# Monsanto

MONSANTO INDUSTRIAL CHEMICALS CO.
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March 4, 1976

Westinghouse Hanford Company
Att. C. C. Southam
337 Bldg/2N9
POBox 1970
Richland Wa 99352
WA

Dear Ms Southam,

Listed are the analysis on 6 samples of Askarel submitted by you under order number Y65-444-30520 for analysis No. 2. Sample date on all samples was 1/26/76.

Sample Y-7 FETF

| Property | As Received | After Earth Treatment |
|---|---|---|
| Color, APHA | 95 | 35 |
| Condition | Clear | clear |
| Sp.Gr. 25/15.5°C | 1.398 | 1.386 |
| Refractive Index 25°C | 1.6250 | 1.6252 |
| Water, ppm | 25 | 40 |
| Free Chlorides, ppm | 0.02 | 0.01 |
| Acidity, mg KOH/gr | 0.003 | 0.001 |
| Dielectric Strength 25°C, KV | 50 | 42 |
| Power Factor 60 cycles, 100°C | >60% | 7.968% |
| Power Factor 1000 cycles 100°C | 7.06% | 0.400% |
| Dielectric Constant 60 cy, 100°C | - | 4.88 |
| Dielectric Constant 1000 cy, 100°C | 4.88 | 4.85 |
| Resistivity 100°C | 14 X $10^9$ | 1150 X $10^9$ |
| Power Factor 60 cycles, 25°C | | 0.500 |

Sample YFWR Y-11 FETF

| | | |
|---|---|---|
| Color, APHA | 85 | 40 |
| Condition | clear | clear |
| Specific Gravity 25/15.5°C | 1.386 | 1.388 |
| Refractive Index 25°C | 1.6250 | 1.6250 |
| Water, ppm | 25 | 40 |
| Free Chlorides, ppm | 0.02 | 0.02 |
| Acidity (mg KOH/g) | 0.002 | 0.001 |
| Dielectric Strength 25°C, KV | 47 | 42 |
| Power Factor 60 cycles, 100°C | >60% | 2.928% |
| Power Factor 1000 cycles, 100°C | 5.05% | 0.092% |
| Dielectric Constant 60 cy, 100°C | - | 4.83 |
| Dielectric Constant 1000 cy, 100°C | 4.88 | 4.83 |
| Resistivity 100°C | 19 X $10^9$ | 3200 X $10^9$ |
| Power Factor 60 cy, 25°C | | 0.174 |

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| Property | As Received | After Earth Treatment |
|---|---|---|
| **Sample XFMR X-12 FFTF** | | |
| Color, APHA | 45 | 30 |
| Condition | clear | clear |
| Sp.Gr. 25/15.5°C | 1.388 | 1.388 |
| Refractive Index 25°C | 1.6250 | 1.6250 |
| Water, ppm | 35 | 35 |
| Free Chlorides, ppm | 0.02 | 0.02 |
| Acidity (mg KOH/g) | 0.001 | 0.001 |
| Dielectric Strength 25°C, KV | 46 | 50 |
| Power Factor 60 cy,100°C | >60% | 10.080 |
| Power Factor 1000 cy, 100°C | 4.47 | 0.640 |
| Dielectric Constant 60 cy,100°C | - | 4.90 |
| Dielectric Constant 1000 cy, 100°C | 4.86 | 4.85 |
| Resistivity 100°C | 38 X $10^9$ | 210 X $10^9$ |
| Power Factor 60 cy, 25°C | | 0.647 |
| **Sample X-13 FFTF** | | |
| Color, APHA | 75 | 25 |
| Condition | clear | clear |
| Sp.Gr. 25/15.5°C | 1.387 | 1.387 |
| Refractive Index 25°C | 1.6251 | 1.6250 |
| Water, ppm | 25 | 25 |
| Free Chlorides, ppm | 0.04 | 0.02 |
| Acidity, mg KOH/g | 0.003 | 0.001 |
| Dielectric Strength 25°C, KV | 50 | 49 |
| Power Factor 60 cy,100°C | >60 | 6.300 |
| Power Factor 1000 cy, 100°C | 5.58 | 0.350 |
| Dielectric Constant 60 cy,100°C | - | 4.85 |
| Dielectric Constant 1000 cy,100°C | 4.86 | 4.83 |
| Resistivity 100°C | 16 X $10^9$ | 650 X $10^9$ |
| Power Factor 60 cy,25°C | | 0.252 |
| **Sample XFMR X-50 FFTF** | | |
| Color, APHA | 80 | 25 |
| Condition | clear | clear |
| Sp.Gr. 25/15.5°C | 1.386 | 1.387 |
| Refractive Index 25°C | 1.6250 | 1.6250 |
| Water, ppm | 20 | 35 |
| Free Chlorides, ppm | 0.02 | 0.02 |
| Acidity, mg KOH/g | 0.002 | 0.001 |
| Dielectric Strength 25°C | 50 | 48 |
| Power Factor 60 cy,100°C | >60% | 4.030 |
| Power Factor 1000 cy, 100°C | 6.14 | 0.220 |
| Dielectric Constant 60 cy,100°C | - | 4.89 |
| Dielectric Constant 1000 cy, 100°C | 4.86 | 4.89 |
| Resistivity 100°C | 16 X $10^9$ | 1900 X $10^9$ |
| Power Factor 60 cy, 25°C | | 0.288 |



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Ms Southam
Sample Analysis
3/4/76
Sample XFMR X-08 EFTF

| Property | As Received | After Earth Treatment |
|---|---|---|
| Color, APHA | 125 | 35 |
| Condition | clear | clear |
| Sp.Gr. 25/15,5°C | 1.388 | 1.388 |
| Refractive Index 25°C | 1.6251 | 1.6253 |
| Water, ppm | 40 | 40 |
| Free Chlorides, ppm | 0.02 | 0.02 |
| Acidity, mg KOH/g | 0.001 | 0.001 |
| Dielectric Strength 25°C, KV | 47 | 48 |
| Power Factor 60 cy,100°C | >60% | 4.230 |
| Power Factor 1000 cy, 100°C | 8.00 | 0.250 |
| Dielectric Constant 60 cy,100°C | - | 4.86 |
| Dielectric Constant 1000 cy,100°C | 4.89 | 4.86 |
| Resistivity 100°C | 12 X $10^9$ | 2.050 $10^9$ |
| Power Factor 60 cy,25°C | | 0.186 |

All of the samples were earth treated with 0.2% attapulgus clay at 50-60°C for 2.5 hours and all responded to earth treatment.

Joel E. Blanchard,
Analytical Lab Technician

dv
cc - D. Wood - B2S
C. Field - B2NH
H. J. Horner

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