

Pu Plant Boiler Room

The only entrance to this room is from the Pu-plant yard and the yard and boiler room were maintained as clean areas. The Pu-plant boiler room contains three boilers, air conditioning unit, chiller, two air compressor, hot water tank, and associated piping, conduits and pumps for these systems. All this equipment was installed before production began and occupies approximately 74 square meters of floor space.

Before we started our release survey, a clean-up crew vacuumed this area and we surveyed all the tools, spare parts, stools, ect. Numerous tools were found to exceed Pu-plant release limits. After this facility was placed in standby a tool box of uranium plant tools were cleaned of all smearable contamination and taken to the boiler room for use. As we identified these tools during this survey they were sent to LSA trash. After completion of this initial clean-up we preformed an alpha scan on the floor and found no direct reading greater than $100 \text{ dpm}/100 \text{ cm}^2$. We then did a grid survey on the first two meters of the wall and on the exposed floor. Of the 181 direct readings taken all readings were less than $100 \text{ dpm}/100 \text{ cm}^2$. Because of these results I decided that we would take one row of readings next to the ceiling to see if we could identify any contamination that might have come from the room (exhaust fanroom) above the boiler room. All results from this survey were less than $100 \text{ dpm}/\text{cm}^2$ direct and less than $20 \text{ dpm}/100 \text{ cm}^2$ smearable. Because of these results and the great difficulty in gridding and surveying the rest of the walls and ceiling I decided not to pursue this survey unless other readings indicated a possible problem.

We then performed a random spot survey on equipment, pipes, conduit, and electrical boxes from the floor to approximately two meters above the floor. Our random spot survey indicated approximately 14 feet of 2" piping. that was added when the lab chiller was replaced, had contamination levels of approximately 2000 dpm/100 cm² fixed and 9 dpm/100 cm² smearable. This piping came from the U-plant and was removed. We also found two pieces of kendorff with approximately 500 dpm/100 cm² direct that were removed. Excluding these items we identified no spots of greater than 20 dpm/100 cm² smearable and five small spots of greater than 100dpm/100 cm² direct.

They were:

1. - 156 dpm/100 cm² direct on boiler #2 return line. Deconed to 72 dpm/100 cm² direct.
2. - 144 dpm/100 cm² direct on 1 inch copper pipe insulation.
3. - 108 dpm/100 cm² direct gas regulator boiler #2 deconed to 60 dpm/100 cm² direct.
4. - 324 cpm/100 cm² on air compress motor platform - deconed to 0 dpm/100 cm² direct.
5. - 7008 dom/100 cm² 2" conduit elbow - line was less than 100 dpm/100 cm² - line added to get power to dock hoist-elbow from U-plant - deconed to 60 dpm/100 cm².

Four of these spots were cleaned and the one on insulation was left since it meets release limits.

I believe this random survey 1290 data points, grid survey of floor, and grid survey of the first two meters of walls are sufficient to demonstrate that this clean area meets release limits and no further surveys are planned for this room.

We used a Ludlum 2220 with a Ludlum 43-17 low energy gamma probe to identify areas in cracks and seams that might need decontamination. A Ludlum 2220 with a Ludlum 43-68, 43-4, or 43-27 was used with P-10 gas for all alpha release surveys. All smears were taken on Whatman smear paper and counted in a Hewlett-Packard 5560 A (low background) automatic sample counter.

W.A. Rogers

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Pu PLANT RELEASE SURVEY PLAN

1. For initial decontamination all surfaces will be scanned with an Eberline PRM-6 with a Radeco alpha scintillation probe. Background will be maintained at less than 100 CPM(200 dpm). All areas greater than twice background will be marked and reading will be taken with a release survey instrument to document contamination levels and random large area smears will be taken.
2. After these initial areas are decontaminated, all floor surfaces and the base of each wall will be completely surveyed with a digital readout release instrument and a Ludlum large area gas proportional alpha detector and random smear samples will be taken. Release instrumentation shall have a minimum detectable level of at least 50 dpm/100 cm².
3. All hot spots greater than or equal to 100 dpm/100 cm² identified will be decontaminated.
4. A random survey with a release instrument will be taken on the walls and ceiling to try to identify any other problem areas.
5. If no problems are identified, each room will be gridded off into approximately 2 meter on a side square on the walls and floor and five readings will be taken in each grid. Readings shall be taken in the center and at the midpoint from the center to each corner.
6. Each ceiling has closely spaced rafters that will not be easily divided into 2 meter squares. Because of this, we will take readings on the bottom of each rafter at 2 meter intervals and one reading centered on the ceiling between rafters. Readings on each rafter will be staggered one meter.
7. These release readings will be documented on a map that is drawn to approximately scale measurements in meters.
8. Data provided on each map:
 1. Survey block numbers, identifiable on a scale drawings.
 - a. room or area name or number.
 - b. surface surveyed.
 - c. type of measurement and units.
 2. Name of surveyor taking measurements, date of survey, and location.

3. Type, model number, calibration data, sensitivity limit, background, and source response of instruments used in survey.
4. When a block surveyed is below the sensitivity of the instrument, the fact that such a measurement was made should be included as significant data.
9. All release survey smears will be taken on Whatman smear paper and counted in the automatic sample counters. Each smear will cover approximately 100 cm².
10. There will be at least 30 survey blocks in each area to be released.
11. Piping and ductwork will be surveyed on all accessible sides at 2 meter intervals. If more than one line is running parallel in a pipe rack, readings shall be staggered at one meter intervals.
12. All readings taken that only cover part of a probe area will be corrected to dpm/100 cm².
13. No survey block will measure less than one meter on a side.
14. No survey block will measure more than 3 meters on a side.
15. All portable release survey instruments will be calibrated quarterly and all instruments in use will be source checked daily.

Table I-1. Acceptable surface contamination levels

Nuclides ^a	Average ^{b,c,f}	Maximum ^{b,d,f}	Removable ^{b,e,f}
U-nat, U-235, U-238, and associated decay products	5,000 dpm α/100 cm ²	15,000 dpm α/100 cm ²	1,000 dpm α/100 cm ²
Transuranics, Ra-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-125, I-129	100 dpm/100 cm ²	300 dpm/100 cm ²	20 dpm/100 cm ²
Th-nat, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133	1,000 dpm/100 cm ²	3,000 dpm/100 cm ²	200 dpm/100 cm ²
Beta-gamma emitters (nuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and other noted above.	5,000 dpm βγ/100 cm ²	15,000 dpm βγ/100 cm ²	1,000 dpm βγ/100 cm ²

^aWhere surface contamination by both alpha- and beta-gamma-emitting nuclides exists, the limits established for alpha- and beta-gamma-emitting nuclides should apply independently.

^bAs used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

^cMeasurements of average contaminant should not be averaged over more than 1 square meter. For objects of less surface area, the average should be derived for each such object.

^dThe maximum contamination level applies to an area of not more than 100 cm².

^eThe amount of removable radioactive material per 100 cm² of surface area should be determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and assessing the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removable contamination on objects of less surface area is determined, the pertinent levels should be reduced proportionally and the entire surface should be wiped.

^fThe average and maximum radiation levels associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mrad/hr at 1 cm and 1.0 mrad/hr at 1 cm, respectively, measured through not more than 7 milligrams per square centimeter of total absorber.

