300401-0608300005

MOUND WASTEWATER TREATMENT PLANT STRUCTURE REMOVAL ACTION

(Buildings 57, 112, 113, 415, 432, and EG-8)
(Includes removal of PRSs 43 through 56)

OSC REPORT

July 2006

Final

Department of Energy
Miamisburg Closure Project

CH2MHILL

300401-0608300005

CH2M HILL Mound, Inc.
1075 Mound Road
P.O. Box 750
Miamisburg, OH 45343-0750

SMO-479/06
August 8, 2006

Mr. Don Pfister, Director
Miamisburg Closure Project
U. S. Department of Energy
175 Tri-County Parkway
Springdale, OH 45246

ATTENTION: Paul Lucas

SUBJECT: **Contract No. DE-AC24-03OH20152:** Deliverable #36 Building Data Package; Section C.2.1.1 Facility Demolition; Mound Wastewater Treatment Plant Structure OSC Report, Final

Dear Mr. Pfister:

Attached is the following Final document for your records.

- Mound Wastewater Treatment Plant Structure OSC Report, Final

If you or members of your staff have any questions regarding the document, or if additional support is needed, please contact Dave Rakel at 937-865-4203.

Sincerely,

Michael D. Ebben
Site Manager

ME/jg

Enclosures

cc: T. Fischer, USEPA, (1) w/attachments
B. Nickel, OEPA, (1) w/attachments
S. Helmer, ODH, (1) w/attachments
J. Crombie, ODH, (1) w/attachments
M. Wojciechowski, Tetra Tech, (1) w/attach
G. Gorsuch, DOE/MCP, (1) w/attachments
R. Tormey, DOE/OH, (1) w/attachments
G. Desai, DOE/HQ, (1) w/attachments
C. Kline, CH2M Hill, (1) w/attachments
Public Reading Room (1) w/attachments
Admin Records, CH2M Hill, (2) w/attachs
ER Records, CH2M Hill, (1) w/attachs
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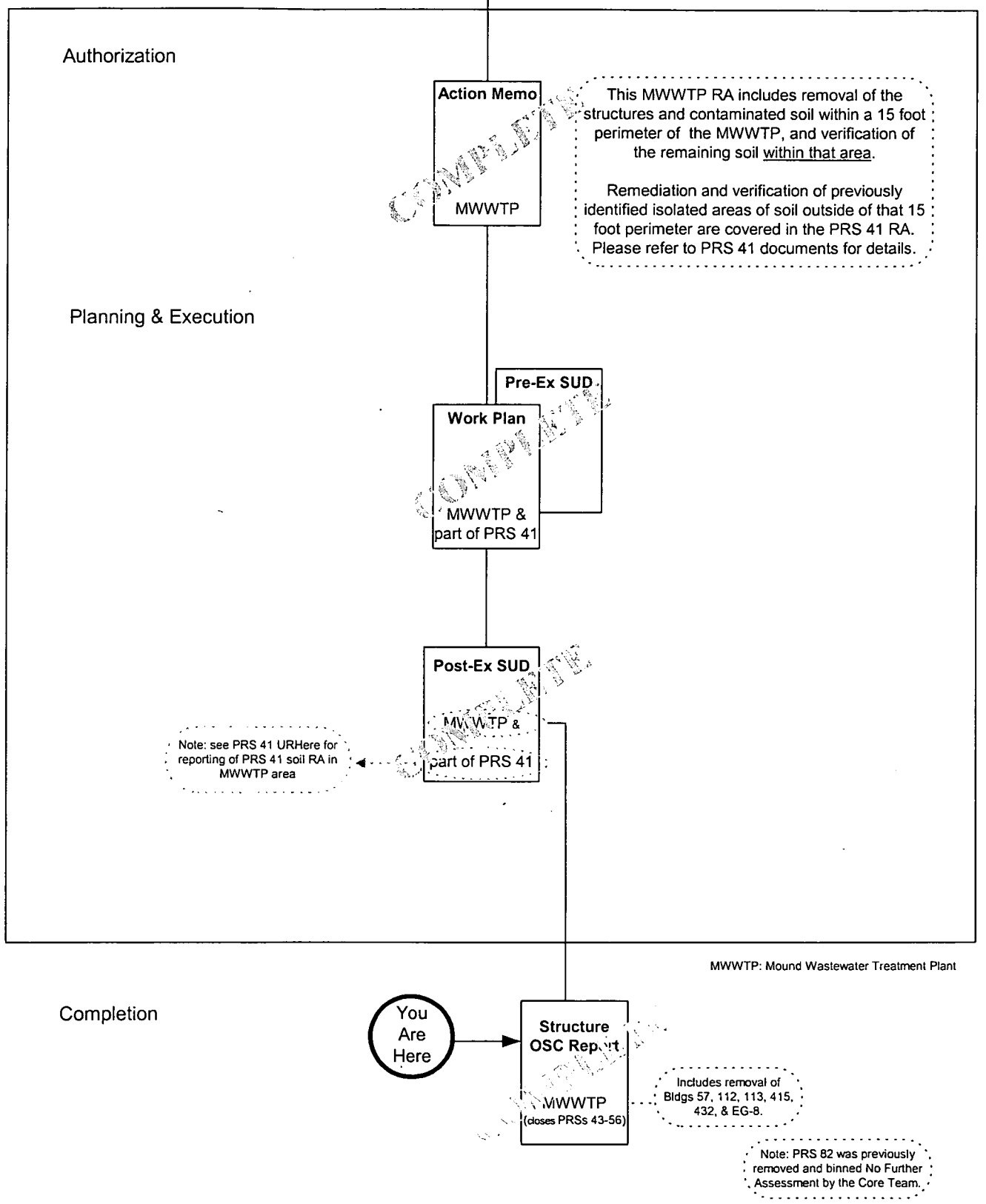
file, CH2M Hill, w/o attachments

Mound Wastewater Treatment Plant

Bldgs 57, 112, 113, 415, 432, and EG-8
PRSs 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, and 56



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Acronyms

AST	Aboveground Storage Tank
BOSS	Balance of Site Structures
BUSTR	Bureau of Underground Storage Tank Regulations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CPO	Chlorine Produced Oxidants
CRA	Contingent Removal Action
cy	Cubic Yard
DAC	Derived Air Concentration
DOE	Department of Energy
EG	Emergency Generator
LSA	Low Specific Activity
MCP	Miamisburg Closure Project
MMCIC	Miamisburg Mound Community Improvement Corporation
NCDPF	Nuclear Component Design and Production Facility
NTS	Nevada Test Site
OEPA	Ohio Environmental Protection Agency
OSC	On-Scene Coordinator
PRP	Potentially Responsible Party
PRS	Potential Release Site
PVC	Polyvinyl Chloride
RA	Removal Action
RAS	Return Activated Sludge
ROD	Record of Decision
RRE	Residual Risk Evaluation
URMA	Underground Radioactive Material Area
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
MWWTP	Mound Waste Water Treatment Plant

RECOMMENDATION: MWWTP Structures

The Mound Wastewater Treatment Plant (MWWTP) Structure Removal Action (RA) (authorized via the Action Memorandum, Mound Wastewater Treatment Plant Removal Action, April 2005, Final) was performed based on possible radiological contamination resulting from the processing of contaminated sludge, possible soil contamination from hazardous chemicals used in the treatment process (although there is no record of any spills or releases to the environment), and known radiological contamination in the surrounding soils. The Action Memorandum included the demolition and disposal of the MWWTP buildings (Buildings 57, 112, 113, 415, 432, and EG-8), structures (basins/pits/tanks), and contaminated soil within a 15-foot perimeter surrounding the MWWTP area. Potential Release Site (PRS) numbers 43 through 56 are closed by this MWWTP Structure Removal Action.

This Structure OSC Report documents the completion of the Removal Action for the MWWTP above ground and in-ground structures within a 15-foot perimeter surrounding the MWWTP area. No soils were remediated as part of this Removal Action. This Removal Action resulted in the disposal of 2,333 cubic yards (cy) of radioactive waste that was sent to Envirocare. Approximately one (1) cy of asbestos waste was sent to landfill, approximately 30 liters of ethylene glycol were disposed of through Clean Harbors, Inc., and 424 cy of metal (meeting surface release criteria) were disposed of through Metal Shredders, Inc. This OSC Report closes out the Removal Action for the MWWTP buildings and structures within a 15-foot perimeter surrounding the MWWTP area, including PRSs 43 through 56. The removal/remediation and verification of any soil below and surrounding the MWWTP will be closed out in the PRS 41 OSC Report.

After a thorough review of the Mound Wastewater Treatment Plant On-Scene Coordinator Report, the Core Team agrees that the Removal Action for the MWWTP buildings and structures within a 15-foot perimeter surrounding the MWWTP area is complete, and all previously existing environmental issues associated with these buildings and structures have been resolved. PRSs 43 through 56 are closed out via this OSC Report.

Paul Lucas, OSC
U.S. Department of Energy
Springdale, Ohio — 7/12/06

Timothy J. Fischer, Remedial Project Manager
USEPA
Chicago, Illinois — 7/13/06

Brian K. Nickel, Project Manager
OEPA — 7/10/06

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1.0 SUMMARY OF EVENTS

This section describes the background and events leading up to the Removal Action, parties involved in supporting the Removal Action, chronological narrative of the Removal Action, and resources committed to complete the project.

1.1 Site Conditions and Background

The Mound Wastewater Treatment Plant (MWWTP) Structure Removal Action (RA) (authorized via the Action Memorandum, Mound Wastewater Treatment Plant Removal Action, April 2005, Final) was performed based on possible radiological contamination resulting from the processing of contaminated sludge, possible soil contamination from hazardous chemicals used in the treatment process (although there is no record of any spills or releases to the environment), and known radiological contamination in the surrounding soils. The Action Memorandum included the demolition and disposal of the MWWTP buildings (Buildings 57, 112, 113, 415, 432, and EG-8), structures (basins/pits/tanks), and contaminated soil within a 15-foot perimeter surrounding the MWWTP area. Potential Release Site (PRS) numbers 43 through 56 are closed by this MWWTP Structure Removal Action.

This Structure OSC Report documents the completion of the Removal Action for the MWWTP above ground and in-ground structures within a 15-foot perimeter surrounding the MWWTP area. No soils were remediated as part of this Removal Action. This Removal Action resulted in the disposal of 2,333 cubic yards (cy) of radioactive waste that was sent to Envirocare. Approximately one (1) cy of asbestos waste was sent to landfill, approximately 30 liters of ethylene glycol were disposed of through Clean Harbors, Inc., and 424 cy of metal (meeting surface release criteria) were disposed of through Metal Shredders, Inc. This OSC Report closes out the Removal Action for the MWWTP buildings and structures, including PRSs 43 through 56. The removal/remediation and verification of any soil below and surrounding the MWWTP will be closed out in the PRS 41 OSC Report.

The Action Memorandum, Mound Wastewater Treatment Plant Removal Action, April 2005, Final, authorized the removal of the MWWTP (also referred to as the Sanitary Disposal [SD] Facility) buildings and structures and contaminated soil within a 15-foot perimeter surrounding the MWWTP area. This Structure On-Scene Coordinator (OSC) Report documents the completion of the Removal Action for the MWWTP above ground and in-ground structures within a 15-foot perimeter surrounding the MWWTP area. No soils were remediated as part of this Removal Action. The levels of radiological contamination present in MWWTP warranted a Removal Action under CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) and subsequent demolition of the MWWTP buildings and associated structures, where required.

The remediation and verification of any soil below and surrounding the MWWTP will be performed per the above stated Action Memorandum and closed out in the PRS 41 OSC Report.

MWWTP Background

The MWWTP consisted of six numbered buildings, two tents, one shed, 13 tanks (open to the atmosphere), one aboveground diesel fuel storage tank, two pump pits, a sludge drying bed, and ancillary components/structures. The MWWTP facility was located on the western edge of the plant site, south of Buildings 72 and 124. Construction of the MWWTP began in 1973 and the facility became operational in 1975. Throughout its operational history, the MWWTP was modified/expanded.

The MWWTP was situated within the boundary of an Underground Radioactive Material Area (URMA). Additionally, the facility lay within PRS 41. Potentially contaminated sub-slab soils under MWWTP structures and surrounding the MWWTP area will be evaluated/characterized and closed in the PRS 41 OSC Report. Following completion of the RRE, ROD, and when CERCLA 120 h requirements are met, the property on which the MWWTP stands will be transitioned to the Miamisburg Mound Community Improvement Corporation (MMCIC).

The MWWTP consists of the following buildings, structures, and ancillary components/structures (shown on Appendix A, Figure 2):

Building 57 and EG-8 Built in 1974, Building 57 was a single-story concrete block structure with a built-up membrane roof. The 510 square-foot building had electric heat, potable water, and window air conditioning. The building contained the treatment plant operator control and testing facilities, a lavatory (with a shower), a change room, and Emergency Generator 8 (EG-8). Building walls were supported by 8-inch thick, 30-inch tall foundation walls. The foundation walls rested on 10-inch by 20-inch wall continuous concrete footing. A supported interior wall separated the emergency generator from the remainder of the building. The interior side of the perimeter foundation wall was insulated. The building had a 5-inch thick concrete slab that was poured on 6-inches of granular fill. Steel joists supported a corrugated, galvanized metal roof deck. The joists were welded to bent-bar anchors embedded in the concrete block walls. Layered from the roof deck up were a vapor barrier, 1-1/2-inch rigid insulation, and the built-up asphalt roof.

