C-E Power Systems
Combustion Engineering, Inc.
Route 21-A
Hematite, Missouri 63047

Tel. 314/937-4691
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70-36
release

Region III

NIS/82/931

POWER SYSTEMS

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June 3, 1982

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Dr. E. Y. Shum
Uranium Process Licensing Section
Uranium Fuel Licensing Branch
Division of Fuel Cycle and Material Safety, NMSS
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Docket 70-36

Dear Dr. Shum:

Enclosed is the additional environmental information requested by your letter dated April 16, 1982.

Please advise if you have further questions.

Very truly yours,

COMBUSTION ENGINEERING, INC.

H. E. Eskridge
Supervisor, Nuclear Licensing,
Safety and Accountability

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/wg
Enclosure
cc: (3) James Hammelmal - SAI

H-17

IE EXEMPT

mfp 80810

JUN 23 1982

ADDITIONAL ENVIRONMENTAL INFORMATION

LICENSE SNM-33 RENEWAL

1. Environmental monitoring data summarized in tables in Part II.6 should be compared with the following unrestricted area MPCs:

Air - alpha activity - 4×10^{-12} µCi/mℓ

Water - alpha activity - 3×10^{-5} µCi/mℓ

beta activity - 2×10^{-5} µCi/mℓ

In all cases, the observed activity was only a small fraction of the applicable MPC. Relatively high beta activity present in the north retention pond sample well was identified as Technicium -99, with an MPC of 3×10^{-4} µCi/mℓ, as discussed in previous submissions. Other anomalous results are discussed in the answer to Question 6.

Methods of analysis of the various environmental samples and the minimum detectable levels are:

Air - gross alpha - 2×10^{-15} µCi/ccℓ

Water - gross alpha - 2×10^{-9} µCi/mℓ

gross beta - 3×10^{-9} µCi/mℓ

Fluoride - specific ion electrode - 1 ppm

2. The configuration of the existing ventilation system is:

Stack No.	Equipment/Area
103	Filter cleanout hood Milling hood Powder unloading hoods Blender exhausts
106	3rd floor utility hood UO_2 cooler Back-up filter hopper vents Various spot-ventilation hoses 1st floor utility hood

2. (continued)

Stack No.	Equipment/Area
114	Dry scrubbers
117	Oxide Building room air
017	Pellet Plant room air
050	Milling hood Utility hood Office vent Consolidation hood Evaporation hood and drying ovens House central vacuum system Silo filter exhausts
051	Press fines hood Central vacuum systems Agglomeration station Grinder and centrifuge hoods
228	Pyrohydrolysis furnaces Furnace box coolers Load-unload hood Lid removal plenum Weigh and sample hood Filtrate and scrubber solution tanks
230	Solution make-up tank UO_4 filter hood Centrifuge UO_4 dryer and discharge hood UO_4 precipitation and overflow tanks UO_4 dryer scrubber Blend tank Utility hoods Dissolution vessels Slurry make-up hood ADU precipitation tank and filter press hood Acid insolubles filter press hood Filter cut-up hood Incinerator scrubber and central vacuum

Exhaust stack locations are shown in Figure 4-1.

3. 20,470 liters of sludge have been removed from the primary retention pond. This sludge is being dryed and packaged for shipment to licensed burial. It is estimated that a similar volume remains to be removed from both ponds combined.

3. (continued)

After removing the remaining sludge, representative soil samples will be analyzed for radioactivity. It is not feasible to estimate a completion date until the results of these analyses are available.

4. The distance from stack 114 to the North Onsite Monitoring Site is 138 meters.

5. The nearest cattle grazing area is adjacent to the east site boundary, as shown in the attached drawing. Vegetation at this boundary will be monitored for fluoride during the grazing season. Initial monitoring at this location gave a range of less than 2 to 3 ppm for 4 samples.

6. Environmental monitoring at background levels occasionally results in abnormal numbers which we believe due to laboratory contamination. For example, the aquifer serving the plant well could not physically be contaminated one month and not the next.

To minimize the effects of contamination, we are retaining a duplicate sample in some cases for reanalysis if the first results are suspect.