PLANT Pu AREA Boiler Rm
 SURVEYED BY McLain/Hadley
 INST. INDIUM 2220 * 49395 DET. 13-LK
 SOURCE CK _____ BKG. _____

ASC # 83600108
 CTD. BY A. P. Cook
 SOURCE CK. AVG. 23
 BKG. .2

DATE: 6-21-89 SOURCE # 6816 VALUE: 0.78 DPM
6-20-89 6-21-89
AM-1-247/216 AM-1-241/233

READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT		SHEAR	
	CPH	DPH		
<u>North Wall Top</u>	<u>1</u>	<u>3</u>	<u>12</u>	<u>3</u>
<u>Top</u>	<u>2</u>	<u>8</u>	<u>32</u>	<u>3</u>
	<u>3</u>	<u>3</u>	<u>12</u>	<u>9</u>
	<u>4</u>	<u>5</u>	<u>26</u>	<u>0</u>
	<u>5</u>	<u>3</u>	<u>12</u>	<u>3</u>
	<u>6</u>	<u>2</u>	<u>12</u>	<u>0</u>
	<u>7</u>	<u>5</u>	<u>12</u>	<u>0</u>
	<u>8</u>	<u>1</u>	<u>24</u>	<u>0</u>
	<u>9</u>	<u>2</u>	<u>8</u>	<u>0</u>
	<u>10</u>	<u>1</u>	<u>4</u>	<u>0</u>
	<u>11</u>	<u>5</u>	<u>20</u>	<u>0</u>

	<u>Total</u>	<u>Area</u>
<u>Total DPM</u>	<u>20.646</u>	<u>2388</u>
<u># Readings</u>	<u>1290</u>	<u>1290</u>
<u>Avg DPM/100cm²</u>	<u>23.76</u>	<u>1.85</u>
<u>MAX DPM/100cm²</u>	<u>144</u>	<u>9</u>

PLANT Pu AREA Boiler Rm
 SURVEYED BY McLain/Hadley
 INST. INDIUM 2220 * 49395 DET. 43-LK
 SOURCE CK _____ BKG. _____

ASC # 1-83600115
 CTD. BY A. P. Cook
 SOURCE CK. AVG. 33
 BKG. 0

DATE: 6-21-89 SOURCE # 6816 VALUE: 0.78 DPM
6-20-89 6-21-89
AM-1-247/216 AM-1-241/233

READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT		SHEAR	
	CPH	DPH		
<u>SOUTH WALL TOP</u>	<u>1</u>	<u>NA</u>	<u>-</u>	<u>-</u>
	<u>2</u>	<u>NA</u>	<u>-</u>	<u>-</u>
	<u>3</u>	<u>3</u>	<u>12</u>	<u>3</u>
	<u>4</u>	<u>4</u>	<u>16</u>	<u>0</u>
	<u>5</u>	<u>4</u>	<u>16</u>	<u>9</u>
	<u>6</u>	<u>3</u>	<u>12</u>	<u>3</u>

PLANT Pu AREA Boiler Room
 SURVEYED BY Melvin Handley
 INST. 1.101111 2220 * 48395 DET. 43-68
 SOURCE CK _____ BKG. _____

ASC # 2 83600108
 CTD. BY A. B. ...
 SOURCE CK. AVG. 23
 BKG. .2
 DATE: 6-21-89

DATE: 6-21-89 SOURCE # 6816 VALUE 1078 DPM
6-20-89 6-21-89
AM 1-247/216 AM-1-241/233
PM 0-271/243
 SAMPLE # OR DESCRIPTION

READINGS IN DPM/100 cm²
 DIRECT
 CPH DPM SHEAR

SAMPLE # OR DESCRIPTION	DIRECT CPH	DPM	SHEAR	
<u>Support BEAM TOP</u>	<u>NW</u>	<u>8</u>	<u>32</u>	<u>0</u>
		<u>4</u>	<u>16</u>	<u>0</u>
		<u>6</u>	<u>24</u>	<u>0</u>
	<u>S</u>	<u>9</u>	<u>36</u>	<u>3</u>
		<u>10</u>	<u>40</u>	<u>3</u>
<u>east end Top</u>	<u>N</u>	<u>4</u>	<u>16</u>	<u>6</u>
		<u>8</u>	<u>32</u>	<u>0</u>
	<u>S</u>	<u>4</u>	<u>16</u>	<u>0</u>
		<u>3</u>	<u>12</u>	<u>3</u>

PLANT Pu AREA Boiler Room
 SURVEYED BY Melvin Handley
 INST. 1.101111 2220 * 48395 DET. 43-68
 SOURCE CK _____ BKG. _____

ASC # 1 83600115
 CTD. BY A. B. ...
 SOURCE CK. AVG. 21
 BKG. .2
 DATE: 6-12-89

DATE: 6-9-89 SOURCE # 6816 VALUE 1078 DPM
48395 AM 1 254/233
PM 2 236/248
 SAMPLE # OR DESCRIPTION

READINGS IN DPM/100 cm²
 DIRECT
 CPH DPM SHEAR

SAMPLE # OR DESCRIPTION	DIRECT CPH	DPM	SHEAR	
<u>Boiler #1 West end</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>6</u>
	<u>2</u>	<u>3</u>	<u>12</u>	<u>0</u>
	<u>3</u>	<u>4</u>	<u>16</u>	<u>3</u>
	<u>4</u>	<u>0</u>	<u>0</u>	<u>3</u>
	<u>5</u>	<u>14</u>	<u>56</u>	<u>0</u>
	<u>6</u>	<u>2</u>	<u>8</u>	<u>3</u>
	<u>7</u>	<u>2</u>	<u>8</u>	<u>0</u>
	<u>8</u>	<u>1</u>	<u>4</u>	<u>0</u>
<u>Boiler #1 South side</u>	<u>1</u>	<u>2</u>	<u>8</u>	<u>0</u>
	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>
	<u>3</u>	<u>2</u>	<u>8</u>	<u>3</u>
	<u>4</u>	<u>4</u>	<u>16</u>	<u>0</u>
	<u>5</u>	<u>1</u>	<u>4</u>	<u>0</u>
	<u>6</u>	<u>5</u>	<u>20</u>	<u>0</u>
	<u>7</u>	<u>0</u>	<u>0</u>	<u>2</u>
	<u>8</u>	<u>1</u>	<u>4</u>	<u>9</u>
	<u>9</u>	<u>6</u>	<u>24</u>	<u>0</u>
	<u>10</u>	<u>1</u>	<u>4</u>	<u>0</u>
	<u>11</u>	<u>5</u>	<u>20</u>	<u>0</u>
	<u>12</u>	<u>1</u>	<u>4</u>	<u>3</u>
	<u>13</u>	<u>2</u>	<u>8</u>	<u>6</u>
	<u>14</u>	<u>1</u>	<u>4</u>	<u>3</u>
	<u>15</u>	<u>0</u>	<u>0</u>	<u>0</u>
	<u>16</u>	<u>0</u>	<u>0</u>	<u>0</u>
	<u>17</u>	<u>2</u>	<u>8</u>	<u>0</u>
	<u>18</u>	<u>0</u>	<u>0</u>	<u>0</u>
	<u>19</u>	<u>3</u>	<u>12</u>	<u>0</u>
	<u>20</u>	<u>7</u>	<u>28</u>	<u>0</u>
	<u>21</u>	<u>4</u>	<u>16</u>	<u>0</u>
	<u>22</u>	<u>0</u>	<u>0</u>	<u>6</u>
	<u>23</u>	<u>5</u>	<u>12</u>	<u>0</u>
	<u>24</u>	<u>0</u>	<u>0</u>	<u>0</u>
	<u>25</u>	<u>0</u>	<u>0</u>	<u>3</u>
	<u>26</u>	<u>3</u>	<u>12</u>	<u>0</u>