Grit Chamber (PRS 43) [Including Grit Conveyor (PRS 44)] Built in 1974, the grit chamber (Concrete Tank 101) was a 140 square-foot structure that extended 17 feet below grade. Originally, the bottom of the tank was sloped to a trough with a screw conveyor that moved the material that settled out of the liquid waste to an elevator chain and bucket system for removal from the tank. This

equipment was removed in 1992 and replaced with static screens that remove debris. A 20-foot by 40-foot tent covered the grit chamber and associated equipment. The PVC-coated, polyester fabric tent was manufactured by Rubb Building Systems and was supported by an internal frame of galvanized pipe. The tent had electrical service, incandescent lights, and a small electric heater.

Comminutor (PRS 45) and Equalization Basins (PRSs 46 and 47) The comminutor (Concrete Tank 102) and two equalization basins (Concrete Tanks 103 and 104) were conjoined, reinforced concrete basins built in 1974. The comminutor was a 68 square-foot basin that had a 7-foot depth. The equalization basins were 163 square-foot basins, each with a depth of almost 20 feet. These three basins were almost entirely below grade.

Aeration Process Pits (PRSs 50 and 51) and (old) Clarifiers (PRSs 52 and 53) Constructed in 1974, the aeration process pits (Tanks 107 and 108) sat side-by-side and were attached to the clarifiers (Tanks 109 and 110). Each aeration pit was 24 feet by 43 feet by 11 feet. The clarifiers were 12 feet by 24 feet by 14 feet. The clarifiers were removed from service in 1992. A 24-foot by 52-foot tent covered the clarifiers and associated equipment. The PVC-coated, polyester fabric tent was supported by an internal frame of galvanized pipe. Wastewater was pumped from the equalization basins to the aeration process pits where a biological treatment took place, removing the remaining impurities from the wastewater by converting them to bacterial cells (activated sludge). At the end of the aeration process, a polymer solution was added to the wastewater stream to enhance the settling of sludge in the next treatment process known as clarification.

Chlorine Contact Basin (PRSs 55 and 56) Built in 1974, the chlorine contact basin (in-line, steel-lined Concrete Tanks 111 and 112) was a 105 square-foot concrete structure that was 8 foot deep, extending most of this depth below grade. In 1995, the chlorine basin was modified to allow series flow through all four chambers by plugging existing troughs and channels and core boring/cutting new channels. A metal cover was also installed over the structure in 1995. The effluent from the sand filter flowed by gravity into the chlorine contact basins (Tanks 111 and 112) where the wastewater was disinfected by the addition of chlorine (sodium hypochlorite).

Sludge Drying Beds (PRS 57) In 1979, four new 36 feet long by 21 feet wide (775 square feet) sludge drying beds (Beds 1 – 4) were constructed. In 1990, Beds 1 and 2 were removed to allow for construction of Building 113, and in 1994, Bed 4 was removed to allow for the construction of the RAS (Return Activated Sludge) pump pit and new clarifier. Prior to demolition, only Bed 3 remained in place. The perimeter walls of the bed were 8-inch thick concrete and varied from 5-feet 3-inches to 6-feet 9-inches in height. The base of the bed sloped to the center of a trough that drained the bed. The bed had a 4-mil polyethylene film liner supported by a base of compacted soil. The bed was filled with several layers of size-graded gravel, topped with a 12-inch layer of sand.

Equalization Basins (PRSs 48 and 49) Built in 1985, the Equalization Basins (Concrete Tanks 105 and 106) were conjoined, reinforced concrete structures with a total area of 681 square feet. The bottom of the basins was a single 35-feet 6-inches long by 22-feet 4-inches wide by 14-inch thick concrete slab. The 14-inch thick walls were 18-feet 9-inches tall. From the grit chamber, wastewater discharged directly into the flow equalization basins. The influent was measured for pH (Hydrogen ion concentration) as it passed into the equalization basins. Each basin had Mechanical mixers and bottom aeration sparge plates to prevent the sewage from settling in the equalization basins. Wastewater was stored in the equalization basins to maintain equal flow over the aeration process pits, which is the next stage of treatment.

Building 432 – Effluent De-chlorination Building 432, built in 1995, was a 180 square-foot, slab-on-grade, pre-engineered metal building with a standing seam metal roof. Building 432 contains equipment to test samples of water. The building had 2-foot by 2-foot by 1-foot concrete column footings at each corner, supporting 1-foot by 1-foot by 2-foot 6-inch tall concrete piers. Anchor bolts were installed in the piers to serve as the anchoring system for the metal building. The building had a 6-inch thick on-grade reinforced concrete slab. A chemical storage cabinet was located on the north side of the building's exterior. Building 432 had 120-volt electrical service to power the water sampling equipment and the monitoring/control equipment used to monitor/control the de-chlorination process (sodium bisulfite was added to reduce the level of chlorine produced oxidants in the effluent).

Polymer Storage Shed Constructed in approximately 1986, the polymer storage shed was a 100 square-foot, pre-engineered corrugated metal shed with a wooden floor supported by wooden skids. The shed had 120-volt electrical service. Polymer solution was pumped from storage drums to the digester/clarifier after aeration to enhance the settling process.

Wet Well The wet well was a 110 square-foot reinforced concrete structure built in 1986. The well was 8-feet 8-inches deep, extending approximately 8-feet below grade. Wastewater flowed into the wet well from the clarifier. Two pumps discharged the wastewater from the wet well to the sand filters in Building 112.

Building 112 Built in 1986, Building 112 was a 780 square-foot, pre-engineered, butler-type metal building that sat on a 6-inch thick reinforced concrete slab. The slab was tied to ground beams that ran the perimeter of the building along the slab's edges and also down the building's centerline. The ground beams were supported by twelve 3-foot diameter concrete piers. The building was constructed to house two sand filters (PRS 54). From the wet well, wastewater was pumped to the sand filters. The sand filters removed the fine solids that remained suspended in the wastewater. The effluent from the sand filters then flowed by gravity to the chlorine contact basins. The sand filters were periodically back-flushed to remove collected solids. Backwash from the sand filters was returned to the wastewater plant influent intake.

Building 113 Building 113 was a 1,200 square-foot, pre-engineered Butler-type metal building with three overhead doors. The building sat on a reinforced concrete slab (on grade), which varied in thickness from 8-inches at the back wall to 12-inches at the overhead doors. A 2-foot wide, continuous, reinforced concrete footing, which varied in height from 4-foot 6-inches to 5-foot 6-inches, ran the perimeter of the slab. A 2-foot wide reinforced concrete ground beam ran under the center of the building, supporting the slab. The slab contains a cast iron slotted drain with a catch basin at the end. Built in 1990, the building had supplied services of electrical power and potable water. The building was heated with a fan-forced electric resistance heater. Building 113 was constructed to house the belt filter press (the sludge dewatering unit), the Sorband post mixer unit, and the fructose corn syrup injection unit (used to feed the aeration tank microbes during periods of low influent flow), and for equipment storage. The dewatering equipment had been removed in 1996 and afterward the building was primarily used as a garage and a storage facility.

Building 415 Constructed in 1993, Building 415 (designated the "mixing shelter") was a 400 square-foot (20-foot by 20-foot) pre-engineered metal building with a standing seam metal roof. The building sat on a reinforced concrete slab that was 10-inches thick around the perimeter and tapered down to 6-inches thick approximately 30-inches from the perimeter wall. The slab was supported by a 45-inch by 12-inch thick continuous foundation wall that ran along the slab's perimeter. Four additional footings, one at each corner, supported the foundation walls. The building was used for storage of fly ash, process chemicals, and miscellaneous equipment.

Sludge Holding Tanks The Sludge Holding Tanks (Concrete Tanks 137 and 138) were conjoined, reinforced concrete basins that have a combined area of 506 square feet and a depth of 11 feet (extending approximately 10 feet below grade). Handrails were installed on the tops of the basin exterior walls. The bottom of each basin had an 18-inch square by 6-inch deep sump. Sludge from the aeration tanks and the new clarifier was periodically pumped into one of two sludge holding tanks. Fly ash was added to and mixed with the sludge in the sludge holding tanks to condition the sludge (to enhance drying) before it was pumped to the Belt Filter Press in Building 113.

RAS Pit Built in 1994, the RAS (Return Activated Sludge) Pit was a 100 square-foot, reinforced concrete pump pit containing two pumps. The seven-foot deep RAS pit extended approximately 6-½ feet below grade. A removable 8-inch thick reinforced concrete cover rested on the pit's perimeter walls. The concrete pit cover contained a 5-foot square steel door to allow pit access. The 24-inch thick bottom slab of the pit had a 12-inch deep, 18-inch square sump in one corner where the two pumps were located. The RAS pumps were utilized to pump the activated sludge, which had collected at the bottom of the clarifier, back to the aeration process pits.

New Clarifier Built in 1994, the new clarifier (Concrete Tank 122) was an 873 square-foot reinforced concrete structure that had an outside diameter of 33-feet 4-inches and a depth of approximately 18 feet (extending approximately 15 feet below grade). There is a 4-foot diameter, 30-inch deep, concrete sump centered in the bottom slab of the clarifier. The bottom slab of the clarifier sloped down toward the sump. A 3-foot wide steel bridge spanned the top of the clarifier and supported the drive motor that propelled the bottom scraper. The clarifier (basically a settling tank) was designed to provide a calm period for the wastewater, allowing the bacteria (activated sludge) to settle out from the clear liquid. The activated sludge was collected at the bottom of the clarifier and pumped from the clarifier sump, through a 6-inch ductile iron pipe connected to the RAS pumps, back to the aeration process pits.

1000-Gallon Fuel Tank A new transportable above ground 1000-gallon diesel fuel tank (Tank 25) was installed in 1992. An attached secondary confinement basin contained the tank and was mounted on attached steel skids. The tank was sited on an 8-foot by 10-foot reinforced concrete slab.

Scum Pump Wet Well The Scum Pump Wet Well was a 30-inch diameter, 7-foot deep fiberglass wet well and contained a submersible pump. Scum, which had floated to the top of the clarifier liquid, was removed from the clarifier and diverted to the scum pump wet well. From the scum pump wet well, the scum pump returned the scum to the sludge holding tanks.

Ancillary Components/Structures Ancillary components included items such as above ground and under ground piping, stanchions, troughs, utility poles, asphalt, sidewalks, concrete pads, slabs, curbs, and retaining walls that made up the infrastructure within the 15-foot perimeter of the MWWTP.

Appendix D provides photographs of the MWWTP structures before, during, and after demolition.

Associated Potential Release Sites (PRSs) and Previous Investigations.

Fourteen (14) PRSs associated with MWWTP were included in the RA. All are closed out via this MWWTP Structure OSC Report. The PRSs associated with the MWWTP, closed out via this MWWTP Structure OSC Report, are listed in Appendix B, Table 1. There are twelve (12) additional PRSs in proximity to the MWWTP not associated with the MWWTP buildings/structures. These PRSs, listed in Appendix B, Table 2, are not closed out via this MWWTP Structure OSC Report.

Removal Action. The RA for MWWTP was authorized in the Action Memorandum, Mound Wastewater Treatment Plant Removal Action, April 2005, Final.

Since DOE is the sole responsible party for cleanup of contamination at the MWWTP, no Potentially Responsible Parties (PRPs) were sought to clean up the site. Monsanto Research Corporation, EG&G Mound Applied Technologies, and BWXT of Ohio, Inc. were the operating contractors at the site from 1948 to 30 September 1988, from 1 October 1988 until 30 September 1997, and from 1 October 1997 until 31 December 2002 respectively. CH2M Hill Mound, Inc. became the site contractor for the Miamisburg Closure Project (MCP) effective January 1, 2003.

1.2 Organization of the Removal Action

Table 3 (Appendix B) lists the parties supporting the Removal Action and their responsibilities.

1.3 Objectives

Documentation Objective. The objective of this MWWTP Structure OSC Report is to describe the Removal Action fieldwork, report the air monitoring results, and document successful completion of the MWWTP RA. Demolition debris quantities and disposition locations are presented in Table 4, Appendix B.

CH2M Hill Mound, Inc. has elected to cluster financial data for multiple buildings together. Cluster P includes Buildings 24, 56, 57, 112, 113, 415, 432, EG-8, P, PH, and WH1-3. As a result, cost data for individual building demolitions are not available. When Cluster P is completed (after demolition of Buildings PH and 24) the total cost for the cluster will be reported in the Buildings PH and 24 Closeout Report.

The remediation and verification of potentially contaminated soil below and surrounding the MWWTP area will be performed per the Action Memorandum, Mound Wastewater Treatment Plant Removal Action, April 2005, Final, and closed out in the PRS 41 OSC Report.

