# APPENDIX F

## XRF CALIBRATION AND SAMPLE EXPERIMENT

Table F.1. Cobalt Standards for XRF Analysis.

| Standard | Bakers' Cobalt Oxide in gm. (72.1 wt.% Co.) | MCB's Activated Alumina in gm. (150 mesh) | Brinkmann's Avicel Microcrystalline Cellulose in gm. | Cobalt wt.% |
|---|---|---|---|---|
| Co-5 | 0.0139 | 0.1861 | 0.4000 | 5 |
| Co-10 | 0.0277 | 0.1723 | 0.4000 | 10 |
| Co-15 | 0.0416 | 0.1584 | 0.4000 | 15 |
| Co-20 | 0.0555 | 0.1445 | 0.4000 | 20 |
| Co-25 | 0.0693 | 0.1307 | 0.4000 | 25 |
| Co-30 | 0.0832 | 0.1168 | 0.4000 | 30 |
| Co-35 | 0.0971 | 0.1029 | 0.4000 | 35 |
| Co-40 | 0.1110 | 0.0890 | 0.4000 | 40 |

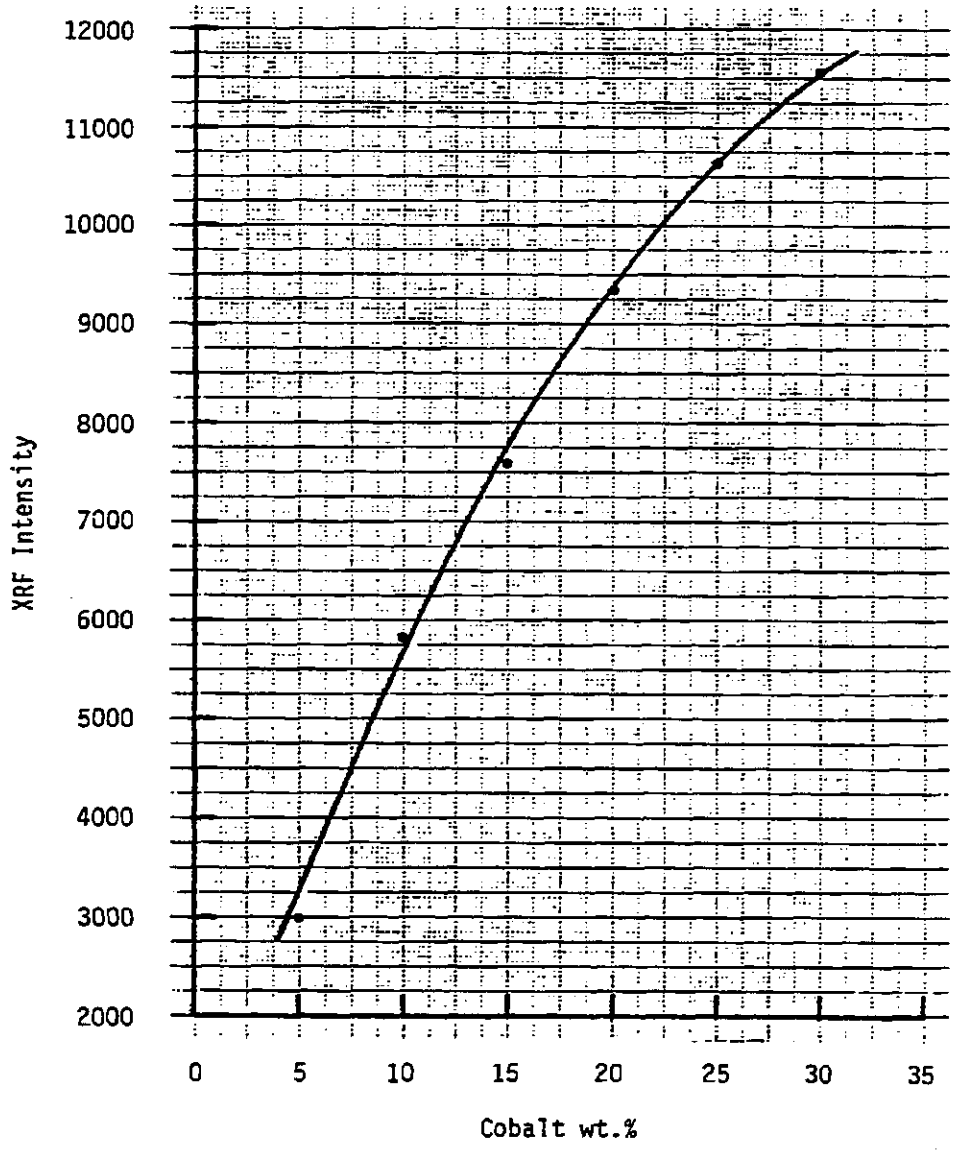


Figure F.1. XRF Calibration for Cobalt Scanning.