PLANT Pu AREA Boiler Room
 SURVEYED BY MCLAIN/HANDLY
 INST. INDIUM 2220 *48395 DET. 4368
 SOURCE CK _____ BKG. _____

ASC # 18360015
 CTD. BY J.M. Black
 SOURCE CK. AVG. 31
 BKG. .2

DATE: 6-9-89 SOURCE #816 VALUE: 10780pm

DATE: 6-12-89

48395 AM 1-254/233
PM 2-236/248

READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT			
	CPH	DPH	SHEAR	
<u>Boiler # South Side</u>	<u>27</u>	<u>3</u>	<u>12</u>	<u>6</u>
	<u>28</u>	<u>1</u>	<u>0</u>	<u>0</u>
	<u>29</u>	<u>10</u>	<u>24</u>	<u>3</u>
	<u>30</u>	<u>0</u>	<u>0</u>	<u>3</u>
	<u>31</u>	<u>6</u>	<u>24</u>	<u>0</u>
	<u>32</u>	<u>2</u>	<u>8</u>	<u>9</u>
	<u>33</u>	<u>12</u>	<u>48</u>	<u>9</u>
	<u>34</u>	<u>4</u>	<u>16</u>	<u>0</u>
	<u>35</u>	<u>13</u>	<u>52</u>	<u>0</u>
	<u>36</u>	<u>4</u>	<u>16</u>	<u>0</u>
	<u>37</u>	<u>10</u>	<u>40</u>	<u>0</u>
	<u>38</u>	<u>7</u>	<u>28</u>	<u>0</u>
	<u>39</u>	<u>8</u>	<u>32</u>	<u>6</u>
	<u>40</u>	<u>6</u>	<u>24</u>	<u>0</u>
	<u>41</u>	<u>8</u>	<u>32</u>	<u>3</u>
	<u>42</u>	<u>3</u>	<u>12</u>	<u>0</u>
	<u>43</u>	<u>6</u>	<u>24</u>	<u>3</u>
	<u>44</u>	<u>4</u>	<u>16</u>	<u>3</u>
<u>Boiler #1 North Side</u>	<u>1</u>	<u>2</u>	<u>8</u>	<u>0</u>
	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>
	<u>3</u>	<u>0</u>	<u>0</u>	<u>0</u>
	<u>4</u>	<u>1</u>	<u>4</u>	<u>0</u>
	<u>5</u>	<u>3</u>	<u>12</u>	<u>3</u>
	<u>6</u>	<u>1</u>	<u>4</u>	<u>0</u>
	<u>7</u>	<u>6</u>	<u>24</u>	<u>3</u>
	<u>8</u>	<u>6</u>	<u>24</u>	<u>6</u>
	<u>9</u>	<u>3</u>	<u>8</u>	<u>0</u>
	<u>10</u>	<u>1</u>	<u>4</u>	<u>3</u>
	<u>11</u>	<u>11</u>	<u>44</u>	<u>3</u>
	<u>12</u>	<u>0</u>	<u>0</u>	<u>0</u>
	<u>13</u>	<u>3</u>	<u>12</u>	<u>6</u>
	<u>14</u>	<u>13</u>	<u>52</u>	<u>0</u>
	<u>15</u>	<u>1</u>	<u>4</u>	<u>0</u>
	<u>16</u>	<u>0</u>	<u>0</u>	<u>6</u>

PLANT Pu AREA Boiler Room
 SURVEYED BY MCLAIN/HANDLY
 INST. INDIUM 2220 *48395 DET. 4368
 SOURCE CK _____ BKG. _____

ASC # 18360015
 CTD. BY J.M. Black
 SOURCE CK. AVG. 31
 BKG. .2

DATE: 6-9-89 SOURCE #816 VALUE: 10780pm

DATE: 6-12-89

48395 AM 1-254/233
PM 2-236/248

READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT			
	CPH	DPH	SHEAR	
<u>Boiler #1 North Side</u>	<u>17</u>	<u>1</u>	<u>4</u>	<u>3</u>
	<u>18</u>	<u>9</u>	<u>36</u>	<u>6</u>
	<u>19</u>	<u>2</u>	<u>8</u>	<u>0</u>
	<u>20</u>	<u>1</u>	<u>4</u>	<u>6</u>
	<u>21</u>	<u>16</u>	<u>64</u>	<u>0</u>
	<u>22</u>	<u>2</u>	<u>8</u>	<u>3</u>
	<u>23</u>	<u>12</u>	<u>48</u>	<u>3</u>
	<u>24</u>	<u>0</u>	<u>0</u>	<u>0</u>
	<u>25</u>	<u>0</u>	<u>0</u>	<u>3</u>
	<u>26</u>	<u>1</u>	<u>0</u>	<u>3</u>
	<u>27</u>	<u>0</u>	<u>0</u>	<u>0</u>
	<u>28</u>	<u>0</u>	<u>0</u>	<u>0</u>
	<u>29</u>	<u>0</u>	<u>0</u>	<u>6</u>
	<u>30</u>	<u>3</u>	<u>12</u>	<u>0</u>
	<u>31</u>	<u>6</u>	<u>24</u>	<u>0</u>
	<u>32</u>	<u>19</u>	<u>76</u>	<u>3</u>
	<u>33</u>	<u>6</u>	<u>24</u>	<u>0</u>
	<u>34</u>	<u>12</u>	<u>48</u>	<u>0</u>
	<u>35</u>	<u>16</u>	<u>64</u>	<u>6</u>
	<u>36</u>	<u>9</u>	<u>36</u>	<u>0</u>
	<u>37</u>	<u>7</u>	<u>28</u>	<u>0</u>
	<u>38</u>	<u>11</u>	<u>44</u>	<u>6</u>
	<u>39</u>	<u>16</u>	<u>64</u>	<u>3</u>
	<u>40</u>	<u>2</u>	<u>8</u>	<u>3</u>
	<u>41</u>	<u>12</u>	<u>40</u>	<u>3</u>
	<u>42</u>	<u>5</u>	<u>20</u>	<u>3</u>
<u>Boiler #1 East Side</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>
	<u>2</u>	<u>2</u>	<u>8</u>	<u>0</u>
	<u>3</u>	<u>1</u>	<u>4</u>	<u>0</u>
	<u>4</u>	<u>3</u>	<u>12</u>	<u>9</u>
	<u>5</u>	<u>2</u>	<u>8</u>	<u>3</u>
	<u>6</u>	<u>2</u>	<u>8</u>	<u>3</u>
	<u>7</u>	<u>3</u>	<u>12</u>	<u>6</u>
	<u>8</u>	<u>0</u>	<u>0</u>	<u>0</u>

PLANT Pu AREA Boiler Room
 SURVEYED BY McLain/Hendley
 INST. 1.INDIUM 2220 *18295 DET. 43-28
 SOURCE CK _____ BKG. _____