Removal Action Objectives. The objectives of the Removal Action, as outlined in the Action Memorandum, Mound Wastewater Treatment Plant Removal Action, April 2005, Final, and documented in this MWWTP Structure OSC Report include:

- Public Notification
- Demolish MWWTP building superstructures
- Demolish remaining MWWTP (above grade) structures (decontaminate as necessary)
- Demolish MWWTP structures, slabs, footers/foundations, and ancillary structures to three feet below grade.
- Remove and dispose of debris

The following activities will be documented in the PRS 41 OSC Report:

- Remediate contaminated soil and dispose as Low Level Waste (LLW)
- Perform Remedial Action Support Sampling (RASS)
- Verification
- Data Report
- Site Restoration
- Documentation of Completion

Verification of structure removals is provided in the photographs included in Appendix D.

1.4 Chronological Narrative of the Removal Action

The following is a chronological narrative of events surrounding the MWWTP structure RA.

Timeframe	Activity
1973	MWWTP initial construction commences.
1975	MWWTP initial construction complete, facility becomes operational.
1979	Four new sludge drying beds constructed.
1985	Equalization basins (Tanks 105 and 106) constructed.
1986	Building 112, Polymer Storage Shed, Wet Well constructed.
1990	Two of the sludge drying beds, constructed in 1979, removed for construction of Building 113. Building 113 constructed.
1992	Grit Chamber screw conveyor replaced with static screens for debris removal. Original Clarifiers (Tanks 109 and 110) removed from service. Diesel UST (Tank 118) for EG-8 abandoned in place. New above ground diesel fuel storage tank (Tank 25) installed to fuel EG-8.
1993	Building 415 constructed.
1994	Sludge Drying Bed #4 removed for the construction of the new primary Clarifier, and new RAS pit and pumps.
1995	Construction of Building 432. Modifications to Building 113 and to Chlorine Contact Basin. Previously abandoned in place diesel fuel UST was removed under BUSTR (later binned No Further Assessment).

Timeframe	Activity
1996	Building 113 dewatering equipment removed and afterward the building converted to use as garage and storage facility.
April 2005	MWWTP Final Action Memorandum issued.
June – Sept. 2005	MWWTP facility safe shutdown/decontamination.
July 2005	New Waste Water Treatment Package Plant operational/ MWWTP operations cease.
Oct.-Jan. 2006	MWWTP structures demolished.
January 2006	MWWTP Structure OSC Report generated.

2.0 EFFECTIVENESS OF THE REMOVAL ACTION

The MWWTP structures have been demolished, and the debris removed and properly disposed of per the demolition work package (BOSS-40208-01). Photographs taken before, during, and after demolition are included in Appendix D.

2.1 Actions Taken by Site Contractor

CH2M HILL Mound, Inc. personnel planned and performed Removal Action oversight, building/structure decontamination, building/structure dismantlement and demolition, and onsite transportation and staging of debris. The project met the Removal Action objectives, related to the MWWTP buildings/structures, as outlined in the Action Memorandum, Mound Wastewater Treatment Plant Removal Action, April 2005, Final, and the demolition work plan, Demolition of the Mound Wastewater Treatment Plant (Buildings 57, 112, 113, 415, 432, EG-8), Revision 1.

In accordance with the RA, the following actions were taken: project planning, public participation, MWWTP building/structures decontamination, MWWTP building/structure demolition, and proper disposal of the debris. This Structure OSC Report provides the documentation of completion for the Removal Action for the MWWTP above ground structures, building slabs, and in-ground structures, including the closeout of PRSs 43 through 56. The remediation and verification of any soil below and surrounding the MWWTP will be closed out in the PRS 41 OSC Report.

Building Dismantlement and Demolition

To mitigate the generation of airborne radioactive contamination during demolition activities, engineering controls were employed. These controls included (but were not limited to) using water misting with the goal of no visible fugitive dust. In order to prevent excess debris, silt, or other materials from

entering surface streams or the storm sewer system, resulting from water misting and/or rainwater, surface water runon/runoff was controlled by the use of straw bales and/or storm water control fencing around designated demolition areas and by silt protection covers over field grates. No contaminated groundwater was encountered during demolition/excavation of below-grade structures. Despite the use of surface water runon/runoff control, some ponding of water occurred after heavy rainstorms in some of the deeper excavation areas (e.g. Grit Chamber and Equalization Basins). Since the ponded water did not impact demolition activities, no action was taken to remove the water. Surface water runon/runoff controls, erected for demolition of the MWWTP structures, were left in place for the PRS 41 CRA remediation activities which began almost immediately after demolition activities were completed.

Prior to commencement of demolition activities, safe shutdown of the facilities was performed to remove hazards (asbestos, ethylene glycol, chemicals, etc.) and to sever services to the MWWTP such as electrical service and supply water connections. Also, a stand-alone Waste Water Treatment Package Plant was installed to the west of the MWWTP area and influent and outflow lines to/from the MWWTP were rerouted to the Package Plant.

Prior to demolition, Radiological Controls performed an evaluation of the radiological history of the building and performed radiological surveys to determine levels and types of contamination. A Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) study of the MWWTP buildings was performed prior to demolition. The study reports provide details of the survey design and results and indicate that the Buildings 57, 112, 113, 415, 432, EG-8, and the Polymer Storage Shed met applicable surface release criteria. In addition, confirmatory radiological surveys were performed on building interior and exterior surfaces, accessible pipe/drain openings [Reference Radiological Surveys 05-TF-0250, 05-TF-0255, 05-TF-0285, 05-TF-0353 (east pipe/west pipe), and 05-TF-303 in Appendix F], and in-ground structures interior surfaces prior to demolition. The interior surfaces of the in-ground structures were pressure washed prior to confirmatory surveys. No acid etching was done for isotopic analysis of any contaminated areas of concrete (thus no gamma or alpha spectroscopy for the concrete debris), however a sludge sample from the sludge-holding tank was analyzed for isotopic content. The analytical results of the sludge sample are in Table 5 of Appendix B. All dispositions of structures/debris were by historical data and wipe/scan data. No elevated levels were detected during the confirmatory radiological surveys of the above grade superstructures Buildings 57, 112, 113, 415, 432, EG-8, and the Polymer Storage Shed.

The PVC-coated, polyester fabric tent coverings, metal supports, and railings for the old Clarifiers and Grit Chamber were removed and disposed as low-level waste. The superstructures and slabs of Bldgs. 57, 112, 113, 415, 432, the Polymer Storage Shed, and the metal bridge over new Clarifier were demolished and sent to landfill. Radiological surveys indicated that the top rim and the bottom

slab/floor of the New Clarifier were radiologically contaminated. The bottom slab/floor and the top portion of wall to approximately 3 feet below grade of the New Clarifier were removed and disposed as LLW. The remaining portion of the new clarifier wall was determined to be uncontaminated and was left in-place. A portion of the east wall (>3 feet below grade) of the Grit Chamber was left in place to preclude damaging the adjacent active sanitary sewer line. The portion of the Grit Chamber east wall that was left in place was also previously determined to be uncontaminated. Reference Radiological Surveys for the Grit Chamber (Tank 101) and the New Clarifier in Appendix F. All other below grade structures (foundations/footers of Bldgs. 57, 112, 113, 415, & 432 and in-ground structures/tanks/pits/trenches) were removed and disposed as LLW. The Sanitary Sewer manholes, interior to the MWWTP area, and adjacent Sanitary Sewer piping were removed and disposed as LLW. Below grade piping that was accessible during the removal of in-ground structures was removed with the below grade structures (pits/tanks), however some piping, greater than three feet below grade, was left in-place. A section of below grade piping that connected to Aeration Tank #2 (from the New Clarifier) was exposed during post demolition soil excavation. The open end of the pipe was radiologically surveyed and the survey results for the pipe are included in Appendix F (RSDS 06-ER-0200). Subsequent to structure demolition, additional excavation was performed In the vicinity of the Sludge Holding Pits and the Aeration Pit/Clarifier to locate additional sanitary piping. A section of piping from the Waste Sludge Dip Line was exposed and the open end of the pipe was radiologically surveyed and the survey results for the pipe are included in Appendix F (RSDS 06-WM-0300). Several other pipe ends were exposed as a result of the excavations. The open ends of the pipes were radiologically surveyed and the survey results for the pipes are included in Appendix F (RSDS 06-ER-0307). The survey results of all of the sanitary piping surveyed indicated no elevated levels of radiological contamination.

Following demolition of the building slabs, Radiological Control performed radiological screening surveys of the exposed concrete soil contact surfaces of the concrete debris. No elevated levels were detected during radiological screening of building slab concrete surfaces in contact with soils. Additionally, soil samples were taken from the former locations of the following in-ground structures: New Clarifier (Tank122), RAS Pump Pit, Drying Bed #3, Sludge Holding Tanks (Tanks 137 and 138), Grit Chamber (Tank 101), Comminutor (Tank 102), Equalization Basins 1 and 2 (Tanks 103 through 106), Aeration Process Pits (Tanks 107 and 108), Wet Well, and Chlorine Contact Basin (Tanks 111 and 112). The soil survey results, which indicated no elevated levels of radiological contamination, are documented in the PRS 41 Post Excavation SUD. Uncontaminated construction and concrete building debris was size-reduced, loaded into haulers, and taken to a local sanitary landfill.[1] Recyclable metal

1 Procedures controlling waste characterization are contained in Mound Technical Manuals MD-10167, *Radioactive Waste Procedures,* Operations 420: *Waste Stream Characterization* and 428: *Waste Radionuclide Identification and Quantification*, and MD-70523, *Management of Hazardous*

debris was loaded into haulers and taken to a local metal recycler. All radioactively contaminated debris was size reduced and packaged to meet the Envirocare waste acceptance criteria and disposed of as low-level waste.

The EG-8 generator, engine, and controls were demolished and disposed (to landfill) as part of the Building 57 structure. Originally, EG-8 was fueled from an underground storage tank (UST). This tank (Tank 118, identified as PRS 82) was abandoned in place in 1992, removed in 1995 under Bureau of Underground Storage Tank Regulations (BUSTR), and subsequently binned No Further Assessment (NFA) in December 1996. After closure of the UST, EG-8 was fueled from an aboveground storage tank (AST). Prior to EG-8 demolition, the AST was moved to a temporary storage location and its disposition is yet to be determined.

No contaminated soil was identified or removed by this RA. Any potentially contaminated soil below and surrounding the MWWTP will be remediated as necessary, verified, and documented in the PRS 41 OSC Report. The MWWTP area site restoration will take place after verification sampling and remediation activities for the PRS 41 CRA.

The MWWTP structures were removed; photograph documentation is provided in Appendix D.

Air Monitoring for Worker Safety

During demolition activities for the removal of foundations/footers and other in-ground structures, the Mound Radiological Control organization performed air monitoring to confirm a safe work environment, in accordance with 10 CFR 835. Air monitoring results from the building demolition are provided in Appendix E. The locations of the air monitor stations are shown on Figure 3 in Appendix A. On each day that demolition activities were performed, at least two air monitors were used at any given time (one upwind of the work area and the other downwind of the work area). The monitors were repositioned in response to changes in wind direction.

The average of the air monitoring results at the demolition boundary was below 0.02 derived air concentration (DAC), which means that worker exposure was less than the Mound Administrative Control level of 100 mrem/year, based on 10 CFR 835. The air monitoring results from the Mound site perimeter monitors were all below the 0.3 DAC Mound posting criteria. No MCP worker or environmental exposure limits were exceeded, thus the demolition activities did not pose any additional risk to human health or the environment. (Appendix E).

Waste, Trash, and Recyclable Materials, Operation 001: *Waste Verification Sampling and Analysis*. Additional direction is contained in these manuals in operations specific to the waste type and disposition of the waste.

2.2 Actions Taken by Local, State, and Federal Agencies

The Department of Energy (DOE)/MCP, the United States Environmental Protection Agency (USEPA), and Ohio EPA (OEPA) had oversight responsibility for the Removal Action. The DOE/MCP was the lead agency for the RA and provided the funding and oversight for the RA. The USEPA and OEPA have oversight responsibility for the RA and review of the Action Memorandum and OSC Reports to ensure that the objectives are/were met.

2.3 Actions Taken by Subcontractor

Subcontractors involved in the MWWTP structure demolition project included the following:

- American Services (Cleves, Ohio) performed asbestos abatement,
- Clean Harbors (Cincinnati, Ohio) treated and disposed of the light ballasts, mercury switches, treatment chemicals, and ethylene glycol (EG-8 radiator) waste,
- Envirocare (Salt Lake City, Utah) received radioactive waste via rail and truck,
- Metal Shredders (West Carrollton, Ohio) transported and dispositioned metal,
- Shonka Research Associates (Atlanta, Georgia) performed radiological surveys of MWWTP pit/tank interior surfaces.

3.0 DIFFICULTIES ENCOUNTERED

3.1 Items that Affect the Removal Action

No difficulties were encountered that affected the Removal Action.

3.2 Issues of Intergovernmental Coordination

All DOE/USEPA/OEPA interactions were good. The agencies were updated informally on a regular basis, and formally at monthly Core Team meetings. The Mound 2000 Process worked well.