7. Elevations of the railroad bed over the length of the fenced area are shown on Drawing D-5020-2023. Elevations of the fenced area shown in Drawing D-5020-2034.

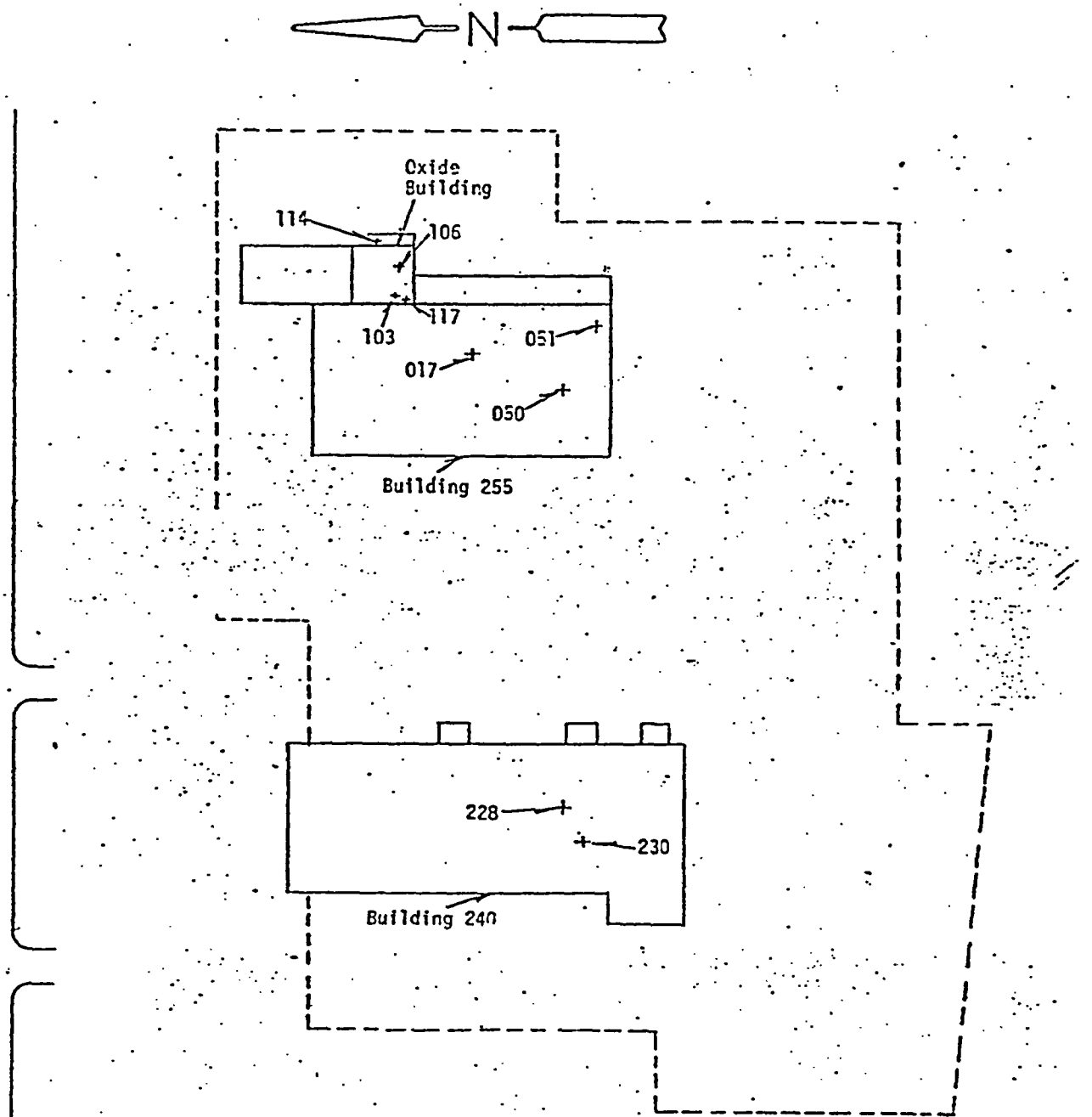