ASC # 2 83600108
 CTD. BY J. Black
 SOURCE CK. AVG. 31
 BKG. 0

DATE: 6-12-89 SOURCE # 18295 VALUE: 5780PM

DATE: 6-13-89

48595 AM 0-229/228 AM 1 238/243. ⁶⁻¹³⁻⁸⁹ READINGS IN DPM/100 cm²

PM 0-274/250

SAMPLE # OR DESCRIPTION	DIRECT		
	CPH	DPH	SHEAR
Boiler #2 South side	26	0	0
	27	0	0
	28	2	8
	29	1	4
	30	1	0
	31	2	8
	32	1	4
	33	4	16
	35	1	4
	36	3	12
	37	5	20
	38	4	16
	39	2	8
	38	7	28
	39	1	4
	40	0	0
	41	5	20
	42	2	8
	43	2	8
Boiler No. 2 WEST END	1	3	12
	2	3	12
	3	2	8
	4	2	8
	5	3	12
	6	3	12
	7	2	8
Boiler No. 2 TOP NORTH	1	4	16
	2	5	20
	3	7	28
	4	9	36
Boiler No. 2 TOP SOUTH	1	3	12
	2	12	48
	3	5	20
	4	3	12

PLANT Pu AREA Boiler Room
 SURVEYED BY McLain/Hendley
 INST. 1.INDIUM 2220 *18295 DET. 43-28
 SOURCE CK _____ BKG. _____

ASC # 2 83600108
 CTD. BY J. Black
 SOURCE CK. AVG. 31
 BKG. 0

DATE: 6-13-89 SOURCE # 18295 VALUE: 5780PM

DATE: 6-13-89

48595 AM 1-238/243 READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT		
	CPH	DPH	SHEAR
Boiler No. 2 NORTH SIDE (1)	1	2	8
	2	2	8
	3	7	28
	4	18	72
	5	6	16
(2)	1	1	4
	2	1	4
	3	3	12
	4	0	0
	5	3	12
(3)	1	2	12
	2	1	4
	3	2	8
	4	0	0
	5	1	4
	7	21	84
	8	3	12
	9	3	12
	10	1	4
	11	5	20
	12	3	12
	13	7	28
	14	12	48
	15	10	40
	16	9	36
	17	7	28
	18	4	16
	19	16	64
	20	7	28
	21	10	40
	22	6	24
	23	10	40
	24	9	36
	25	10	40
	26	12	48

PLANT Pu AREA Boiler Room
 SURVEYED BY Michael W. Kelly
 INST. 1"DIUM 2220 * 4395 DET. 45-68
 SOURCE CK _____ BKG. _____
 DATE: 6-14-89 SOURCE # 6816 VALUE: 1078 DPM

ASC # 2 83600108
 CTD. BY J. Black
 SOURCE CK. AVG. 34
 BKG. .1
 DATE: 6-15-89

READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT			
	CPH	DPM	SHEAR	
Wall North #1	1	6	24	3 ✓
#3	2	10	24	3 ✓
	3	5	20	3 ✓
	4	6	24	3 ✓
	5	7	28	6 ✓
#2	1	2	8	6 ✓
	2	7	28	0 ✓
	3	6	24	0 ✓
	4	3	12	3 ✓
	5	8	32	3 ✓
Plywood N/S Boiler #3	1	1	4	0
	2	11	16	3
	3	5	20	3
	4	2	8	3
North side #2 Boiler E	1	7	28	0
	2	5	20	6
#1	1	1	4	6
	2	4	16	3
	3	6	24	3
	4	2	8	3
	5	2	8	0
#2	1	1	4	6
	2	4	16	6
	3	3	12	0
	4	3	12	9
	5	3	12	0
	1	2	8	0
	2	5	20	0
Boiler #2 Top North	1	6	24	3
	2	8	32	0
	3	7	28	3
Top South	1	5	20	0
	2	5	20	0
	3	4	16	3

PLANT Pu AREA Boiler Room
 SURVEYED BY Michael W. Kelly
 INST. 1"DIUM 2220 * 50064 DET. 43-4
 SOURCE CK _____ BKG. _____
 DATE: 6-14-89 SOURCE # 6816 VALUE: 1078 DPM

ASC # 1 83600115
 CTD. BY J. Black
 SOURCE CK. AVG. 31
 BKG. .3
 DATE: 6-15-89

READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT			
	CPH	DPM	SHEAR	
Boiler #2 Return lines #1 N	5	60	9	
	E	5	60	0
	S	7	84	3
	W	7	84	3
#2 NE	5	60	0	
	NW	13	156	3
	E	0	0	0
	W	3	36	0
	S	6	72	3
Boiler #2 drain lines	1	4	48	0
drain lines connected #2 #1	1	2	24	0
Boiler #2 drain	2	2	36	0
	3	2	36	3
	4	4	48	6
Boiler #1 drain pipes	1	2	24	0
local water pressure	#1	7	84	0
	#2	4	48	0
Old Boiler #30 Vent. Hat	N	7	42	0
	T	6	36	0
	S	3	18	3
	R	4	24	0
	F1	6	36	0
	F2	5	30	3
3 1/2" conduit to lamp	#1	4	48	3
	#2	1	12	0
James Kelly Hat	N	2	12	0
	T	0	18	0
	S	0	0	0
	R	2	48	0
	E	4	24	3
accounts				
#2 NW	6	72	3	

N/E
 Cap

PLANT Pu AREA Boiler Room
 SURVEYED BY McLain/Wardely
 INST. INDIUM 2220 * 48395 DET. 43-68
 SOURCE CK _____ BKG. _____
 DATE: 6-9-89 SOURCE # 6816 VALUE: 10780pm

ASC # 2⁵⁰ 93600100
 CTD. BY Am Pto. 6
 SOURCE CK. AVG. 21
 BKG. 12
 DATE: 6-12-89

READINGS IN DPH/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT		SHEAR
	CPH	DPH	
<u>Chiller North side</u>	1	0	0
	2	3	12
	3	3	12
	4	8	32
	5	2	8
	6	0	0
	7	1	4
	8	5	20
	9	3	12
	10	4	16
	11	5	20
	12	0	0
	13	1	4
	14	5	20
	15	4	16
	16	4	16
	17	2	8
	18	1	4
	19	4	16
	20	4	16
	21	4	16
	22	1	4
	23	6	24
	24	5	20
	25	6	24
	26	5	20
	27	1	4
	28	5	20
	29	11	44
	30	3	12
	31	2	8
	32	5	20
	33	4	16
	34	3	12

PLANT Pu AREA Boiler Room
 SURVEYED BY McLain/Wardely
 INST. INDIUM 2220 * 50064 DET. 43-4
 SOURCE CK _____ BKG. _____
 DATE: 6-12-89 SOURCE # 6816 VALUE: 10780pm

ASC # 2⁵⁰ 93600100
 CTD. BY Am Pto. 6
 SOURCE CK. AVG. 21
 BKG. 12
 DATE: 6-12-89

READINGS IN DPH/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT		SHEAR
	CPH	DPH	
<u>Chiller FRONT (WEST)</u>	1	6	24
	2	6	24
	3	5	20
	4	2	8
	5	8	32
	6	3	12
	7	2	8
	8	3	12
<u>Chiller IN LINE WEST #1</u>	N	2	12
	S	2	12
	T	3	36
	R	2	12
	#2 N	3	36
	E	0	0
	S	1	6
	W	2	12
<u>Chiller SOUTH side</u>	1	3	12
	2	9	36
	3	3	20
	4	1	4
	5	0	0
	6	8	32
	7	7	28
	8	2	8
	9	4	16
	10	2	8
	11	9	36
	12	2	8
	13	7	28
<u>Chiller North side</u>	35	2	8
	36	2	8
	37	10	40
	38	4	16
	39	10	40

