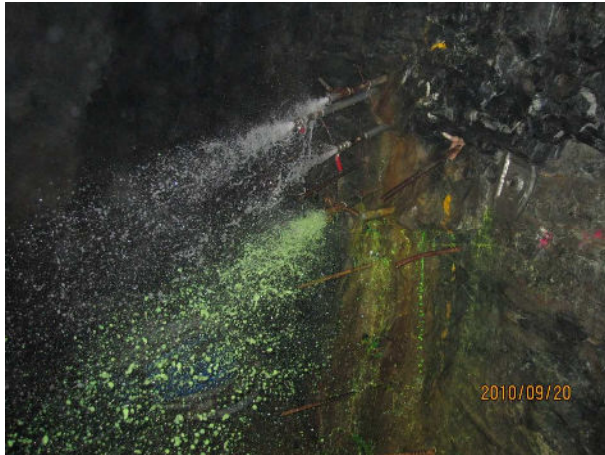


Photo H



Exploration diamond drilled holes were used to monitor progress during the installation of the grout curtain. See photos below showing water inflow before and after Curtain Grouting Installation, taken in the 1300 SP South.

Before



After



25th October 2010 grouting was completed in the 1300 SOD. Sovereign moved grouting equipment to the 1300 stockpile to grout diamond drilled hole drilled into/very close to the open cut.

25th and 26th October 2010 Sovereign demobilized the grouting site in the 1300. All equipment was moved from the 1300 level to Xstrata stores lay-down yard for transportation back to Perth.

During the project; **Sovereign's Safe Work Instruction and Underground Cementation processes was strictly followed and work was successfully and safely completed with no injuries, hazards or near misses to report.**

If you require any more information on the above re the recent grouting phase please contact me. Digital Video photography is also available upon request.

Also please extend our thanks to Byrncut and the Xstrata personnel for their assistance with this project.

Yours Faithfully

Nico Grobler
Director