

Signal Detection Report For Gage ID: Attrib_01

| | | | | | | | |
|----------------|-----------|----------------|------------|--------------|----|---------------------|---|
| Gage ID | Attrib_01 | Study Date | 19/02/2016 | Parts | 50 | Upper Specification | - |
| Gage Type | Plug Gage | Study By | - | Appraiser(s) | 3 | Lower Specification | - |
| Part No / Name | - | Characteristic | - | Trials | 3 | | - |

R&R Method = Signal Detection

Data Entry Mode = 1/0

Kappa Calculations

| Kappa | Appraiser1 | Appraiser2 | Appraiser3 |
|------------|------------|------------|------------|
| Appraiser1 | - | 0.863 | 0.776 |
| Appraiser2 | 0.863 | - | 0.788 |
| Appraiser3 | 0.776 | 0.788 | - |

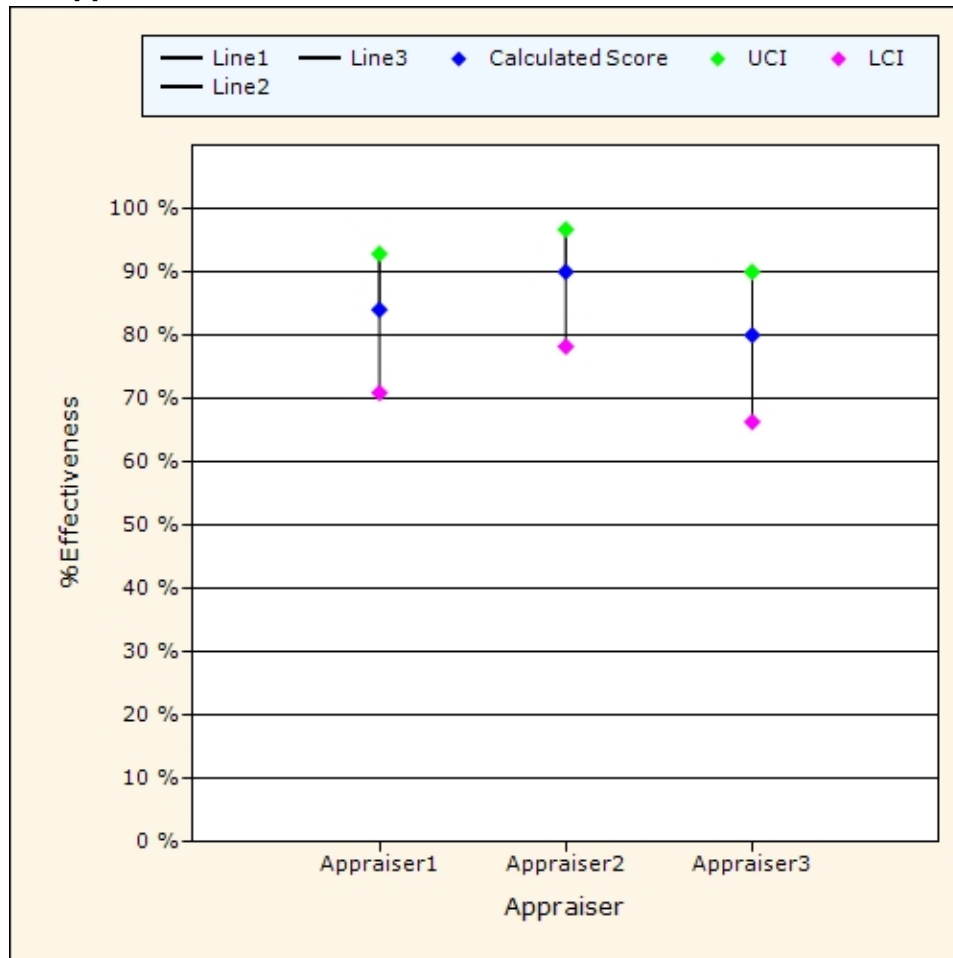
Signal Detection

| Width of Region II (Upper) | d-USL | 0.023448 |
|----------------------------|-------|----------|
| Width of Region II (Lower) | d-LSL | 0.024135 |
| Average Width of Region II | d-AVG | 0.023792 |
| Gage R&R | %GRR | 23.79% |

Effectiveness Summary

| | Effectiveness |
|------------|---------------|
| Appraiser1 | 84.00% |
| Appraiser2 | 90.00% |
| Appraiser3 | 80.00% |

