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June 28, 1999

Mr. Mark S. Delligatti
Senior Project Manager
Spent Fuel Licensing Section, SFPO, NMSS
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Reference: Holtec Project 70651
Private Fuel Storage L.L.C. P.O. #3
PFS Docket No. 72-22

Dear Mr. Delligatti:

Attached please find the following:

- a. Three color copies of Figures 4.2.3 and 4.2.4 from Holtec Report No. HI-992134.
- b. Hand calculations of hydraulic diameter appropriate for the EHT model used in the PFS thermal simulations.

We trust that the above information fulfills the verbal commitment made by us in today's telecon.

Sincerely,

Indresh Rampall
Indresh Rampall, Ph.D.
Principal Engineer

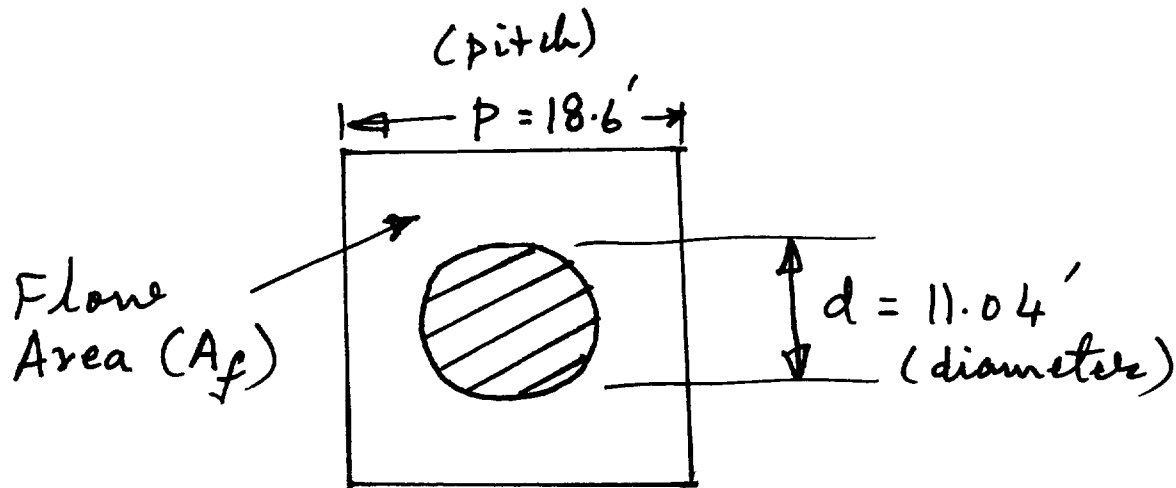
San Ramo
Technical Concurrence

10 Dec 1999
Approval

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NF 06

cc: Dr. Max DeLong, Northern States Power
Mr. John Donnell (Stone & Webster)
Document I.D.: 7065111

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HI-STORM CASK ARRAY HYDRAULIC DIAMETER CALCULATION

$$A_f = P^2 - \frac{\pi}{4} d^2 = 250.2 \text{ ft}^2$$

$$\text{Wetted Perimeter (} W_p \text{) of overpack} = \pi d = 34.7 \text{ ft}$$

$$\begin{aligned} \text{Hydraulic Diameter (} D_h \text{)} &= 4 \times \frac{\text{Flow Area}}{\text{Wetted Perimeter}} \\ &= 4 \times \frac{250.2}{34.7} = 28.9' \end{aligned}$$

$$\begin{aligned} \therefore D (\text{Hypothetical Cylinder Diameter}) &= d + D_h \\ &= 11.04' + 28.9' \\ &= 39.94' \end{aligned}$$