4.0 RECOMMENDATIONS

4.1 Means to Prevent a Recurrence

The MWWTP above ground structures, building slabs, and uncontaminated and contaminated in-ground structures, except for below grade portions of the new clarifier, the east wall of the Grit Chamber, and the majority of below grade piping (>3 feet below grade) were removed and properly disposed of per the Core

Team-approved work plan; therefore, the spread of contamination was prevented. Soils below and surrounding the MWWTP will be remediated and verified in accordance with the above Action Memorandum, and completion will be documented in the PRS 41 OSC Report. Surface water runon/runoff controls, erected for demolition of the MWWTP structures, were left in place for the PRS 41 CRA remediation activities which began almost immediately after demolition activities were completed.

After the Removal Action and the CERCLA process for the parcel are complete, the area will be transferred from federal to private ownership. All State and Federal disposal rules will apply.

APPENDIX A

FIGURES

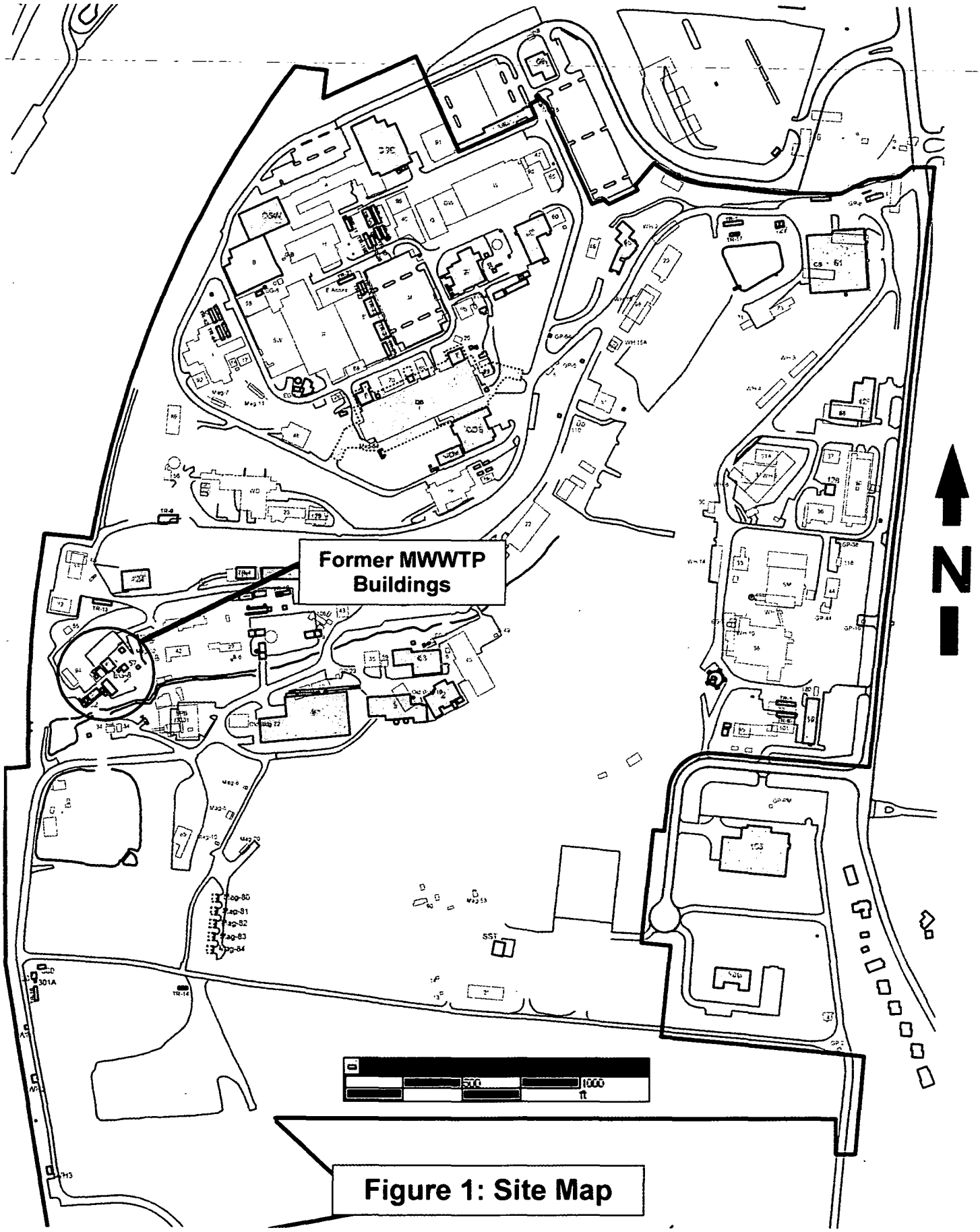


Figure 1: Site Map

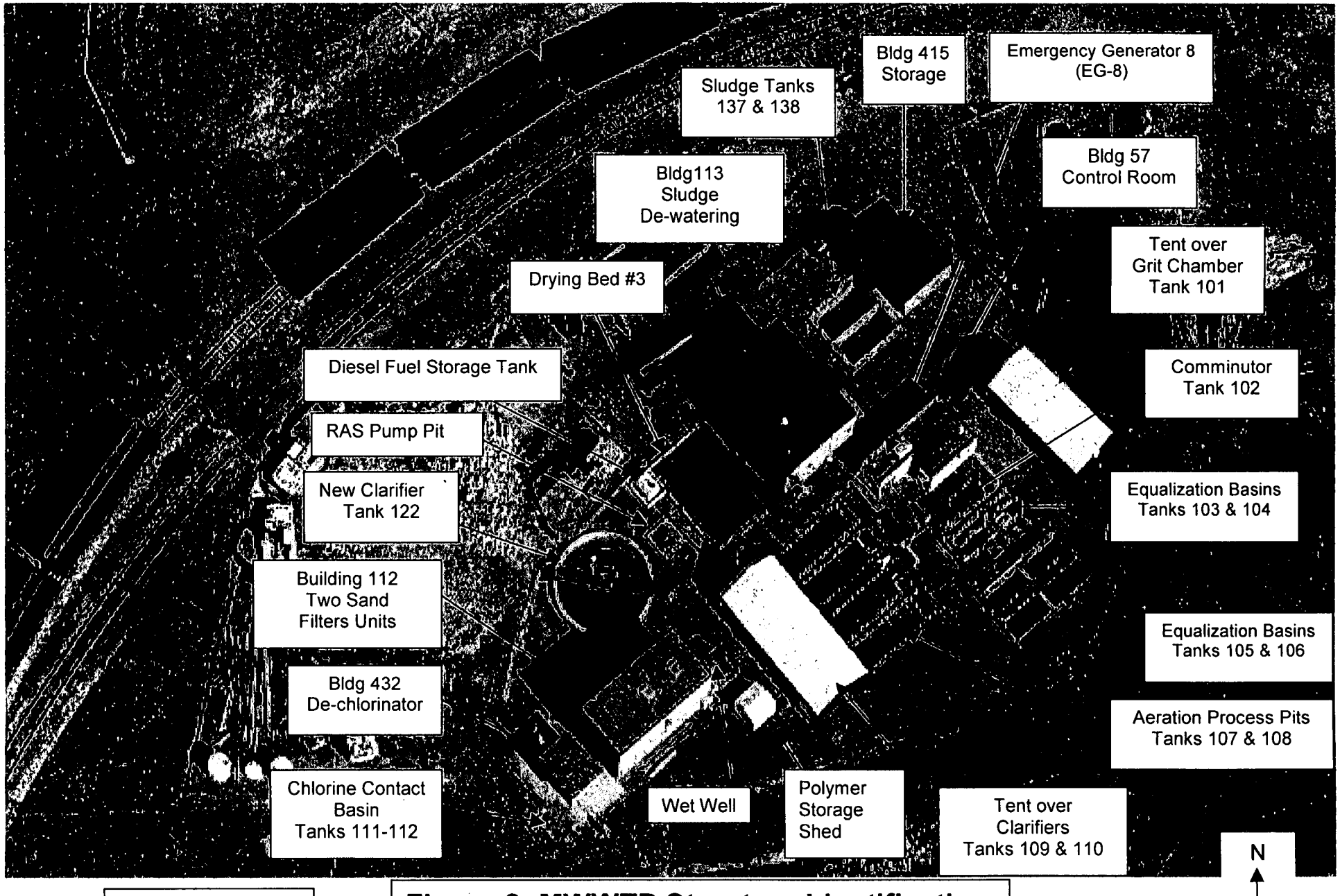
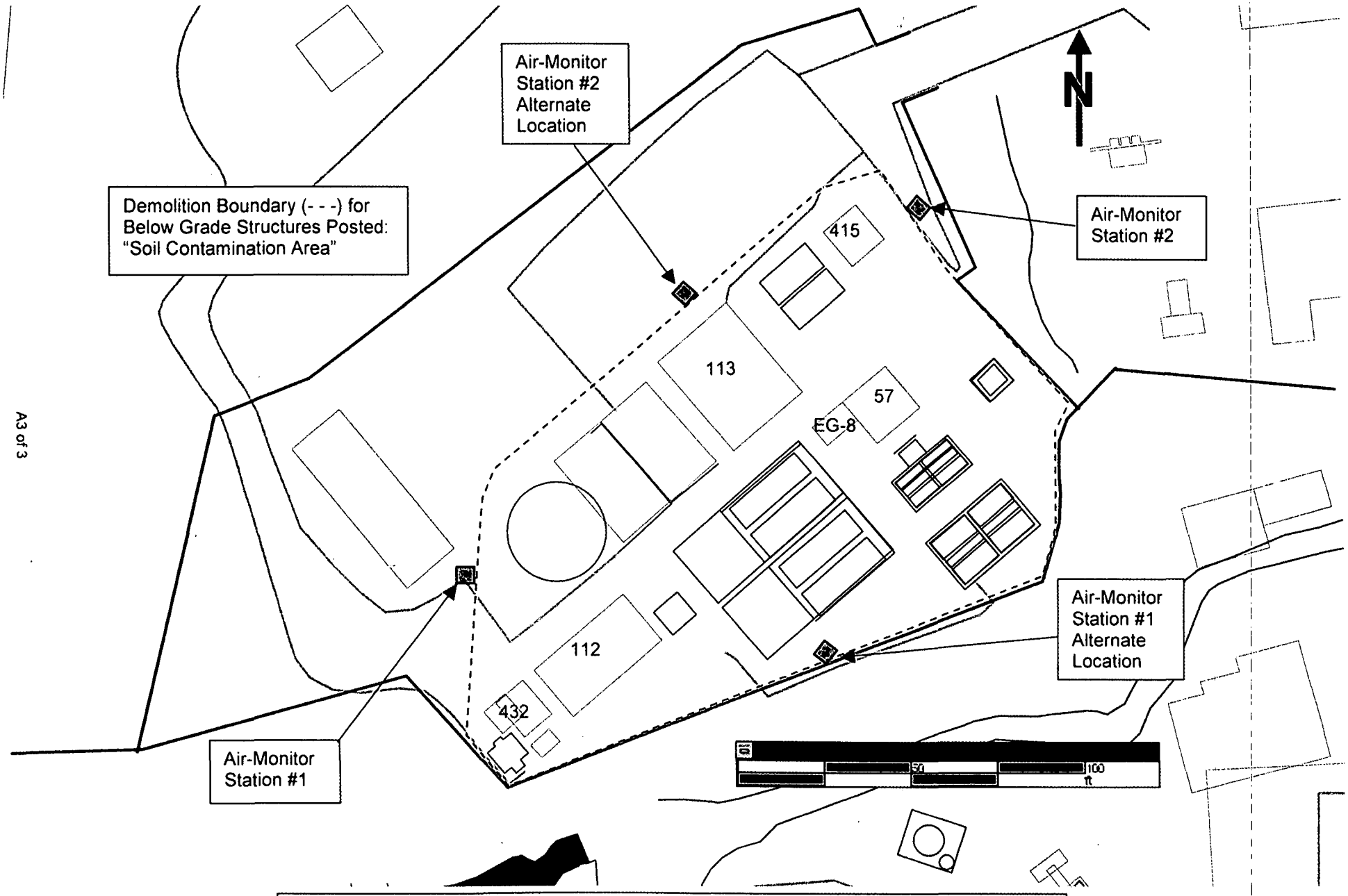


Figure 2: MWWTP Structure Identification



A3 of 3

Figure 3: MWWTP Demolition Air Monitor Locations

APPENDIX B

TABLES

Table 1: PRSs Associated with the MWWTP

PRSs 43 through 56 are closed out via this structure OSC Report.

Building Related PRS	Comments
43	Wastewater Treatment Plant, Building 57 Grit Chamber (Tank 101)
44	Building 57 Grit Conveyor
45	Building 57 Comminutor (Tank 102)
46	Building 57 Equalization Basin (Tank 103)
47	Building 57 Equalization Basin (Tank 104)
48	Building 57 Equalization Basin (Tank 105)
49	Building 57 Equalization Basin (Tank 106)
50	Building 57 Aeration Basin (Tank 107)
51	Building 57 Aeration Basin (Tank 108)
52	Building 57 Clarifier (Tank 109)
53	Building 57 Clarifier (Tank 110)
54	Building 57 Sand Filters (2 units)
55	Building 57 Chlorine Contact Chamber (Tank 111)
56	Building 57 Chlorine Contact Chamber (Tank 112)

Table 2: PRSs in Proximity to the MWWTP

PRSs not associated with MWWTP Structure and
are not closed out via this structure OSC Report.