PLANT Lu AREA Boiler Room
 SURVEYED BY M. Smith/Waldely
 INST. 1. INDIUM 2220 * SR 395 DET. 4-6-68
260-235
 SOURCE CK 234-246 BKG. 0-1
 DATE: 6-16-89 SOURCE # 6816 VALUE: 1078 DPM

ASC # 8360015
 CTD. BY J. Black
 SOURCE CK. AVG. 32
 BKG. 3
 DATE: 6-19-89

READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT		
	CPM	DPH	SHEAR
Boiler #1			
Fits to Room 1 W	1	4	6
E	4	16	6
N	3	12	0
E	2	8	0
W	1	4	0
E	2	8	3
3" conduit EL to S	15	2	8
W	1	4	3
3" conduit EL to N	1 W	1	4
W	0	0	3
3" conduit N	#1 E	4	16
W	3	12	3
S	#1 E	3	12
W	3	12	0
Boiler #2 stacks			
Room 1 W	2	12	3
S	2	8	9
E	1	4	3
N	2	8	0
W	1	4	0
S	5	10	6
E	5	10	0
N	2	8	6
W	2	8	3
main stacks			
1	2	8	0
2	1	4	0
R	T	3	32
W	3	12	3
B	6	24	3
T	7	28	3
L	T	4	16
W	2	8	3
B	1	4	0

PLANT Lu AREA Boiler Room
 SURVEYED BY M. Smith/Waldely
 INST. 1. INDIUM 2220 * SR 395 DET. 4-6-68
260-235
 SOURCE CK 234-246 BKG. 0-1
 DATE: 6-16-89 SOURCE # 6816 VALUE: 1078 DPM

ASC # 1 8360015
 CTD. BY J. Black
 SOURCE CK. AVG. 33
 BKG. 0
 DATE: 6-20-89

READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT		
	CPM	DPH	SHEAR
Chiller return line HIA	6	24	0
N/E corner	E	5	20
S	10	40	0
W	4	16	0
N	2	8	3
E	3	12	3
S	1	4	3
W	4	16	3
Chiller return water	T	4	16
N	3	12	0
B	0	0	3
E	2	8	0
Chiller (Return - Back to)	N1	3	12
N2	4	16	0
E1	3	12	0
E2	4	16	0
ELCC Room	T	0	0
E	3	12	3
Chiller vent in	#1	3	12
#2	4	16	6
3	1	4	3
4	9	36	0
5	2	8	3
6	5	20	3
7	6	24	0
8	5	20	3
top corner	1	2	8
Chiller vent out	W1	1	4
T2	2	8	3
N3	4	16	3
E4	2	8	6
S5	4	16	3
E6	3	12	0
Water vent	1	1	4

PLANT Pu AREA Boiler Room
 SURVEYED BY M. J. W. / W. J. W.
 INST. LIQUID 2220 * 5000 V DET. 43-4
 SOURCE CK _____ BKG. _____
 DATE: 6-13-89 SOURCE # 5816 VALUE: 578 DPM

ASC # 83600108
 CTD. BY J. Black
 SOURCE CK. AVG. 33
 BKG. .0
 DATE: 6-14-89

6-9-89 6-15-89
 AM 0-305/267 AM -1-275/281
 PM 0-272/294 PM -0-264/275

READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT			
	CPH	DPH	SHEAR	
8" Pipe West	#1 N	1	6	0
	E	2	12	0
	S	7	42	3
	W	7	42	0
#2 N	A)	3	18	0
	R	3	18	9
	S	3	18	6
	W	2	12	0
8" Pipe East	#1 A)	4	24	6
	R	2	18	0
	S	10	60	0
	W	4	24	0
#2 A)	A)	6	36	3
	R	4	24	0
	S	2	12	3
	W	4	24	0
1" Copper Circulation A/C App. #1 T	E	8	96	3
	R	8	96	3
	S	5	60	3
	W	4	48	3
#2 T	A)	12	144	3
	R	6	72	0
	S	6	72	3
	W	6	72	3
1" WATER PIPE	#1 A)	5	60	0
	S	6	72	3
	#2 A)	7	84	3
	S	2	24	0
3/4" Amalclut	#1	4	48	9
	#2	6	72	0
3/4" Amalclut	#1	2	24	3
	#2	3	36	0
	#3	3	36	0
	#4	2	24	0
	#5	6	60	3

PLANT Pu AREA Boiler Room
 SURVEYED BY M. J. W. / W. J. W.
 INST. LIQUID 2220 * 5000 V DET. 43-4
 SOURCE CK _____ BKG. _____
 DATE: 6-13-89 SOURCE # 5816 VALUE: 578 DPM

ASC # 83600108
 CTD. BY J. Black
 SOURCE CK. AVG. 33
 BKG. .0
 DATE: 6-14-89

6-9-89 6-15-89
 AM -1-275/281
 PM -0-264/275

READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT				
	CPH	DPH	SHEAR		
Boiler #2 gas feed line 2"	1	5	60	0	
	2	6	72	0	
	3	2	24	3	
	4	3	36	3	
	5	3	36	3	
	6	5	60	3	
	7	4	48	0	
	8	5	60	3	
	9	6	72	0	
	10	5	60	0	
	(A)	11	2	24	3
		12	9	108	0
		13	4	48	3
		14	3	36	0
		15	2	24	0
		16	4	48	3
Boiler #1 gas feed line 2"	1	7	84	0	
	(A)	2	8	96	0
		3	8	96	0
		4	1	12	0
		5	6	60	0
		6	7	72	3
	(S)	7	8	96	3
		8	4	48	0
		9	2	24	0
		10	6	60	0
		11	2	36	0
		12	7	84	3
		13	6	72	0
	recruits	12	5	60	0

PLANT Pu AREA Boiler Room
 SURVEYED BY M. J. W. / W. J. W.
 INST. INDIUM 2220 * 50064 DET. 43-4
 SOURCE CK _____ BKG. _____

ASC # 83600115
 CTD. BY J. P. B.
 SOURCE CK. AVG. 34
 BKG. 2

DATE: 6-13-89 SOURCE # 5916 VALUE: 577 DPM

DATE: 6-14-89

READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT			
	CPH	DPH	SHEAR	
pressure water	T	6	36	0
pressure water	B	4	24	0
HV drains pipes	1	2	12	0
HV drains pipes	2	3	18	0
HV drains pipes	1	1	6	9
HV drains pipes	2	3	18	0
Boiler #2 2" mess. relief	#10	4	48	6
Boiler #2 2" mess. relief	E	4	48	0
Boiler #2 2" mess. relief	S	1	12	3
Boiler #2 2" mess. relief	W	1	12	6
Boiler #2 2" mess. relief	#10	2	24	0
Boiler #2 2" mess. relief	E	2	24	0
Boiler #2 2" mess. relief	S	2	24	0
Boiler #2 2" mess. relief	W	2	36	0
Boiler #2 1" mess. relief	#10	2	36	6
Boiler #2 1" mess. relief	E	6	72	0
Boiler #2 1" mess. relief	S	4	48	3
Boiler #2 1" mess. relief	W	2	24	9
Boiler #2 1" mess. relief	#10	2	24	0
Boiler #2 1" mess. relief	E	3	36	6
Boiler #2 1" mess. relief	S	1	12	0
Boiler #2 1" mess. relief	W	1	12	0
Superheater line that should	1)	2	24	0
Superheater line that should	E	4	48	0
Superheater line that should	S	3	36	3
Superheater line that should	W	0	0	0
Superheater line that should	#10	0	0	6
Superheater line that should	E	0	0	0
Superheater line that should	S	2	36	3
Superheater line that should	W	1	12	0
Superheater line that should	#10	2	24	0
Superheater line that should	E	4	48	0
Superheater line that should	S	3	36	0
Superheater line that should	W	1	12	6

