

UK Construction

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MEETING NOTES & TRAIL RESULTS

Location of Meeting: Kirriemuir **Date of Meeting:** 30 January 2008

Minutes Written By: Stuart McDonald **Date:** 30 January 2008

Subject: Meeting to discuss Blasting Trials @ Kirriemuir


Present : S. McDonald (NG)
 B. Bedford (NG)
 B. Cottrill (DSGL)
 R. Britner (DSGL)
 I. Somers (CAN)
 D. Grenhowe (CAN)

Item	Subject	Action
1.0	<p>Introductions</p> <p>All parties introduced to the pre trial meeting.</p>	
2.0	<p><u>Permitry Review</u></p> <ul style="list-style-type: none"> • DSGL and L & M will have separate permits • Method Statements reviewed. • Toolbox talk & acknowledgement signed off • Security arrangements • Emergency exits 	
3.0	<p><u>Objectives</u></p> <p>Stuart Mc Donald outlined the objectives for the day.</p> <ul style="list-style-type: none"> • See Doris system in action with back to back comparative test with conventional shot blast system. 	

<p>4.0</p>	<ul style="list-style-type: none"> • Test will be carried out on a 36” butt weld specially set out on site, work will be supported by L&M (Jeff Heeps) • Workscope review (BB report) <p><u>Safety Induction</u></p> <p>L&M safety induction by F. Hall to all visitors.</p>																			
<p>5.0</p>	<p>The comparative test was then carried out on site; the test was witnessed by a qualified Senior Pipeline Inspector Stephen Moorhead who prepared a report on the trial, see end of these meeting notes</p> <p>Once the trial was completed a close out meeting was held to summarise the findings. The table below shows the areas discussed.</p> <p>Comparison Table:-</p> <table border="1"> <thead> <tr> <th data-bbox="252 891 710 931">DORIS</th> <th data-bbox="710 891 1161 931">CONVENTIONAL</th> </tr> </thead> <tbody> <tr> <td data-bbox="252 931 710 1189"> <p><u>Safety</u></p> <p>Not pressure system as vacuum / venturi arrangement draws blast medium.</p> </td> <td data-bbox="710 931 1161 1189"> <p>Blast pot is a pressure system, maintenance and record implications</p> </td> </tr> <tr> <td data-bbox="252 1189 710 1301"> <p>Protective Hood smaller lighter (15k)</p> </td> <td data-bbox="710 1189 1161 1301"> <p>Large Hood used on conventional system much heavier more cumbersome.</p> </td> </tr> <tr> <td data-bbox="252 1301 710 1375"> <p>Air feed masks</p> </td> <td data-bbox="710 1301 1161 1375"> <p>Air feed masks</p> </td> </tr> <tr> <td data-bbox="252 1375 710 1487"> <p>Much lighter for man handling</p> </td> <td data-bbox="710 1375 1161 1487"> <p>Heavy two man lift, equipment heavy, even the small blast pot in use</p> </td> </tr> <tr> <td data-bbox="252 1487 710 1599"> <p>Set up and use of tool very easy.</p> </td> <td data-bbox="710 1487 1161 1599"> <p>Heavy set up requiring a two man operation.</p> </td> </tr> <tr> <td data-bbox="252 1599 710 1749"> <p>Low noise system (not measured, comparative assessment)</p> </td> <td data-bbox="710 1599 1161 1749"> <p>Noisy system (not measured, comparative assessment)</p> </td> </tr> <tr> <td data-bbox="252 1749 710 1935"> <p><u>Time to blast 50% of 36” butt</u></p> <p>7mins approximately</p> </td> <td data-bbox="710 1749 1161 1935"> <p>4 mins</p> </td> </tr> <tr> <td colspan="2" data-bbox="252 1935 1161 2027"> <p>No significant difference in time for AGI works may be a factor on pipeline with large numbers of butts to complete in a day.</p> </td> </tr> </tbody> </table>	DORIS	CONVENTIONAL	<p><u>Safety</u></p> <p>Not pressure system as vacuum / venturi arrangement draws blast medium.</p>	<p>Blast pot is a pressure system, maintenance and record implications</p>	<p>Protective Hood smaller lighter (15k)</p>	<p>Large Hood used on conventional system much heavier more cumbersome.</p>	<p>Air feed masks</p>	<p>Air feed masks</p>	<p>Much lighter for man handling</p>	<p>Heavy two man lift, equipment heavy, even the small blast pot in use</p>	<p>Set up and use of tool very easy.</p>	<p>Heavy set up requiring a two man operation.</p>	<p>Low noise system (not measured, comparative assessment)</p>	<p>Noisy system (not measured, comparative assessment)</p>	<p><u>Time to blast 50% of 36” butt</u></p> <p>7mins approximately</p>	<p>4 mins</p>	<p>No significant difference in time for AGI works may be a factor on pipeline with large numbers of butts to complete in a day.</p>		
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<u>Media</u>		
Glass beads 1.5 – 1.6 mm granular size specified	J. Blast, copper sag	
<u>Surface Finish</u>		
Within specification	Within specification	
TDC 86 Microns 12:00 93 Microns BDC 88 Microns	TDC 80 Microns 12:00 81 Microns BDC 80 Microns	
Note: 75 – 100 microns required with CW5 for coating		
<u>Usage</u>		
12.5kg	25kg bag	
50% less than J Blast		
<u>Environmental</u>		
Reduced waste, ease of clean up	Increased waste by comparison.	
No pollution issues, even with water courses.	Pollutant must be removed	
Can be recycled, question over if allowed by CW5.	Not recyclable	
<u>Accessibility</u>		
Bent blast gun head or flex nozzle available for difficult spaces	Difficult spaces no problem with conventional system	
Additional functionality of equipment being used as jet wash, possible paint application.		
<u>Conclusion</u>		
Doris system performed much better than anticipated given the small size and light weight of the equipment, the main differences were;		
<ul style="list-style-type: none"> The time taken to blast 50% of the 900 mm NS test specimen which was 3minutes longer, that would equate to 6 minutes per but, this was not considered significant on AGI project but may be a factor on 		