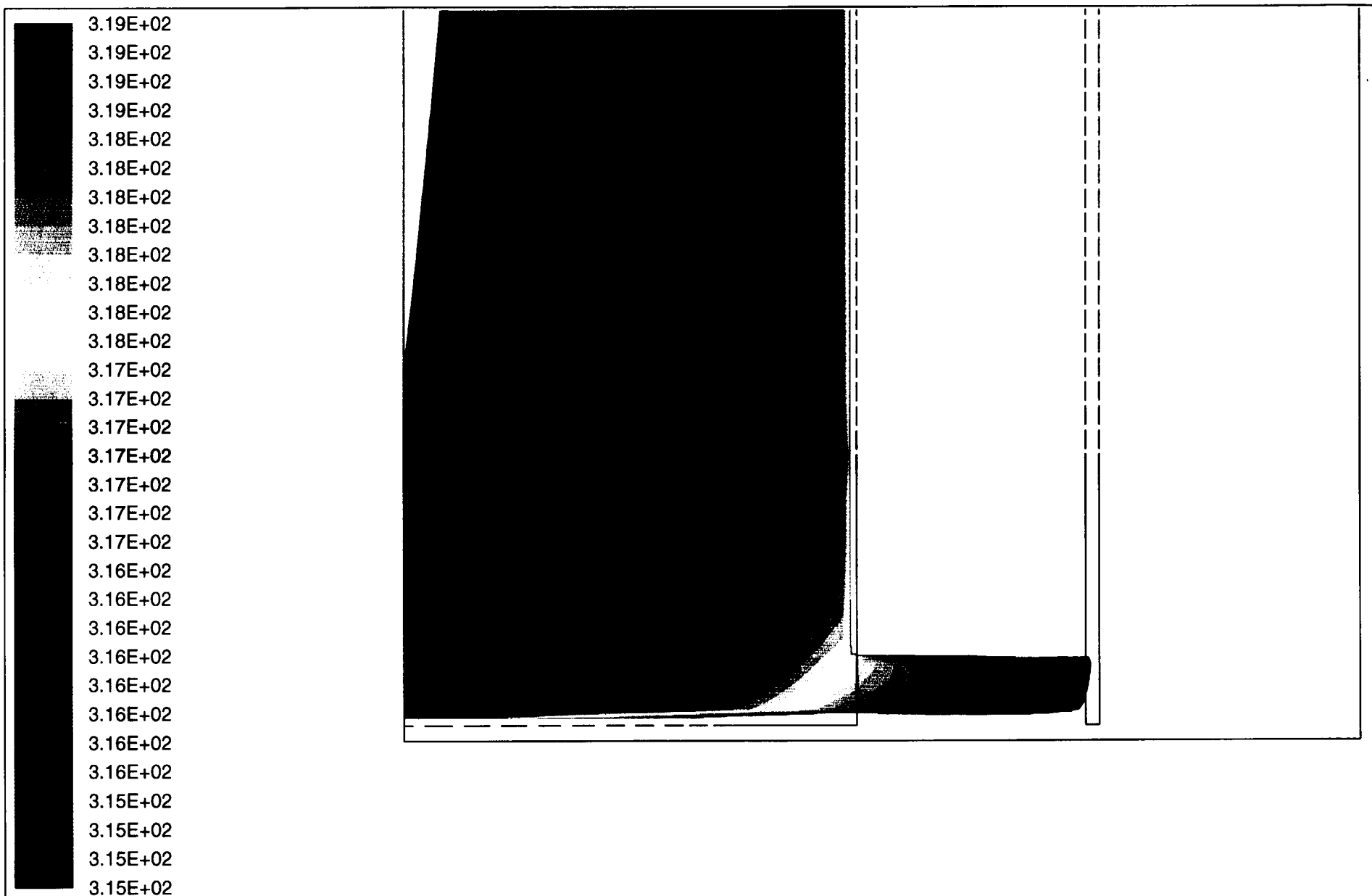


Figure 4.2.3: Heating of Air by Stored Solar Energy in Pad
 Contours Plot Temperature (Deg K)
 Max = 3.190E+02 Min = 3.150E+02