PLANT Pu AREA Boiler Room
 SURVEYED BY M. J. W. / W. J. W.
 INST. INDIUM 2220 * 50064 DET. 43-4
 SOURCE CK _____ BKG. _____

ASC # 83600108
 CTD. BY J. P. B.
 SOURCE CK. AVG. 33
 BKG. 0

DATE: 6-13-89 SOURCE # 5916 VALUE: 1678 DPM

DATE: 6-14-89

READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT			
	CPH	DPH	SHEAR	
2" Cold Water supply line	#1 T	5	60	0
2" Cold Water supply line	B	4	48	0
2" Cold Water supply line	#2 T	1	12	0
2" Cold Water supply line	#3 N	1	12	3
2" Cold Water supply line	E	1	12	3
2" Cold Water supply line	S	3	36	0
2" Cold Water supply line	W	2	96	0
2" Cold Water supply line	#1 N	1	12	0
2" Cold Water supply line	E	2	24	3
2" Cold Water supply line	S	1	84	0
2" Cold Water supply line	W	2	24	0
Water mess. relief valves	T	4	48	9
Hot water tank	#1 N	4	24	0
Hot water tank	E	3	18	0
Hot water tank	S	3	18	0
Hot water tank	W	4	24	3
Hot water tank	#1 N	4	24	0
Hot water tank	E	2	12	3
Hot water tank	S	4	24	3
Hot water tank	W	1	24	3
Hot water tank	7	7	84	0
Hot water tank	#1 N	2	24	3
Hot water tank	S	3	36	0
Hot water tank	#1 N	1	12	3
Hot water tank	S	2	24	3
Hot water tank	#1 N	1	12	0
Hot water tank	S	2	24	0
Hot water tank	#2 N	3	36	0
Hot water tank	S	5	60	3
Hot water tank	#1	2	24	0
Hot water tank	T	6	72	3
Hot water tank	2	4	48	3

PLANT Pu AREA Boiler Room
 SURVEYED BY McLain Handley
 INST. LINDLUM 2220 *50064 DET. 43-4
 SOURCE CK _____ BKG. 0-1
 DATE: 6-5-89 SOURCE #:6816 VALUE:1078 DPM

ASC # 1 83600115
 CTD. BY Am. Plack
 SOURCE CK. AVG. 35
 BKG. 0
 DATE: 6-8-89

50064 AM 0-287-308 READINGS IN DPM/100 cm²
PM 1-296-302

SAMPLE # OR DESCRIPTION	DIRECT			
	CPM	DPH	SHEAR	
3/8" LIQUID LINE	2M	3	36	0
3/4" COPPER LINE	#1 E	0	0	3
	W	0	0	6
	#2 N	0	0	3
A-3/4" CONDUIT	#1 E	1	12	6
	W	0	0	0
	#2 N	2	24	0
B-1/2" CONDUIT	#1 N	2	24	3
	#2 N	0	0	0
1/2" HIGH PRESSURE LINE	#1	0	0	0
	#2	2	24	0
I-1/2" CONDUIT	#1	4	48	6
	#2	1	12	0
2" BREATHING AIR INTAKE	#1	5	60	0
	#2	2	24	0
	#3	4	48	0
J-1/2" CONDUIT	#1	1	12	0
	#2	3	36	0
	#3	2	24	6
K-1" CONDUIT	1	2	24	3
L-1" CONDUIT	1	0	0	0
M-3" CONDUIT	1	2	24	3
N-1" CONDUIT	1	2	24	0

PLANT Pu AREA Boiler Room
 SURVEYED BY McLain Handley
 INST. LINDLUM 2220 *50064 DET. 43-4
 SOURCE CK _____ BKG. _____
 DATE: 6-7-89 SOURCE #:6816 VALUE:679 DPM

ASC # 2 83600108
 CTD. BY Am. Plack
 SOURCE CK. AVG. 31
 BKG. 2
 DATE: 6-7-89

50064 AM 1-279/305 READINGS IN DPM/100 cm²
PM 1-280/297

SAMPLE # OR DESCRIPTION	DIRECT			
	CPM	DPH	SHEAR	
1 1/2" GAS LINE (IE)	#1 T	2	24	0
	A	1	12	0
	#2 T	1	12	0
	B	5	60	0
	#3 T	3	36	3
	B	2	24	0
	#4 N	1	12	6
	S	1	12	9
	#5 T	3	36	3
	B	3	36	9
	#6 T	2	24	0
	B	1	12	0
	#7 E	2	24	0
	W	1	12	3
	#8 E	1	12	0
	W	4	48	0
	#9 E	6	72	3
	W	3	36	0
	#10 E	4	48	6
	W	3	36	0

PLANT Pu AREA Boiler Room
 SURVEYED BY McLain/Handley
 INST. 1.INDIUM 2220 * 50064 DET. 4.3-4
 SOURCE CK _____ BKG. _____
 DATE: 6-5-89 SOURCE # 6816 VALUE: 1078 DPM

ASC # 1583600115
 CTD. BY Don Ried
 SOURCE CK # AVG. 33
 BKG. 1
 DATE: 6-7-89

50064 AM 0-287/308
PM 1-296/302

READINGS IN DPM/100 cm²
 DIRECT
 CPH DPM SHEAR

SAMPLE # OR DESCRIPTION	CPH	DPM	SHEAR
G - 3/4" Conduit	1	48	0
H - 3/4" Conduit	#1	24	0
	#2	0	3
K - 5" Conduit	N	18	0
	E	24	3
	W	0	6
L - 5" Conduit	N	6	0
	E	0	0
	W	6	1
M - 3/4" Conduit	1	36	0
N - 3/4" Conduit	1	36	6
O - 1" Conduit	1	60	0
P - 5" Conduit	S	18	0
	E	30	3
	N	6	0
Q - 5" Conduit	S	12	0
	E	12	0
	N	18	0
R - 3/4" Conduit	1	12	0

PLANT Pu AREA Boiler Room
 SURVEYED BY McLain/Handley
 INST. 1.INDIUM 2220 * 50064 DET. 4.3-4
 SOURCE CK _____ BKG. _____
 DATE: 6-8-89 SOURCE # 6816 VALUE: 1078 DPM