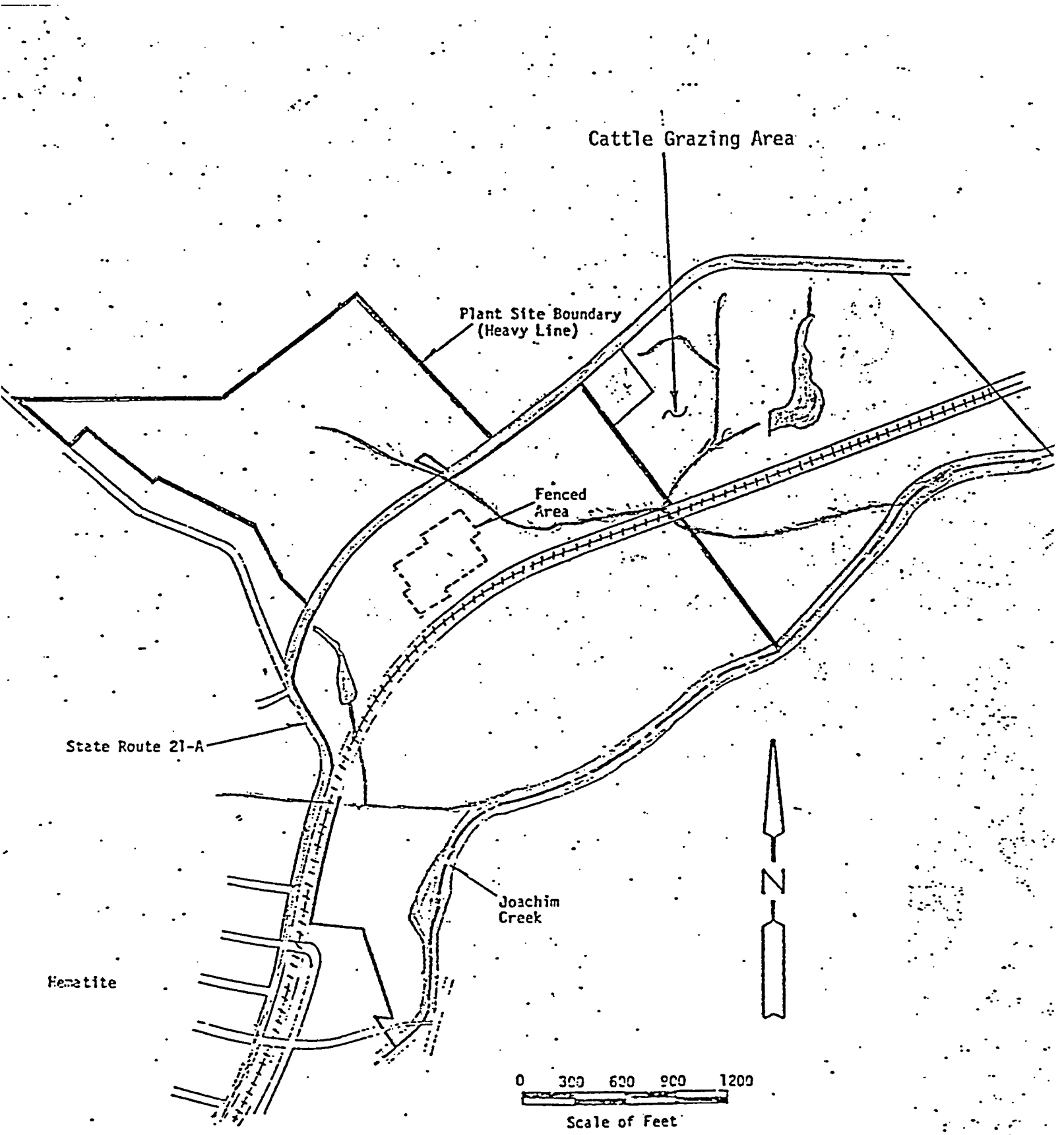


Figure 4-1
Exhaust Stack Locations
for Hematite Facility


Cattle Grazing Area
Plant Site Boundary
(Heavy Line)
Fenced
Area
State Route 21-A
Joachim
Creek
Hematite
N
0 300 600 900 1200
Scale of Feet