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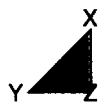
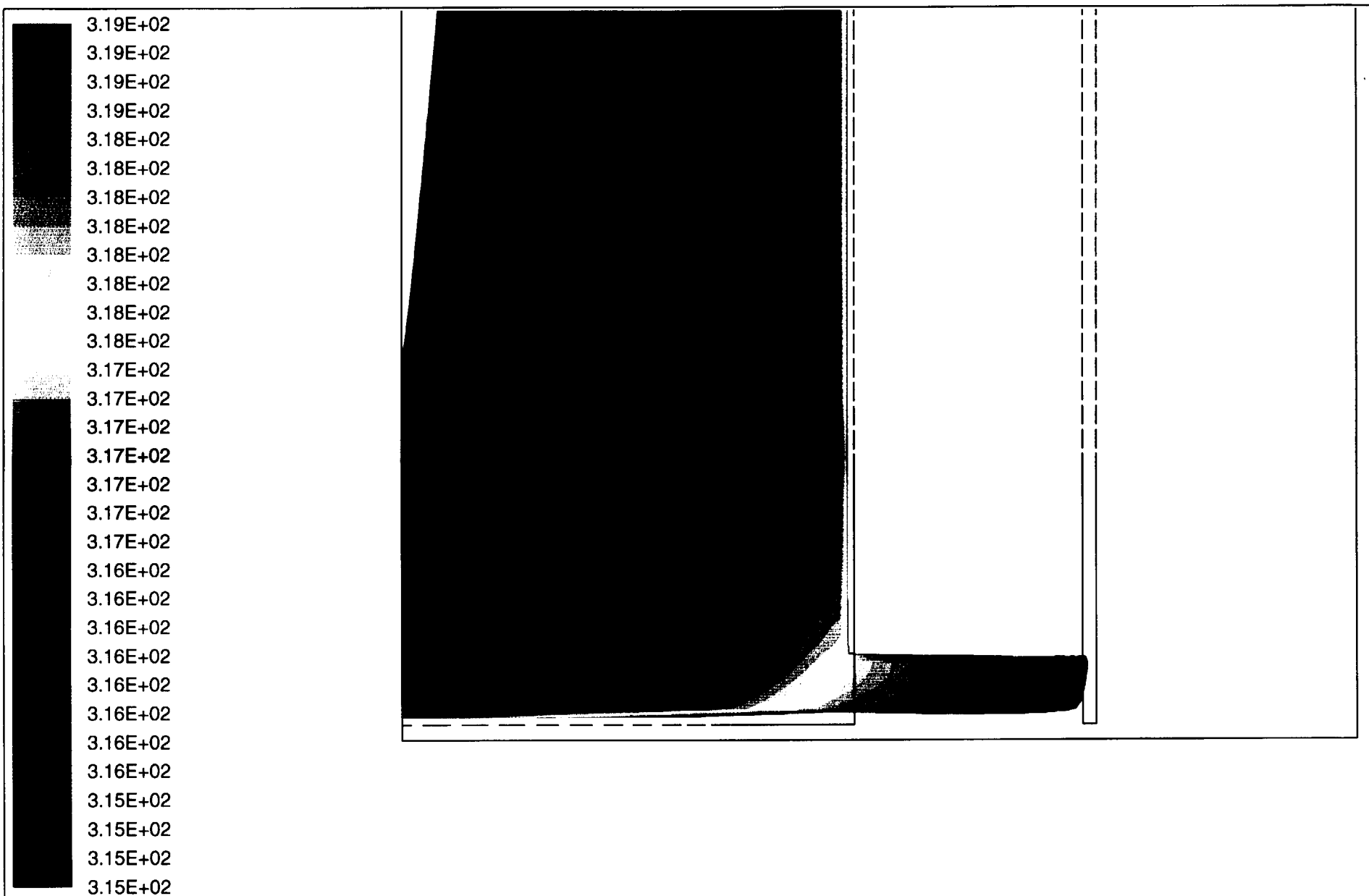