ASC # 83600115
 CTD. BY A Bork
 SOURCE CK # AVG. 35
 BKG. 0
 DATE: 6-8-89

50064 AM 1-263/274
PM 1-263/265

READINGS IN DPM/100 cm²
 DIRECT
 CPH DPM SHEAR

SAMPLE # OR DESCRIPTION	CPH	DPM	SHEAR
1K 2 1/4" Conduit	#1	48	0
1L 3/4" Conduit	#1	12	3
	#2	36	3
1M " "	#1	0	0
	#2	12	0
1N 3/4" Conduit	#1	36	3
1O 3/4" Conduit	#1	12	0
1P 1/2" Conduit	#1	24	0
1R 1/2"	#1	36	0
1R 1/2"	#1	48	0
1S 1/2" Conduit	#1	60	6
	#2	36	0
	#3	0	3
	#4	36	0
	4# Bot	36	0
1T 3/4" Conduit	#1	0	0
1U 3/4" Conduit	#1	36	0
1V 3/4" Conduit	#1	48	0
1W 3/4" Conduit	#1	48	9

PLANT Pu AREA Boiler Room
 SURVEYED BY MCLAIN/Handely
 INST. 1.INDIUM 2220 * 50064 DET. 43-4
 SOURCE CK _____ BKG. _____
 DATE: 6-6-89 SOURCE # 1816 VALUE: 10780PM

ASC # 1st 83600115
 CTD. BY Am Black
 SOURCE CK # AVG. 35
 BKG. 0
 DATE: 6-9-89

50064 AM 1-279/305
6-7-89 PM 1-280/297
 SAMPLE # OR DESCRIPTION

READINGS IN DPH/100 cm²
 DIRECT
 CPH DPH SHEAR

SAMPLE # OR DESCRIPTION	CPH	DPH	SHEAR	
1A 1/2" Conduit	0 M	1	12	0
	2 M	0	0	0
1B 3/4" Conduit	2 M	5	60	6
1C 3/4" Conduit	2 M	2	24	3
ELECT. OUT OUTBOX FANS 71	T	4	24	0
	B	1	6	0
	L	0	0	0
	R	2	12	0
	F1	1	6	0
	2	4	24	0
1D 1/2" Conduit	#1	2	24	0
	#2	2	24	0
6" GAS FEED	#1 N	4	24	0
	E	1	6	3
	S	2	12	0
	W	2	12	3
	#2 N	4	24	3
	E	1	6	0
	#5	1	6	0
	#3 T	2	12	0
	E	2	12	3
	B	3	18	3
	W	6	24	0
	#4 T	3	18	3
	S	3	18	0
	R	2	12	0
	N	4	24	9
	#5 T	1	6	3
	S	2	12	3
	R	2	12	3
	N	3	18	3

PLANT Pu AREA Boiler Room
 SURVEYED BY MCLAIN/Handely
 INST. 1.INDIUM 2220 * 50064 DET. 43-4
 SOURCE CK _____ BKG. _____
 DATE: 6-6-89 SOURCE # 1816 VALUE: 10780PM

ASC # 1st 83600115
 CTD. BY Am Black
 SOURCE CK # AVG. 35
 BKG. 0
 DATE: 6-8-89

50064 AM 0-284/279
 PM 1-279/312
 SAMPLE # OR DESCRIPTION

READINGS IN DPH/100 cm²
 DIRECT
 CPH DPH SHEAR

SAMPLE # OR DESCRIPTION	CPH	DPH	SHEAR	
5 1/2" Conduit	2 M	2	24	0
T 3/4" Conduit	2 M	2	24	0
U 3/4" Conduit	2 M	2	24	3
COMBUST AIR HEATER BUNK T	9	54	0	
Box	S	2	12	3
	N	2	12	0
	F1	7	42	4
	2	1	6	
	B	7	42	3
2" ELBO Conduit	S	584	584	1
	E	34	408	6
V 1" Conduit	DM S	1	12	6
	E	3	36	0
	2M S	1	12	3
	E	2	24	3
X 3/4" Conduit	2 M	3	36	3
Y 3/4" Conduit	2 M	3	36	3
Booster Water Pipe Part 7	T	3	36	0
	S	1	12	2
	N	4	48	0
	F1	0	0	0
	2	3	36	6
	B	3	36	0
Z - Water Pipe	S CM	1	12	0
	N	0	0	3
	S 2M	1	12	6
	N	0	0	0

* Cleaned results on next page

PLANT Pa AREA Boiler Room
 SURVEYED BY M. J. Handley
 INST. 1. INDIUM 2220 * 50064 DET. 43-4
 SOURCE CK _____ BKG. _____
 DATE: 6-15-89 SOURCE # 6816 VALUE: 1078 DPM

ASC # 83600115
 CTD. BY J. Black
 SOURCE CK. AVG. 32
 BKG. 0
 DATE: 6-16-89

READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT			
	CPH	DPH	SHEAR	
4" NIPPLE return line from N	2	24	0	
holding Tank #3 Boiler E	4	24	6	
S	3	18	3	
W	3	18	0	
Press line from back of #1N	0	0	9	
#3 Boiler to front Tank E	4	48	3	
S	2	24	3	
#2W	1	12	0	
E	2	24	3	
S	3	36	0	
#3T	4	48	0	
S	4	48	0	
#4T	5	60	0	
S	4	48	0	
#5T	2	24	3	
S	4	48	0	
#6W	6	60	0	
E	6	72	0	
#7W	1	12	3	
E	3	36	0	
#8E	0	0	6	
W	2	24	0	
HAT	2	24	0	
B	0	0	9	
Water from central line #1E	5	60	3	
for #3 Boiler Back to front	S	4	48	0
W	4	48	3	
#9A	5	60	6	
S	0	0	3	
#9R	3	36	0	
S	6	72	0	
#10A	5	60	0	
S	3	36	0	

PLANT Pa AREA Boiler Room
 SURVEYED BY M. J. Handley
 INST. 1. INDIUM 2220 * 50064 DET. 43-4
 SOURCE CK _____ BKG. _____
 DATE: 6-15-89 SOURCE # 6816 VALUE: 1078 DPM

ASC # 83600115
 CTD. BY J. Black
 SOURCE CK. AVG. 32
 BKG. 0
 DATE: 6-16-89

READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT		
	CPH	DPH	SHEAR
Water from central line #1E	4	48	6
#3 Boiler Back to front A	5	60	0
" #6S	2	24	6
W	2	24	0
N	3	36	3
3/4" conduit port (D) Boiler #3 #1	4	48	3
#2	2	24	0
#3	5	60	6
1/2" conduit from 2" port to #1T	3	36	3
#3 Boiler to 4" Red D/W A	3	36	0
#1T	5	60	3
A	2	24	0
#5W	4	48	0
Water line D/W #1	2	24	0
3/4" gas lead line #3 Boiler #1	1	12	0
Front to source #2T	2	24	0
B	1	12	3
#2T	0	0	0
A	6	72	0
#1S	5	60	0
A	7	84	3
#2S	2	24	3
N	2	24	0
3/4" gas lead line #3 Boiler #6W	2	24	0
E	1	12	0
S	0	0	0
W	1	12	0
#7N	2	24	0
E	2	24	0
S	2	24	3
W	2	24	0

PLANT Pu AREA Boiler Room
 SURVEYED BY M. J. ...
 INST. LUDLUM 2220 * 50664 DET. 43-4
 SOURCE CK _____ BKG. _____
 DATE: 6-15-89 SOURCE # 6816 VALUE: 578 DPM

