


April 17, 1985

TO: Charles Kuenemann

FROM: Jerry Leatherwood

The workers at the Moldmaster shakeout are getting much more exposure than the casting haulers. There is profuse smoke and visable fine particulates from the shakeout line, especially at the magnetic drum. In a low wind condition, the draw of the shakeout blockhouse keeps the fines in the breathing zone of the workers. This location is visually one of the worst that I have encountered. Both workers in this area wear the 'paper' fiber masks of their own volition.

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The Overhead shakeout man also appears visually to be getting more exposure than any that have been tested in the South Plant.

Jerry Leatherwood

JL/dh

# LABORATORY ANALYSIS REPORT

R.E. Project – Moldmaster – Casting Haulers

| SAMPLE NUMBER | ANALYSIS REQUESTED | RESULTS Total Dst mg | % Quartz | Exposure mg/m$^3$ | PEL mg/m$^3$ |
|---|---|---|---|---|---|
| 2153 | Dust-Quartz | 0.297 | 5.051 | 0.366 | 1.418 |
| 2154 | Dust-Quartz | 0.276 | 0.0 | 0.361 | 5.0 |
| | Dust-Quartz | | | | |
| | Dust-Quartz | | | | |
| | Dust-Quartz | | | | |
| | Dust-Quartz | | | | |
| | Dust-Quartz | | | | |
| 2155 | Blank | | 0 | | |

COMMENTS: Lee Kennedy 2107-8-9

Shift 1:30A – 9:30A

SILICA ANALYSIS

Report Date 4-19-85

| Sample Number | Milligrams $SiO_2$ |
|---|---|
| 2153 | 0.0150 |
| 2154 | ND |
| | |
| | |
| | |
| | |
| | |
| 2155 | ND |

SAMPLE VOLUME CORRECTION TO STP VOLUME

(AS REPORTED ON ANALYTICAL REQUEST FORM)

Vs = Sample Volume ($m^3$), Ts = Sample temperature (°K), Ps = Sample Pressure (mmHg)

Vc = Calibration Volume ($m^3$), Tc = Calibration temperature (°K), Pc = Calibration Pressure (mm

Vstp = Standard Volume ($m^3$), Tstp = Standard temperature (298°K), Pstp = Standard Pressure (760mm

| Sample # | Vs | $\times \sqrt{\frac{Ts}{Tc} \times \frac{Pc}{Ps}}$ | = Vc | Vc | $\times \left(\frac{Tc}{Tstp} \times \frac{Pstp}{Pc}\right)$ = Vstp |
|---|---|---|---|---|---|
| 2153 | 0.8160 | $\times \sqrt{\frac{293}{295} \times \frac{755}{754}}$ | = 0.814 | 0.814 | $\times \left(\frac{295}{298} \times \frac{760}{755}\right)$ = 0.811 |
| 2164 | 0.7701 | $\times \sqrt{\frac{293}{295} \times \frac{755}{754}}$ | = 0.768 | 0.768 | $\times \left(\frac{295}{298} \times \frac{760}{755}\right)$ = 0.76 |
| | | $\times \sqrt{\quad \times \quad}$ | = | | $\times \left(\frac{\quad}{298} \times \frac{760}{\quad}\right)$ = |
| | | $\times \sqrt{\quad \times \quad}$ | = | | $\times \left(\frac{\quad}{298} \times \frac{760}{\quad}\right)$ = |
| | | $\times \sqrt{\quad \times \quad}$ | = | | $\times \left(\frac{\quad}{298} \times \frac{760}{\quad}\right)$ = |
| | | $\times \sqrt{\quad \times \quad}$ | = | | $\times \left(\frac{\quad}{298} \times \frac{760}{\quad}\right)$ = |
| | | $\times \sqrt{\quad \times \quad}$ | = | | $\times \left(\frac{\quad}{298} \times \frac{760}{\quad}\right)$ = |
| | | $\times \sqrt{\quad \times \quad}$ | = | | $\times \left(\frac{\quad}{298} \times \frac{760}{\quad}\right)$ = |
| | | $\times \sqrt{\quad \times \quad}$ | = | | $\times \left(\frac{\quad}{298} \times \frac{760}{\quad}\right)$ = |
| | | $\times \sqrt{\quad \times \quad}$ | = | | $\times \left(\frac{\quad}{298} \times \frac{760}{\quad}\right)$ = |