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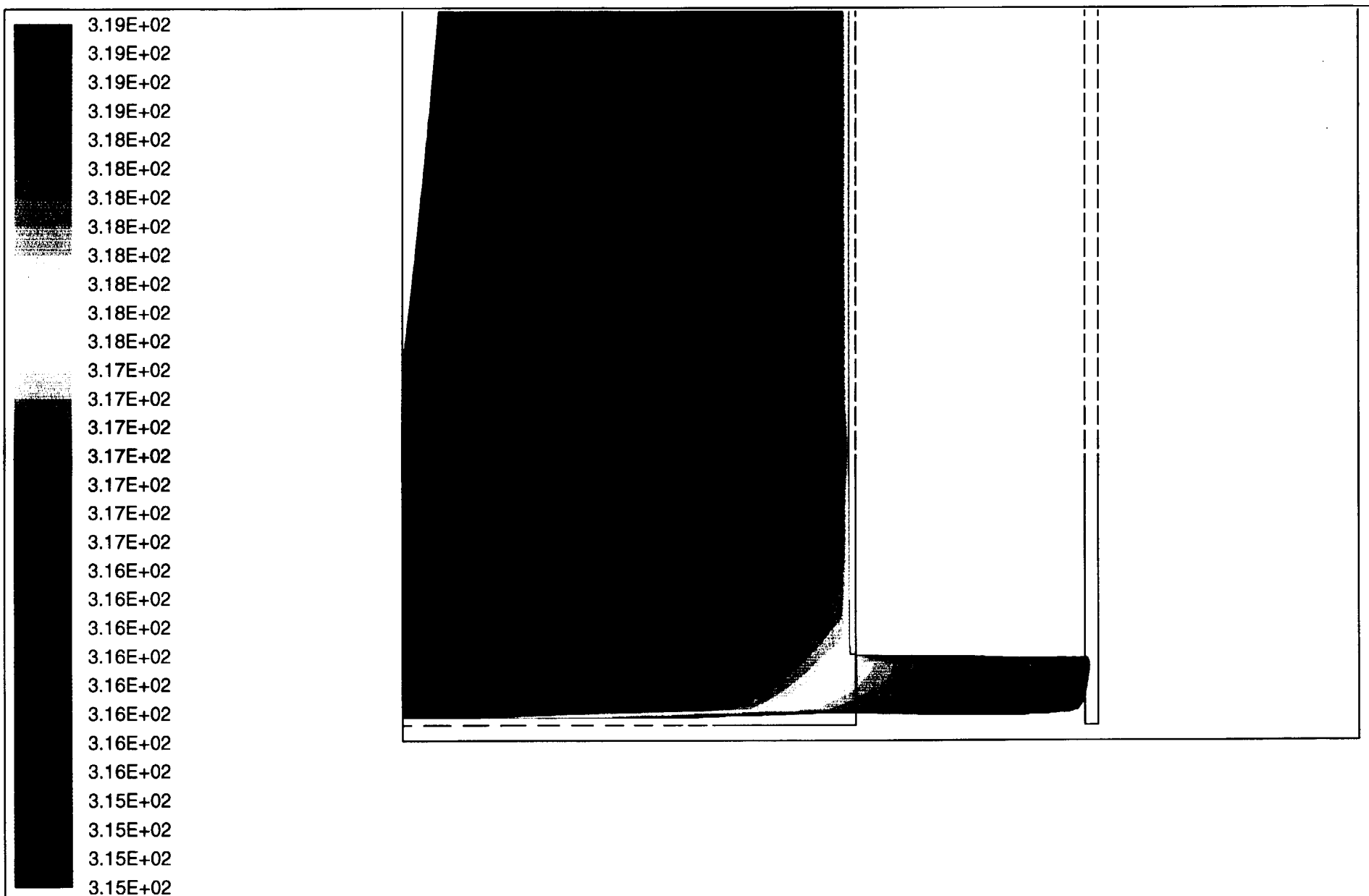