Table F.2. XRF Analysis for Bulk Cobalt Content in Catalyst.

| Sample | XRF Intensity | | | Cobalt wt.% |
|---|---|---|---|---|
| | One-side | Other-side | Net | |
| Co-5 | 2646.25 | 3306.74 | 2976.50 | 5.0 |
| Co-10 | 6103.28 | 5520.24 | 5811.76 | 10.0 |
| Co-15 | 7583.53 | 7613.40 | 7598.47 | 15.0 |
| Co-20 | 9337.45 | 9363.43 | 9350.44 | 20.0 |
| Co-25 | 10656.90 | 10601.90 | 10629.90 | 25.0 |
| Co-30 | 11559.70 | 11569.20 | 11564.45 | 30.0 |
| Ref.35A | 6158.26 | 7461.42 | 6809.84 | 12.6 |
| Ref.35B | 5198.48 | 5556.78 | 5377.63 | 9.3 |
| Ref.35C | 5818.56 | 5438.81 | 5628.69 | 9.9 |
| Ref.35D | 6299.83 | 6410.21 | 6355.02 | 11.6 |

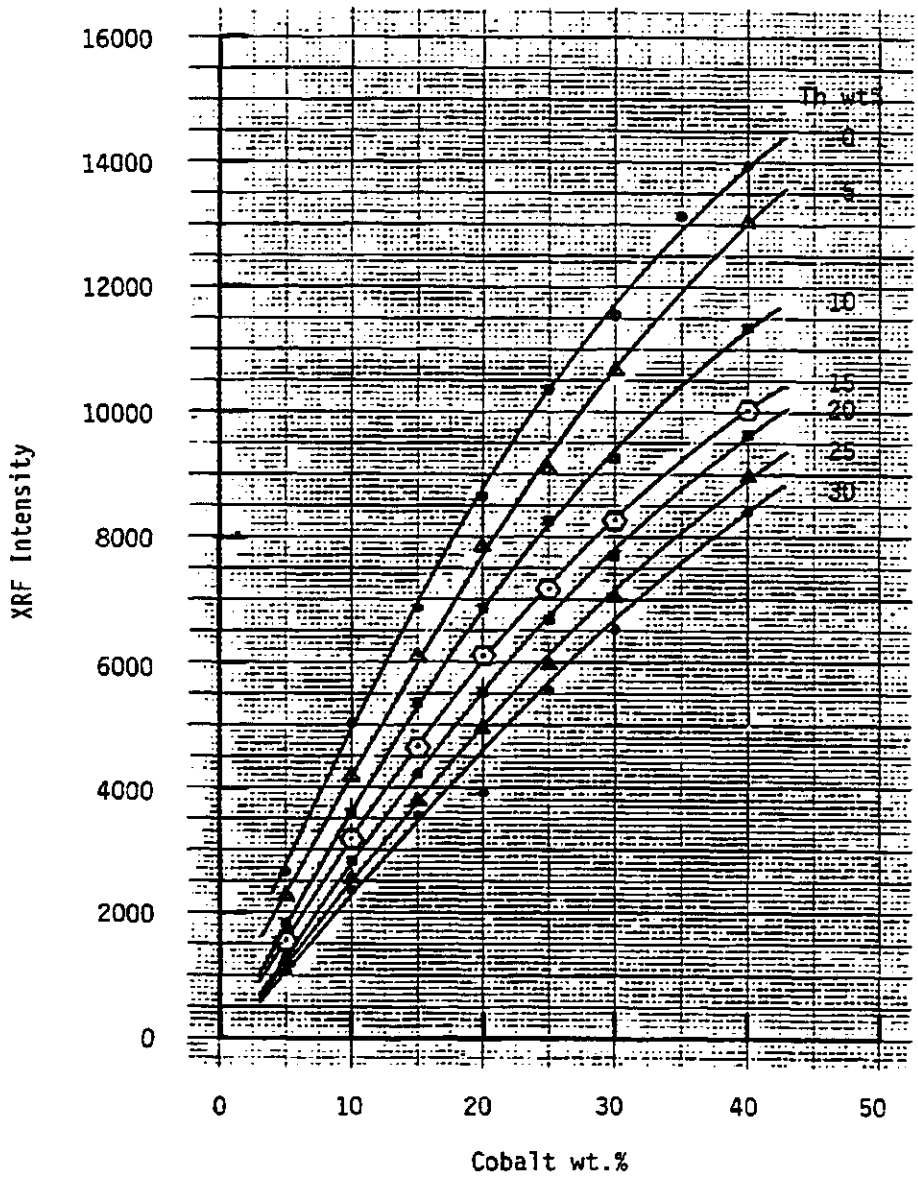


Figure F.2. XRF Calibration for Cobalt Scanning in Thorium Promoted Catalyst.