PRS	Binning Status	Comments	Action
7	Further Assessment (FA)	Plant Sanitary Outfall Pipeline.	Refer to PRS 7 PRS Package
25	No Further Assessment (NFA)	Building 27 PRS	Closed
31	NFA	Underground Sanitary Sewer Line G5	Closed
35	NFA	Underground Sanitary Sewer Line G19 & G14	Closed
41	RA	Area 3, Thorium Drum Storage and Redrumming Area	Refer to PRS 41 Action Memorandum
42	NFA	Area A, Construction Soils from T Building	Closed
57	NFA	Sludge Drying Beds	Closed
58	NFA	Dredge Spoil Drying Beds	Closed
67	NFA	Plant Drainage Ditch	Closed
70	FA	Retention Basins and Weir Basin	Refer to PRS 67-70 Fact Sheet
82	NFA	Building 57 Diesel Fuel Storage Tank	Closed
356	NFA	Elevated Soil Gas Location	Closed

Table 3: Organization of the Removal Action

Agency or Party Involved	Contact	Description of Participation
US EPA (SR-6J) 77 W. Jackson Chicago, IL 60604 312-886-7058	Timothy Fischer USEPA Remedial Project Manager	Federal agency responsible for MCP oversight.
Ohio EPA 410 E. Fifth Street Dayton, OH 45402-2911 937-285-6468	Brian Nickel OEPA Project Manager	State agency responsible for MCP oversight.
DOE/ MCP 175 Tri-County Parkway Springdale, OH 45246 513-246-0071	Paul Lucas DOE/MCP On-Scene Coordinator	DOE is responsible for project oversight and success.
CH2M Hill Mound, Inc. 1075 Mound Road P. O. Box 750 Miamisburg, OH 45343-0750 937-673-2874	Allen Upshaw	Performed demolition, provided the DOE/ MCP Project Manager with technical assistance, administrative support, sampling, decontamination, site safety, and report preparation.

Table 4: Materials and Disposition

MWWTP Buildings/Structures and EG-8 Material	Quantity	Disposal Method	Destination
Asbestos Debris	1 cubic yard	Treatment	Stoney Hollow Landfill, Dayton, Ohio
Ethylene Glycol	30 liters	Recycle	Clean Harbors, Cincinnati, Ohio
Polychlorinated biphenyl (PCB) Light Ballast	1 cubic foot	Treatment	Clean Harbors, Cincinnati, Ohio
Construction Debris (Concrete/Brick/Wood/Other)	190 cubic yards	Landfill	Stoney Hollow Landfill, Dayton, Ohio
Metal Construction Debris (Recycled)	424 cubic yards	Recycle	Metal Shredders, West Carrollton, Ohio
Low Level Radioactive Waste	2333 cubic yards	Rail/Truck	Envirocare, Salt Lake City, Utah

Table 5: MWWTP Sludge Isotopics

Radionuclide	Sludge Isotopics (pCi/g)
Am241	0.80
Co60	0.11
Cs137	0.07
Pu238	64.80
Ra226	1.33
Th228	0.67
Th230	8.69
Th232	0.67

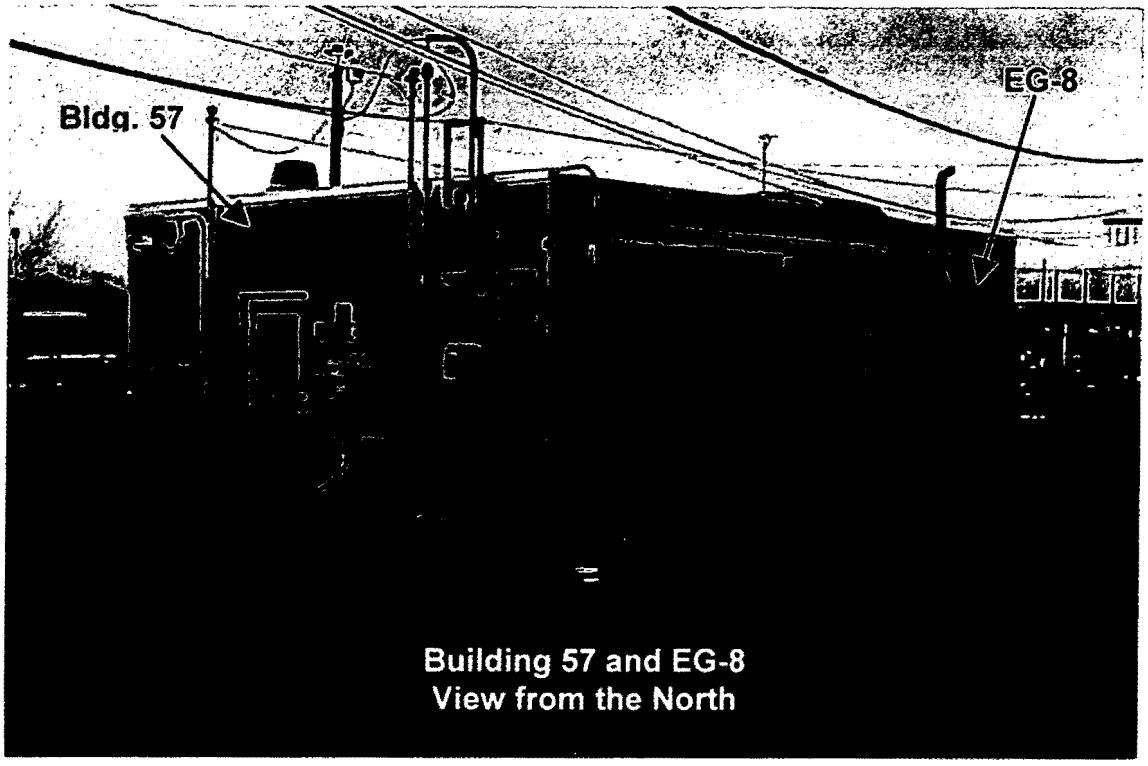
APPENDIX C

GENERAL MEDIA INFORMATION

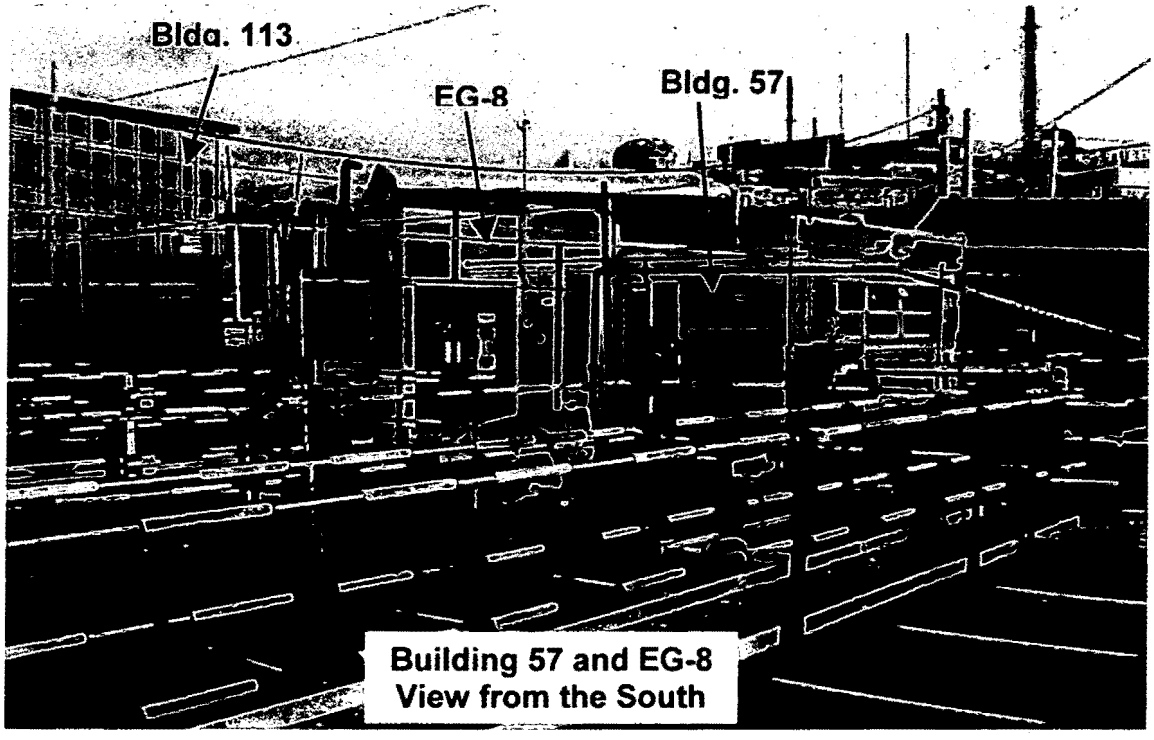
No Media Information Exists

APPENDIX D

PHOTOGRAPHIC DOCUMENTATION

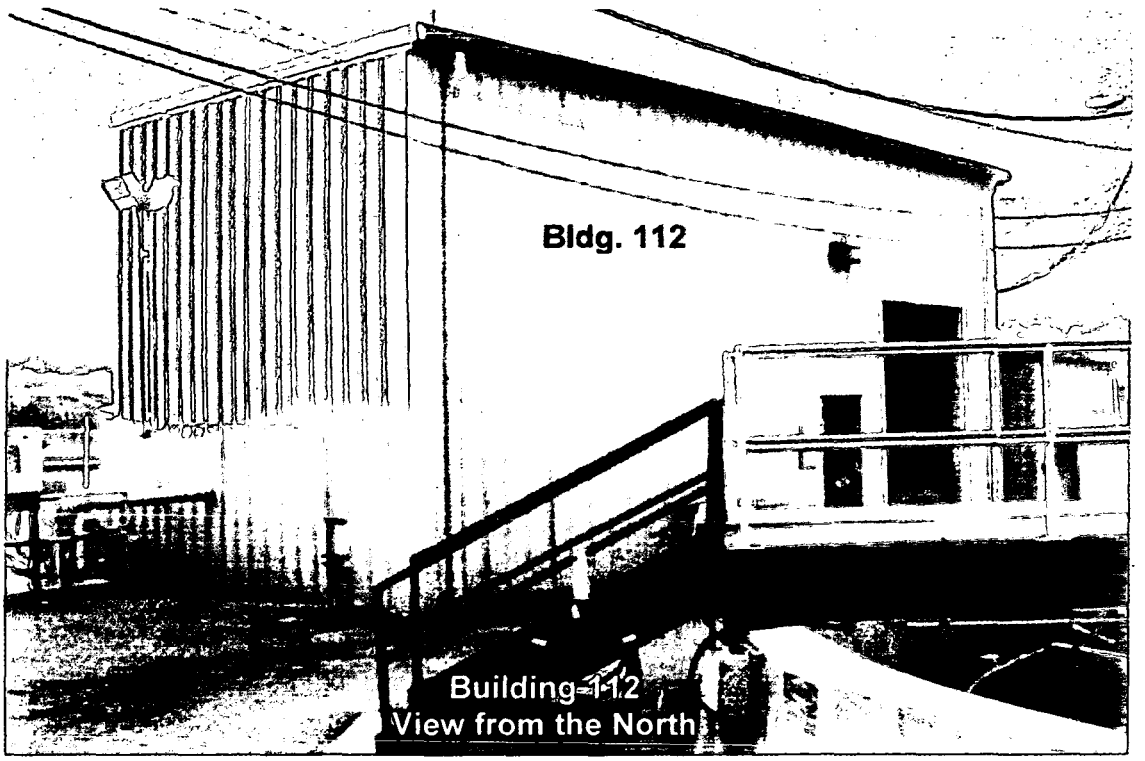


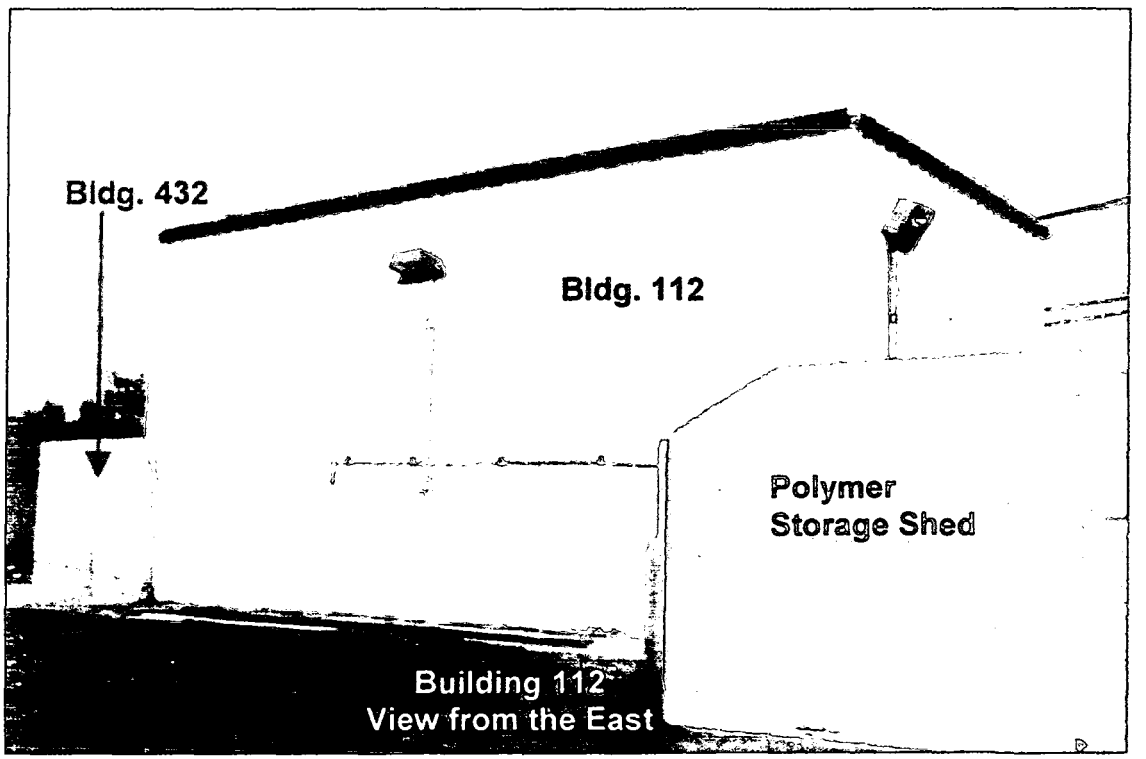
Building 57 and EG-8
View from the North