% Appraiser to Self



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Signal Detection Data

| Parts/Trial | Appraiser1 | | | Appraiser2 | | | Appraiser3 | | | Reference | Code |
|-------------|------------|-----------|-----------|------------|-----------|-----------|------------|-----------|-----------|-----------|------|
| | Trial - 1 | Trial - 2 | Trial - 3 | Trial - 1 | Trial - 2 | Trial - 3 | Trial - 1 | Trial - 2 | Trial - 3 | | |
| 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.599581 | - |
| 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.587893 | - |
| 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.576459 | - |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.57036 | - |
| 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.566575 | - |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.566152 | - |
| 30 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0.561457 | x |
| 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.559918 | x |
| 26 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.547204 | x |
| 22 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0.545604 | x |
| 6 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0.544951 | x |
| 36 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0.543077 | x |
| 13 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.542704 | + |
| 16 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.531939 | + |
| 23 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.529065 | + |
| 29 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.523754 | + |
| 28 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.521642 | + |
| 19 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.520496 | + |
| 17 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.519694 | + |
| 15 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.517377 | + |
| 10 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.515573 | + |
| 24 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.514192 | + |
| 41 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.513779 | + |
| 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.509015 | + |
| 32 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.50585 | + |
| 31 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.503091 | + |
| 27 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.502436 | + |
| 8 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.502295 | + |
| 40 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.501132 | + |
| 35 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.498698 | + |
| 46 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.493441 | + |
| 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.488905 | + |
| 38 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.488184 | + |
| 33 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.487613 | + |
| 47 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.486379 | + |
| 18 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.484167 | + |
| 49 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.483803 | + |
| 20 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.477236 | + |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.476901 | + |
| 44 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.470832 | + |
| 7 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0.465454 | x |
| 43 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0.46241 | x |
| 14 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0.454518 | x |
| 21 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0.45231 | x |
| 34 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0.449696 | x |
| 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.446697 | - |
| 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.437817 | - |
| 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.427687 | - |
| 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.412453 | - |
| 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.409238 | - |

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Cross Tabulation

| Appraiser1 * Appraiser2 | | | | | |
|-------------------------|---|------------|-------|--------|--------|
| | | Appraiser2 | | Total | |
| | | 0 | 1 | | |
| Appraiser1 | 0 | Count | 44 | 6 | 50 |
| | | Expected | 15.67 | 34.33 | 50.00 |
| | 1 | Count | 3 | 97 | 100 |
| | | Expected | 31.33 | 68.67 | 100.00 |
| Total | | Count | 47 | 103 | 150 |
| | | Expected | 47.00 | 103.00 | 150.00 |

| Appraiser1 * Appraiser3 | | | | | |
|-------------------------|---|------------|-------|-------|--------|
| | | Appraiser3 | | Total | |
| | | 0 | 1 | | |
| Appraiser1 | 0 | Count | 43 | 7 | 50 |
| | | Expected | 17.00 | 33.00 | 50.00 |
| | 1 | Count | 8 | 92 | 100 |
| | | Expected | 34.00 | 66.00 | 100.00 |
| Total | | Count | 51 | 99 | 150 |
| | | Expected | 51.00 | 99.00 | 150.00 |

| Appraiser2 * Appraiser3 | | | | | |
|-------------------------|---|------------|-------|-------|--------|
| | | Appraiser3 | | Total | |
| | | 0 | 1 | | |
| Appraiser2 | 0 | Count | 42 | 5 | 47 |
| | | Expected | 15.98 | 31.02 | 47.00 |
| | 1 | Count | 9 | 94 | 103 |
| | | Expected | 35.02 | 67.98 | 103.00 |
| Total | | Count | 51 | 99 | 150 |
| | | Expected | 51.00 | 99.00 | 150.00 |

Effectiveness Result

| Source | % Appraiser | | |
|------------------|-------------|------------|------------|
| | Appraiser1 | Appraiser2 | Appraiser3 |
| Total Inspected | 50 | 50 | 50 |
| # Matched | 42 | 45 | 40 |
| False Negative | - | - | - |
| False Positive | - | - | - |
| Mixed | - | - | - |
| 95% UCI | 92.83% | 96.67% | 89.97% |
| Calculated Score | 84.00% | 90.00% | 80.00% |
| 95% LCI | 70.89% | 78.19% | 66.28% |

Effectiveness Calculations

| | System% Effective Score. |
|------------------|--------------------------|
| Total Inspected | 50 |
| # in Agreement | 39 |
| 95% UCI | 88.47% |
| Calculated Score | 78.00% |
| 95% LCI | 64.04% |