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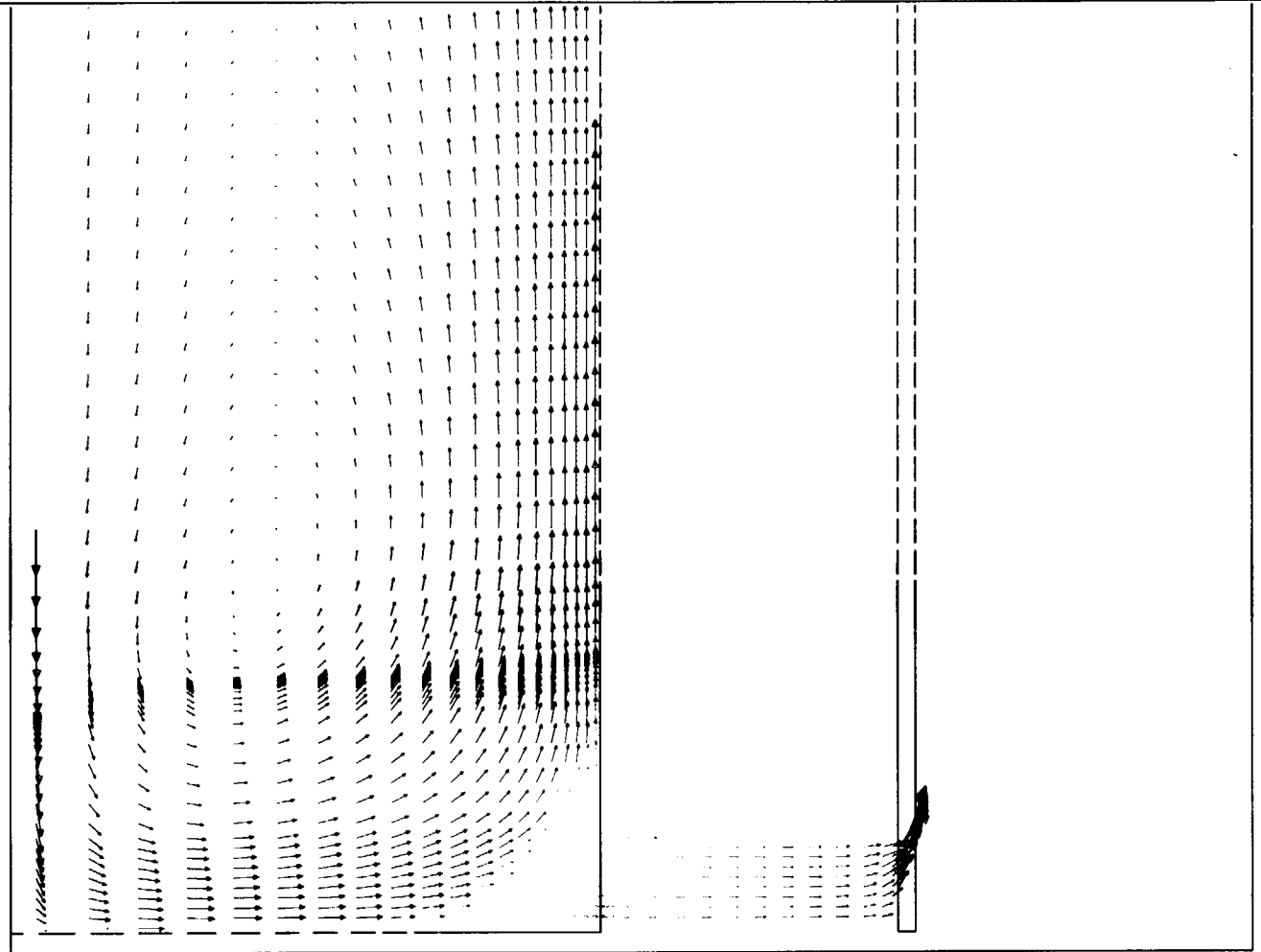


Figure 4.2.4: Heating of Air by Stored Solar Energy in Pad
 Velocity Vectors Colored by Temperature (K)
 Max = 3.190E+02 Min = 3.150E+02

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