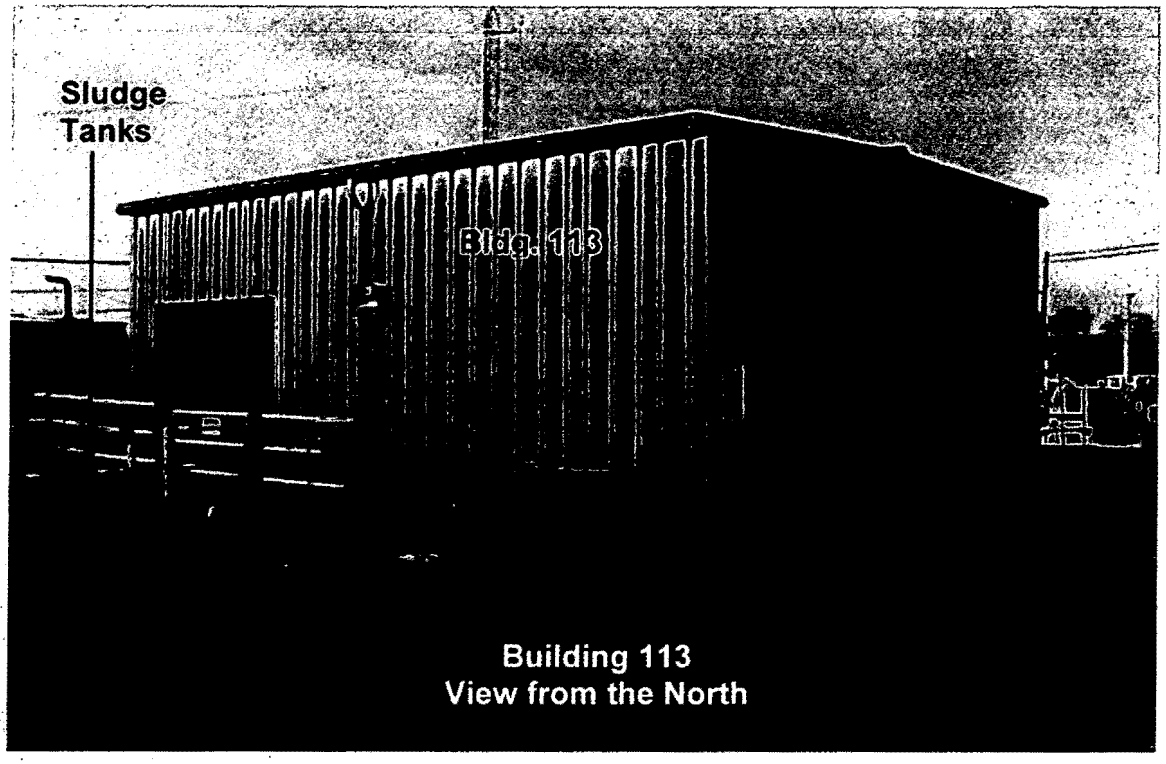
Building 57 and EG-8
View from the South