	<p>pipeline projects.</p> <ul style="list-style-type: none">• 50 % reduction in blast medium reducing both cost waste and clean up time.• Non polluting.	
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	MANAGEMENT SYSTEM	WP2-33
		Rev Aug 03

GENERAL INSPECTION REPORT 05A

client	NATIONAL GRID.	DATE	30/01/08
PROJECT	EMISSION REDUCTION KIRRIEMUIR.	CONTRACT NO.	20018
inspection company	IACS.	SECTION/AGI/ BV	DORIS
subject of inspection	BLASTING TRIALS. (DORIS)		

COMMENTS

914mm PIPE COATED WITH SIGMA 805 , WELDED TO 90 DEGREE BEND (bare).THE DISTANCE FROM WELD CENTER TO EDGE OF COATING 70mm ON PIPE SIDE AND 70mm FROM WELD CENTER TO TAPED AREA ON BEND, TOTAL OF 140MM WIDE AROUND THE CIRCUMFRANCE.

STEEL TEMPRATURE = 14 DEGREES. RELITIVE HUMIDITY= 48%. AIR TEMPRATURE = 11 DEGREES.

COMPRESSOR WCA1C251061630341 115 P.S.I.USED.

THE DORIS SYSTEM COMPLETED 50% OF THE AREA IN 7 MINS, THIS INCLUDED FEATHERD AREA ON EXISTING.

TOTAL AMOUNT OF GLASS GRIT USED WAS APPROX 12 KG.

3 X TESTEX SAMPLE INSPECTIONS TAKEN : TOP= 86 MICRONS. MIDDLE=93 MICRONS. BOTTOM=88 MICRONS.

THE PROFILES ACCEPTABLE TO CW5. THE AMOUNT OF CLEAN UP TIME WOULD BE MINIMUM.

THE CONVENTIONAL BLAST POT SYSTEM COMPLETED 50 % IN 4 MINS, THIS INCLUDED FEATHERD AREA ON EXISTING.

TOTAL AMOUNT OF J-BLAST GRIT USED WAS APPROX 25 KG.

3 X TESTEX SAMPLE INSPECTIONS TAKEN: TOP= 80 MICRONS. MIDDLE=81 MICRONS. BOTTOM=88 MICRONS.

THE PROFILES ACCEPTABLE TO CW5. THE AMOUNT OF CLEAN UP TIME WOULD BE LONGER THAN DORIS.

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	SIGNATURE	PRINT NAME	APPROVAL & NUMBER	BAR CHART TECH. CLERK INITIALS
LAWRENCE - INSPECTION		S.J.MOOREHEAD .	3535 S.P.I.	
CLIENT				



DORIS System



Blast Media, 1.5 – 1.6 mm glass beads.



DORIS section of test area



Conventional section of test area (brighter due to camera flash)