6-15-89
 AM 0-261/283

ASC # 8360015
 CTD. BY A. R. ...
 SOURCE CK. AVG. 32
 BKG. 0
 DATE: 6-16-89

READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT		
	CPH	DPM	SHEAR
3" gas feed line #3 boiler #8 N	2	24	0
E	2	24	0
S	3	36	3
W	0	0	0
#9 T	3	36	3
A	3	36	0
E	2	24	3
W	2	24	0
#10 T	2	36	0
B	4	48	6
N	2	24	3
S	1	12	3
#11 T	4	48	9
B	5	60	0
N	5	60	9
S	4	48	9
#12 T	6	72	3
A	1	12	0
N	3	36	3
S	2	24	3
#13 T	2	24	3
A	1	12	0
N	2	24	0
S	2	24	6
#14 T	3	36	0
B	3	36	3
N	2	24	0
S	2	24	0
1" gas feed line reference #1 N	4	48	0
E	8	96	0
S	4	48	0
W	4	48	0

PLANT Pu AREA Boiler Room
 SURVEYED BY M. J. ...
 INST. LUDLUM 2220 * 50664 DET. 43-4
 SOURCE CK _____ BKG. _____
 DATE: 6-15-89 SOURCE # 6816 VALUE: 578 DPM

6-15-89
 AM 0-261/283

ASC # 8360015
 CTD. BY A. R. ...
 SOURCE CK. AVG. 32
 BKG. 0
 DATE: 6-16-89

READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT		
	CPH	DPM	SHEAR
1 1/2" line to back of boiler #3A	2	24	3
#3 boiler E	4	48	3
S	3	36	6
W	2	24	0
1" line for Mt. Washington back to boiler #125	3	36	0
E	2	24	0
S	1	12	3
W	3	36	0
#20 T	3	36	0
E	4	48	0
S	6	72	6
W	6	72	0

PLANT Pu AREA Boiler Room
 SURVEYED BY McLain/Nardaly
 INST. 1.101.11M 2220 * 50064 DET. 43-4
 SOURCE CK _____ BKG. _____
 DATE: 6-15-89 SOURCE # 1816 VALUE: 1078 DPM

ASC # 83600115
 CTD. BY J Black
 SOURCE CK. AVG. 32
 BKG. 10
 DATE: 6-16-89

READINGS IN DPM/100 cm²

6-15-89
 Am O-261/283

SAMPLE # OR DESCRIPTION	DIRECT		
	CPH	DPM	SHEAR
1" gas feed returns	#2 N 3	36	3
	E 3	36	6
	S 2	24	0
	W 6	72	0
#5 D	# 1	12	0
	E 6	72	3
	S 2	24	0
	W 6	72	3
#4 T	# 4	48	0
	B 3	36	0
	N 1	12	3
#5 T	# 5	60	3
	B 1	12	3
	A 1	48	3
#6 T	# 1	12	0
	A 1	12	9
	N 4	48	3
#7 T	# 2	24	0
	B 5	60	9
Water line vent boiler	3/4 # 1	0	0
Right to pit	1" #3 T	0	9
	A 3	36	3
1" #3 T	# 5	60	6
1" #4 A	# 2	24	3
	S 1	12	0
1/2" line to bank at boiler	#1 A	24	0
#3 boiler	E 5	60	3
	S 5	60	0
	W 2	24	3
#2 N	# 7	84	0
	E 6	72	0
	S 4	48	0
	W 7	84	0

PLANT Pu AREA Boiler Room
 SURVEYED BY McLain/Nardaly
 INST. 1.101.11M 2220 * 50064 DET. 43-4
 SOURCE CK _____ BKG. _____
 DATE: 6-15-89 SOURCE # 6816 VALUE: 1078 DPM

ASC # 2 83600108
 CTD. BY J Black
 SOURCE CK. AVG. 31
 BKG. 3
 DATE: 6-16-89

6-15-89
 Am O-261/283
 O-293/293

READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT		
	CPH	DPM	SHEAR
Air Compressor - belt guard	T 1	6	0
	W 2	18	3
	E 3	18	3
High press lines	#1 2	12	0
	#2 2	12	9
Pump & motor platform	#1 4	24	3
	#2 54	324	0 resuming shelter
	#3 1	6	0
Air Storage tanks	N 3	18	6
	W1 3	18	0
	W2 0	0	0
	S 2	12	0
	E1 2	18	0
	E2 2	12	0
motor	T 2	12	0
Compressor lead	S 1	6	3
Square D elec control	N 0	0	3
	T 1	6	3
	S 0	0	0
	R 0	0	3
	E1 1	6	3
	E2 2	12	3
3/4" seal tight	#1 7	84	9
Compressor belt lead	W 3	18	3
	T 4	24	0
	E 2	12	6
	B 2	12	6
	F 1	6	0
	Boiler 1	6	0
3/4" seal tight	#1 1	12	3
Pump motor & platform after Devcon	#2 0	0	0

PLANT Pu AREA Boiler Room
 SURVEYED BY McLain/Wardely
 INST. 1.101.11M 2220 * 5000 DET. 43-4
 SOURCE CK _____ BKG. _____

ASC # 2 83600108
 CTD. BY J. Black
 SOURCE CK. AVG. 31
 BKG. .3

DATE: 6-15-89 SOURCE # 1816 VALUE: 678 DPM
6-15-89 6-16-89
AM-0-261-283 AM-1-271-282

READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT			
	CPH	DPH	SHEAR	
5' pipe knockout #1 E	3	18	3	
S	2	12	3	
W	2	12	0	
N	2	12	3	
#2 E	6	36	3	
W	4	24	0	
Horizontal top #1	2	12	0	
#2	2	18	0	
#3	4	24	3	
	9	54	3	
#4 T	4	24	0	
#7	4	24	3	
HAN KISSON REPRISE UNIT back	1	3	18	3
	2	1	12	0
Bottom	1	3	18	0
	2	5	30	0
TOP	1	5	30	6
	2	0	0	3
FRONT	1	2	12	3
	2	3	18	0
INSIDE TOP	1	3	18	3
BACK	1	0	0	0
FRONT	1	2	12	9
West end #5 Boiler	1	2	12	3
	2	0	0	3
	3	2	12	0
	4	5	30	3
	5	6	36	0
	6	4	24	0
1 1/2" pipe field W/E #2 A	#1	4	48	0
#2	4	48	3	
3 1/2" pipe field W/E #2 B	#1	3	36	3
#2	3	36	0	

PLANT Pu AREA Boiler Room
 SURVEYED BY McLain/Wardely
 INST. 1.101.11M 2220 * 5000 DET. 43-4
 SOURCE CK _____ BKG. _____

ASC # 1 83600115
 CTD. BY J. Black
 SOURCE CK. AVG. 32
 BKG. 0

DATE: 6-16-89 SOURCE # 1816 VALUE: 678 DPM
6-15-89 6-16-89
AM 0-261-283 AM 1-271/282
PM 0-283-293

READINGS IN DPM/100 cm²

SAMPLE # OR DESCRIPTION	DIRECT			
	CPH	DPH	SHEAR	
1/2" conduit (A1)	#1	2	24	9
	#2	4	48	0
	#3	3	36	3
	#4 T	3	36	9
	A	3	36	0
	#5 T	8	96	3
	B	5	60	3
	#6 T	3	36	3
	B	2	24	0
1/4" conduit (B1)	#1	5	60	3
	#2	4	48	6
	#3	3	36	0
	#4 T	4	48	0
	A	5	72	3
	#5 T	3	36	0
	K	3	36	0
	#6 T	5	60	3
	K	1	12	6