MWWTP Building/Structures Before Demolition

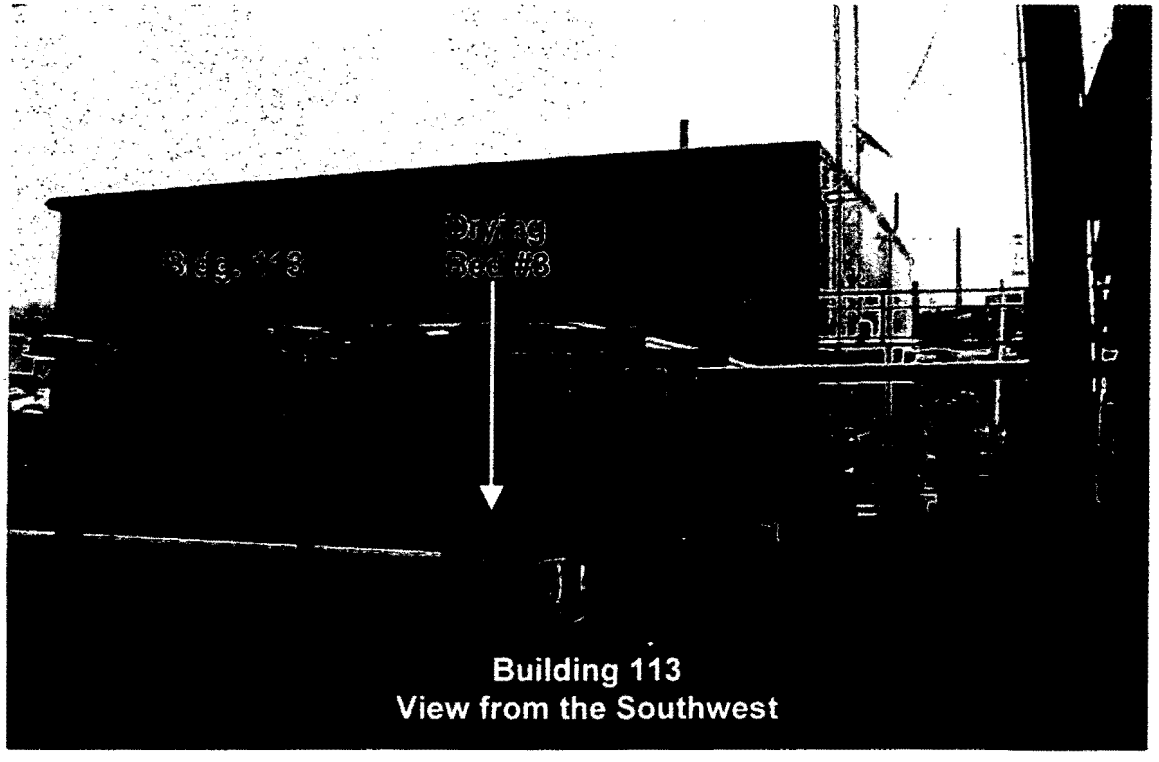




MWWTP Building/Structures Before Demolition

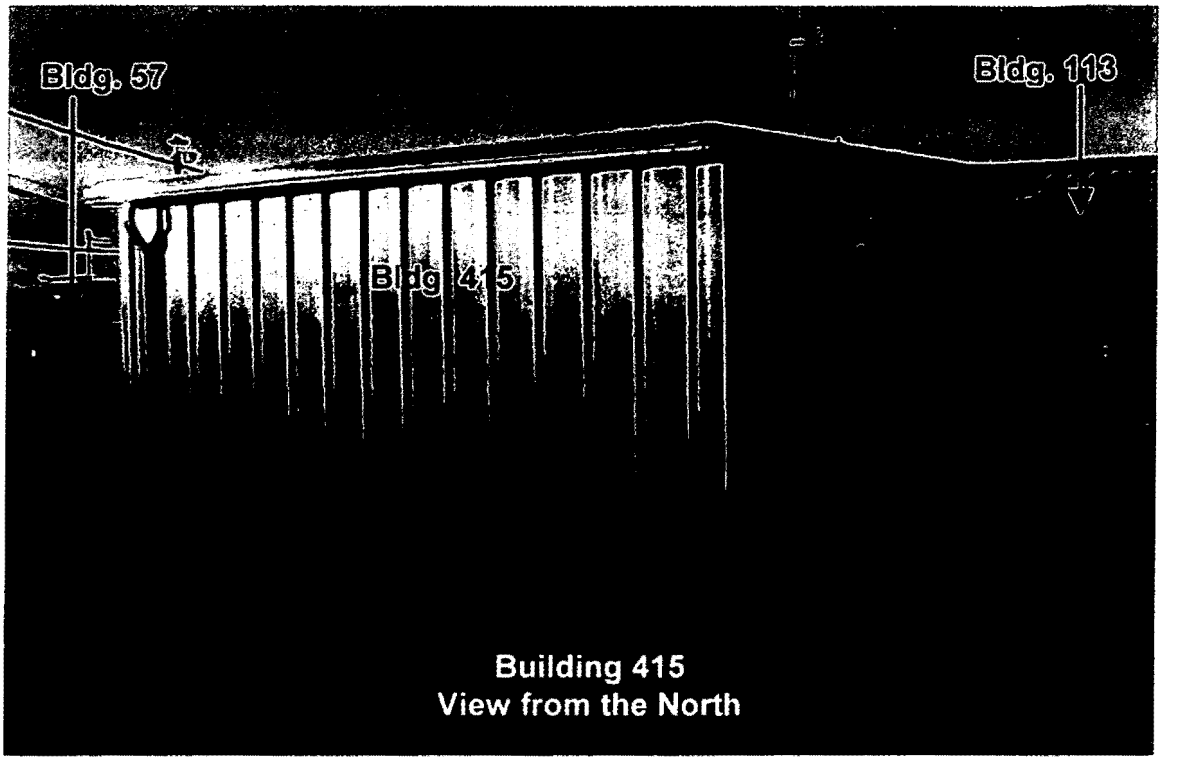


Building 113
View from the North

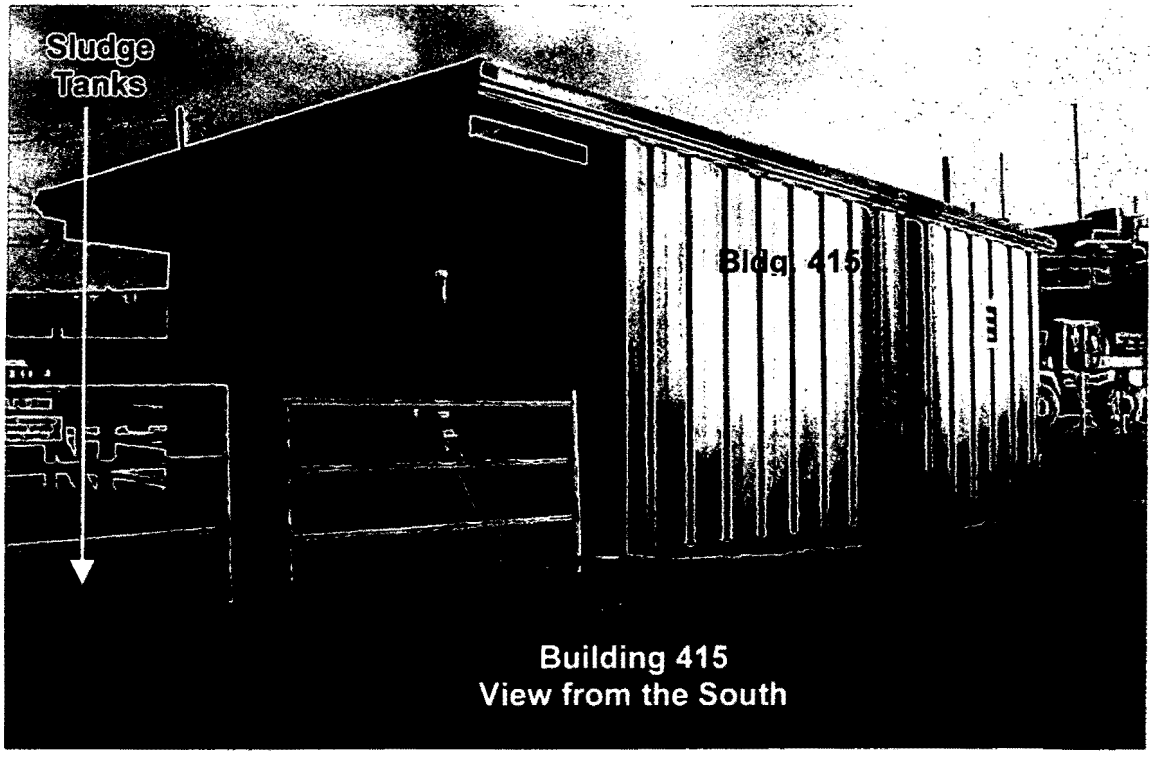


Building 113
View from the Southwest

MWWTP Building/Structures Before Demolition

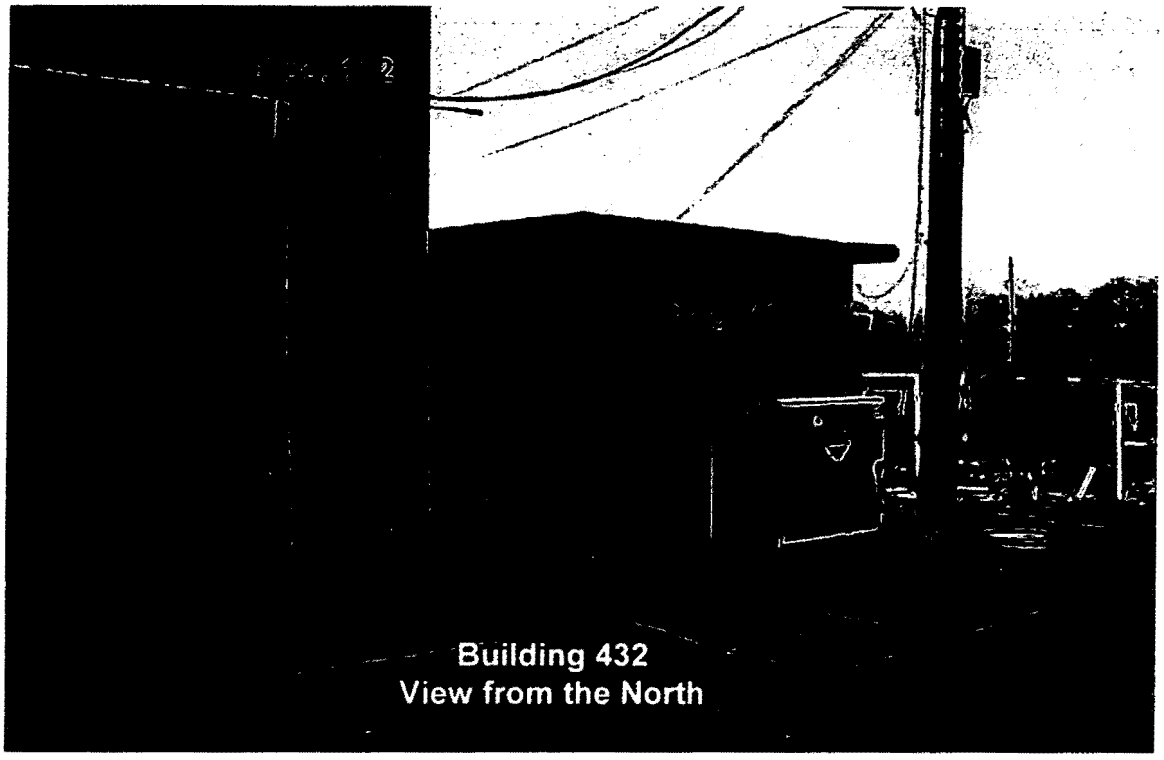


Building 415
View from the North

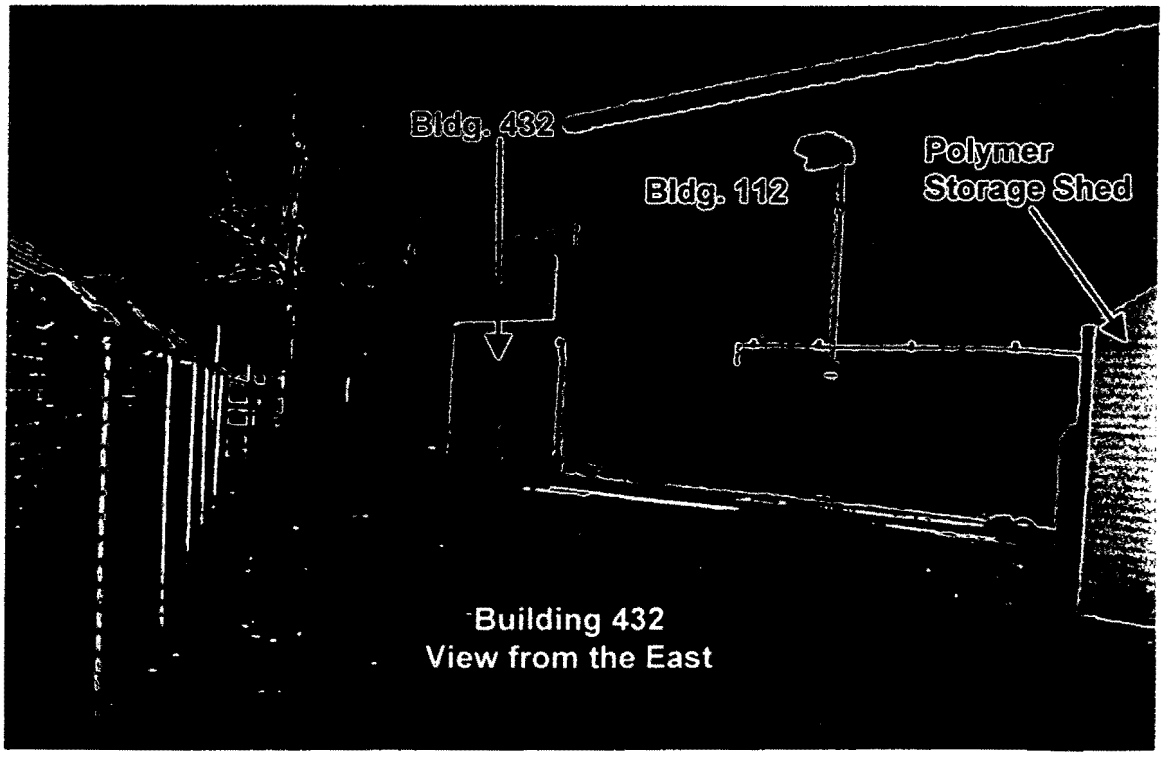


Building 415
View from the South

MWWTP Building/Structures Before Demolition

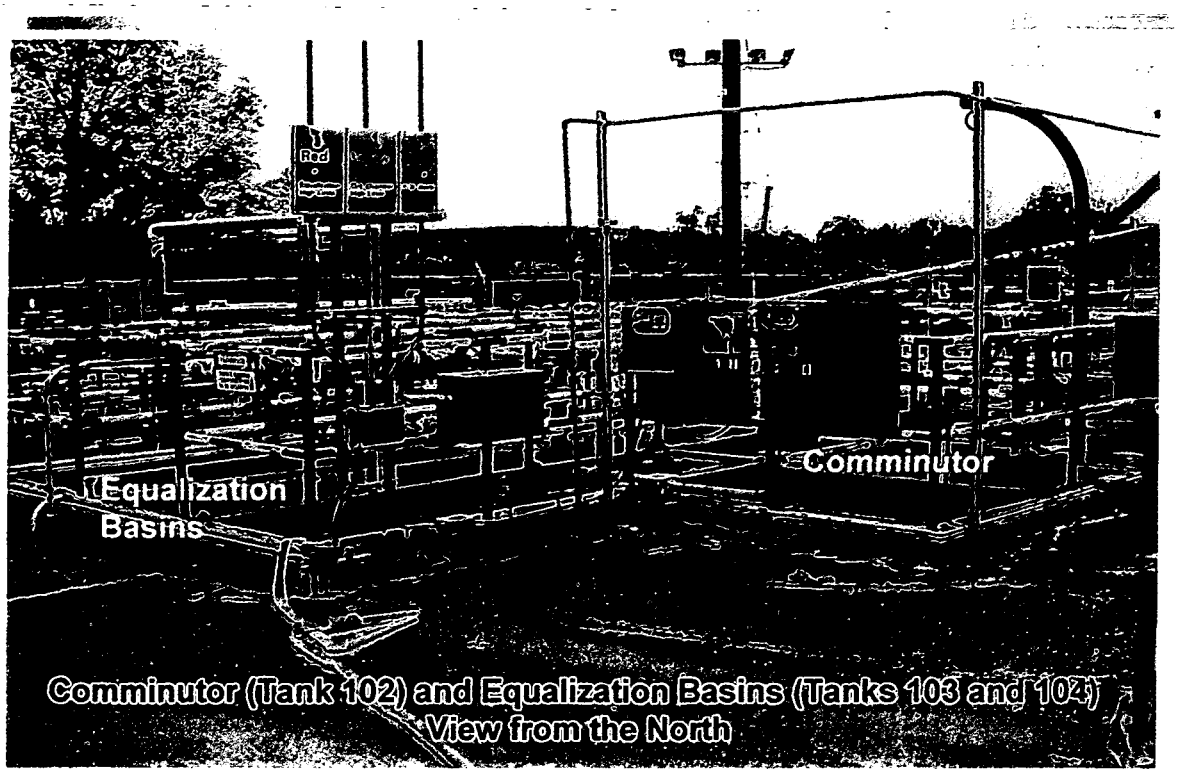


Building 432
View from the North

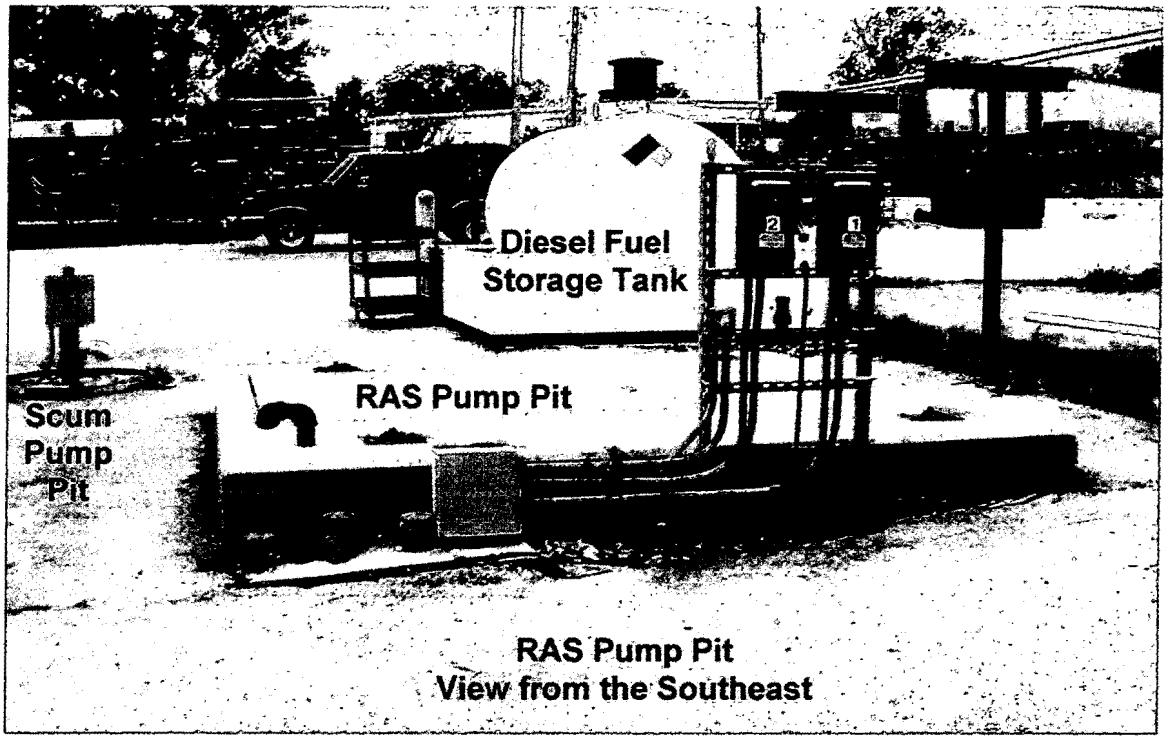


Building 432
View from the East

MWWTP Building/Structures Before Demolition



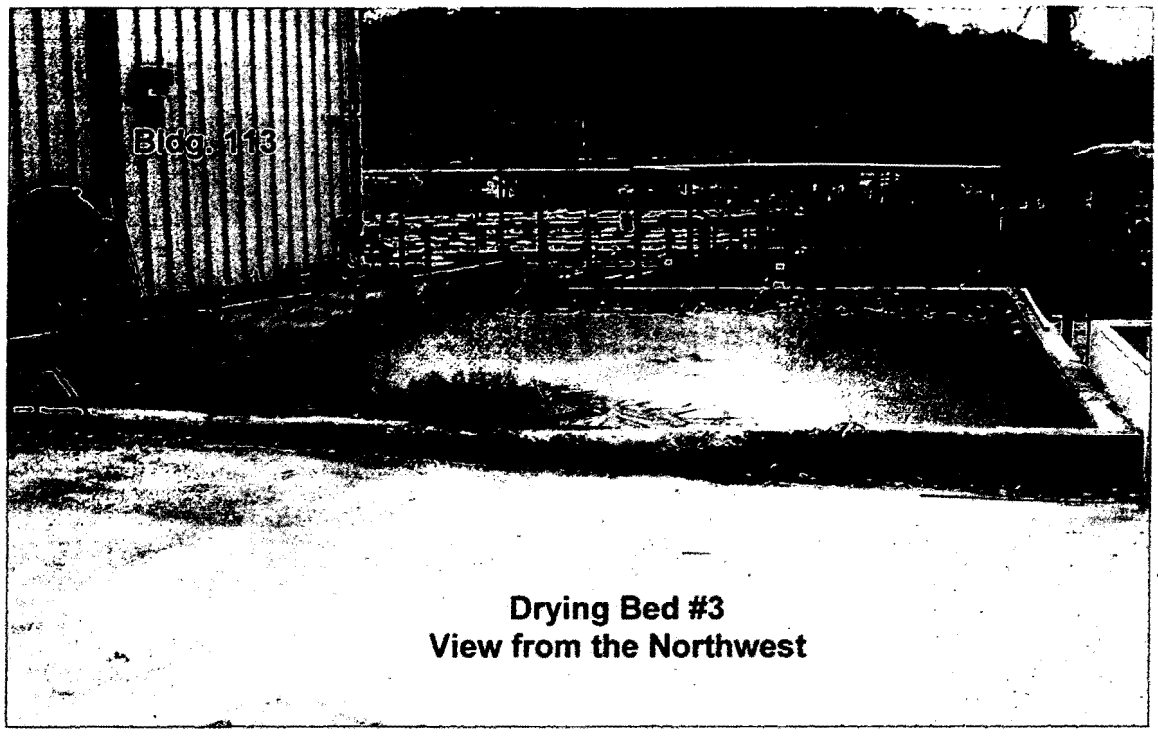
MWWTP Building/Structures Before Demolition