PERSONNEL SAMPLE FIELD NOTES — SAMPLE # 2153

LABORATORY DATA — DATE 17 Apr 85

Sample Location Moldmaster - Casting Hauler

Pump # 2 Sampler Operator JL Analyte D-Q

Calibration Data: Date 11 Apr 85 Time 3:16 Pm Flow Rate (lpm) 1.7

Calibration Temp. (°K) 295 Calibration Pressure (mm Hg) 755

Blank # 2155 Wet Bulb (°F) 56 Dry Bulb (°F) 62

Sampler Inlet Height (Ft.) N/A Inlet Orientation N/A

Sampler Placement ☐ Area ☒ Employee. If Employee ☐ Left Side ☒ Right Side

Employee Name Orville Dews Badge # 6908 S/S [redacted]457-46-6468

Test Start Time 1:55 Am Test Stop Time 9:55 Am Gross Total (Min.) 480

Total Downtime During Test (Min.) 0.0 Net Total Sample Time (Min.) 480

Downtime None Reason Pump left on employee through lunch and breaks

Downtime _____ Reason _____

Downtime _____ Reason _____

Downtime _____ Reason _____

Sample Temperature (°K) 293 Sample Pressure (mm Hg) 754

Total Sample Volume (Liters) 816 STP Volume ($m^3$) 0.811

Initial Filter Wt. (Mg.) 14.731 Final Wt. (Mg.) 15.028 Net Gain (Mg.) 0.297

Wind Speed (MPH) and Direction: Start ESE 0-3 Mid SE 3-5 End SE 5-7

Pump Flow Adjustment Times hourly

Comments: Employee transfers full boxes of fittings from the shakeout to a shed area West of the railroad tracks and S.E. Cupola office. Visable particulates from vehicle traffic, shakeout and the mag. drum at the end of the shakeout line. No respirator worn. Employee is periodically relieved by another hauler.

RSONNEL SAMPLE FIELD NOTES — SAMPLE # 2154

LABORATORY DATA — DATE 17 Apr 85

Sample Location Moldmaster – Casting Hauler, relief man

Pump # 3 Sampler Operator JL Analyte D-Q

Calibration Data: Date 11 Apr 85 Time 3:18 pm Flow Rate (lpm) 1.7

Calibration Temp. (°K) 295 Calibration Pressure (mm Hg) 755

Blank # 2155 Wet Bulb (°F) 56 Dry Bulb (°F) 62

Sampler Inlet Height (Ft.) N/A Inlet Orientation N/A

Sampler Placement ☐ Area ☒ Employee. If Employee ☐ Left Side ☒ Right Side

Employee Name Ross Wallace Badge # V662 S/S [redacted]-88-9152

Test Start Time 1:57 Am Test Stop Time 9:30 Am Gross Total (Min.) 453

Total Downtime During Test (Min.) 0.0 Net Total Sample Time (Min.) 453

Downtime None Reason Pump left on employee through lunch and break

Downtime _____ Reason _____

Downtime _____ Reason _____

Downtime _____ Reason _____

Sample Temperature (°K) 293 Sample Pressure (mm Hg) 754

Total Sample Volume (Liters) 770.1 STP Volume ($m^3$) 0.765

Initial Filter Wt. (Mg.) 15.173 Final Wt. (Mg.) 15.449 Net Gain (Mg.) 0.276

Wind Speed (MPH) and Direction: Start ESE 0-3 Mid SE 3-5 End SE 5-7

Pump Flow Adjustment Times hourly

Comments: See #2153 (shift length for relief man is from 2 Am – 9:30 Am)