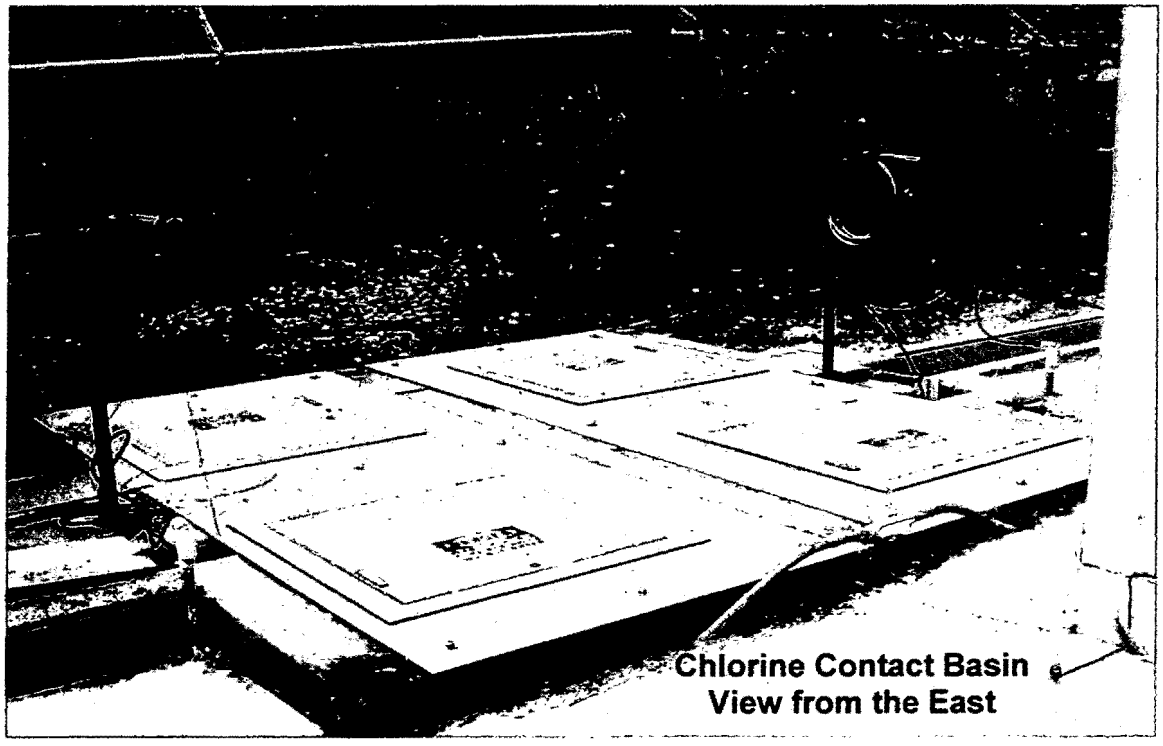
RAS Pump Pit
View from the Southeast

Scum Pump Pit
View from the East

MWWTP Building/Structures Before Demolition

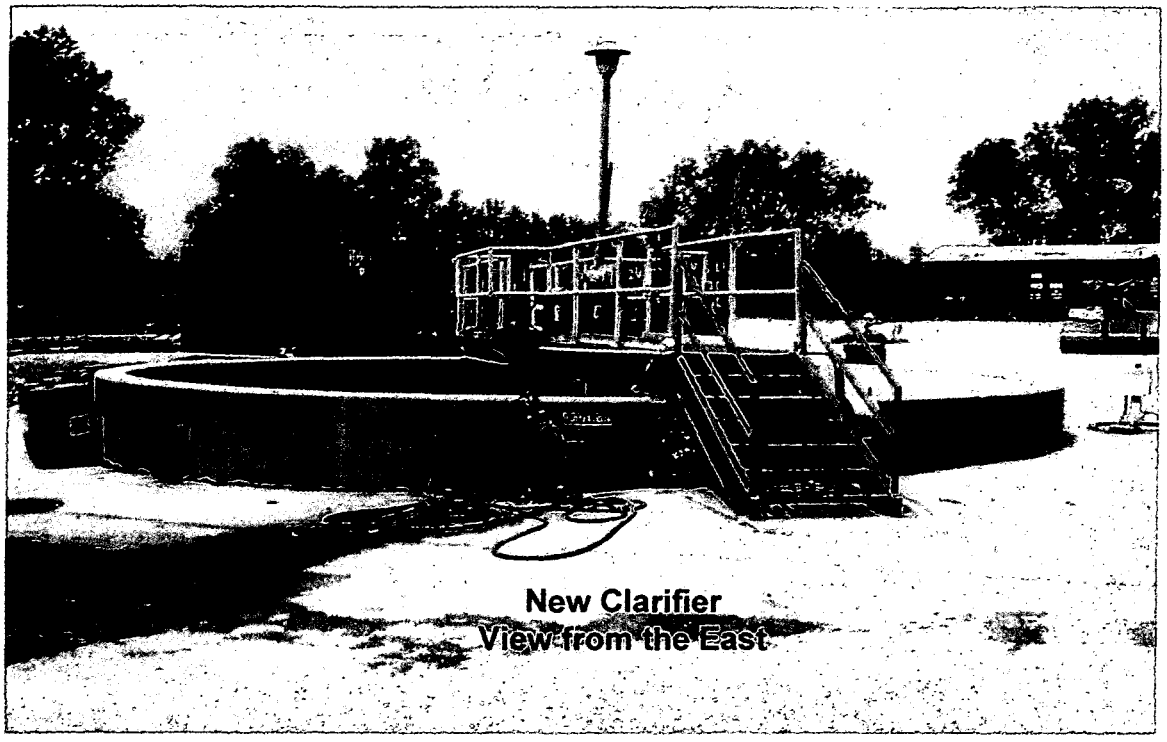


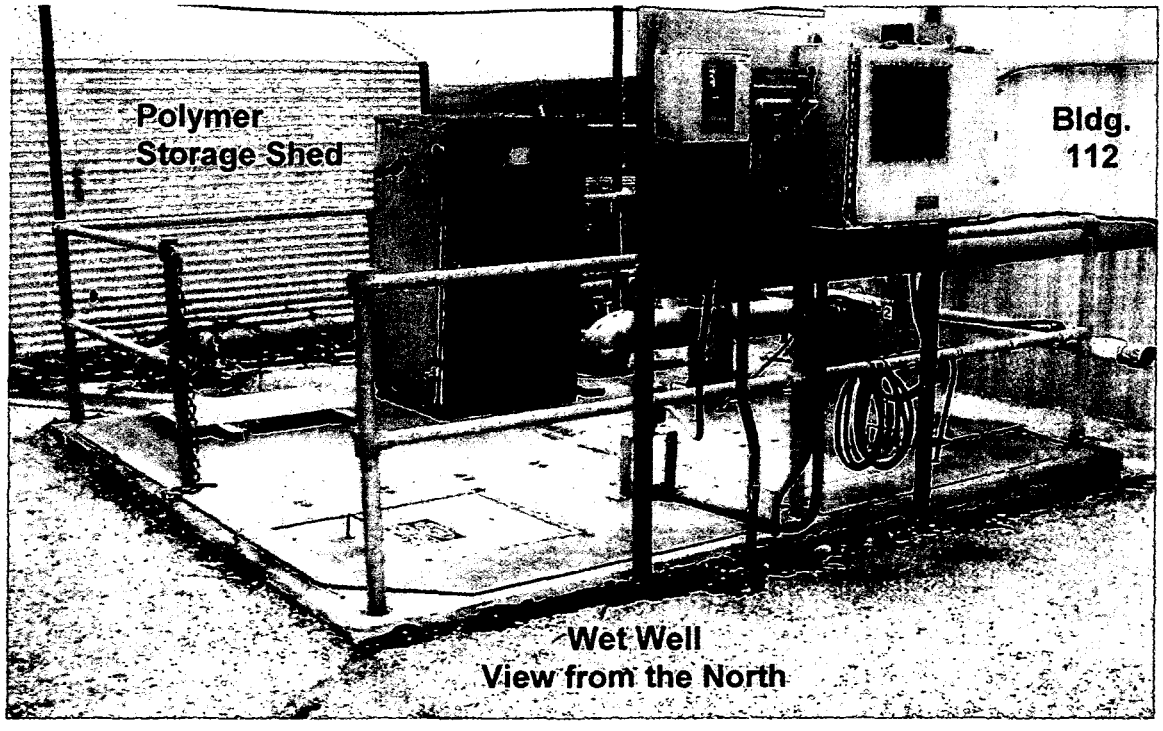
Drying Bed #3
View from the Northwest



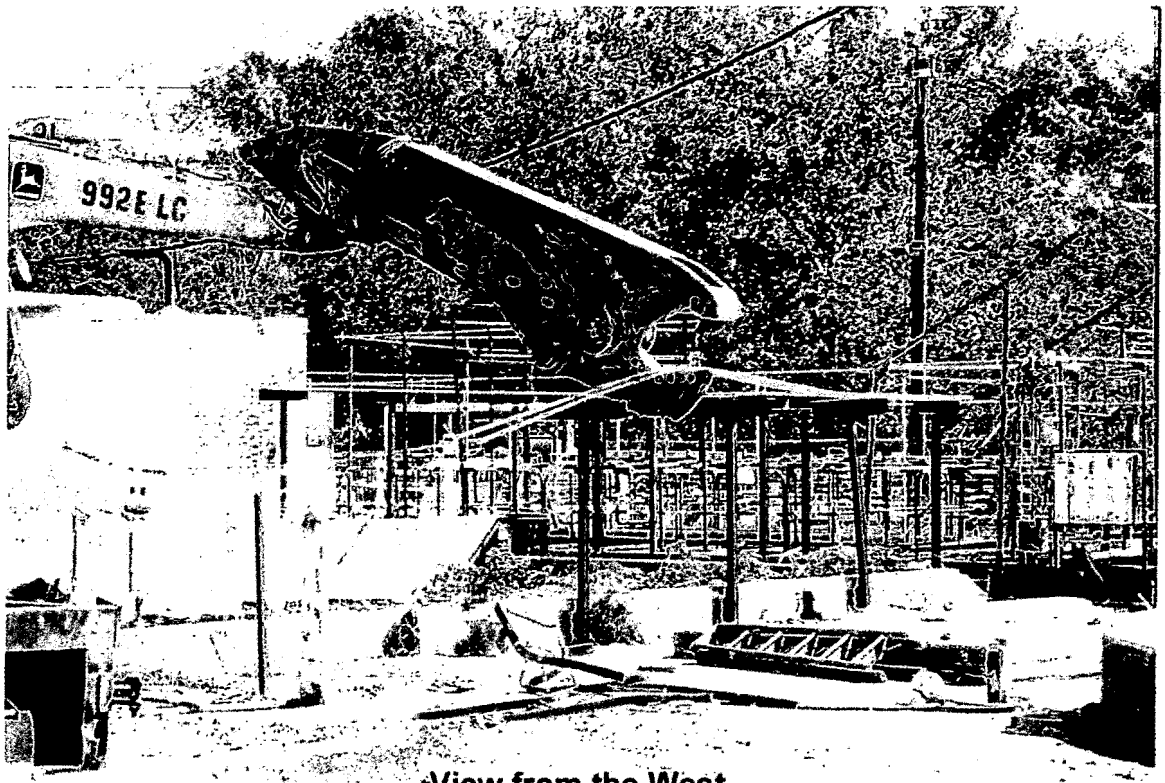
Chlorine Contact Basin
View from the East

MWWTP Building/Structures Before Demolition





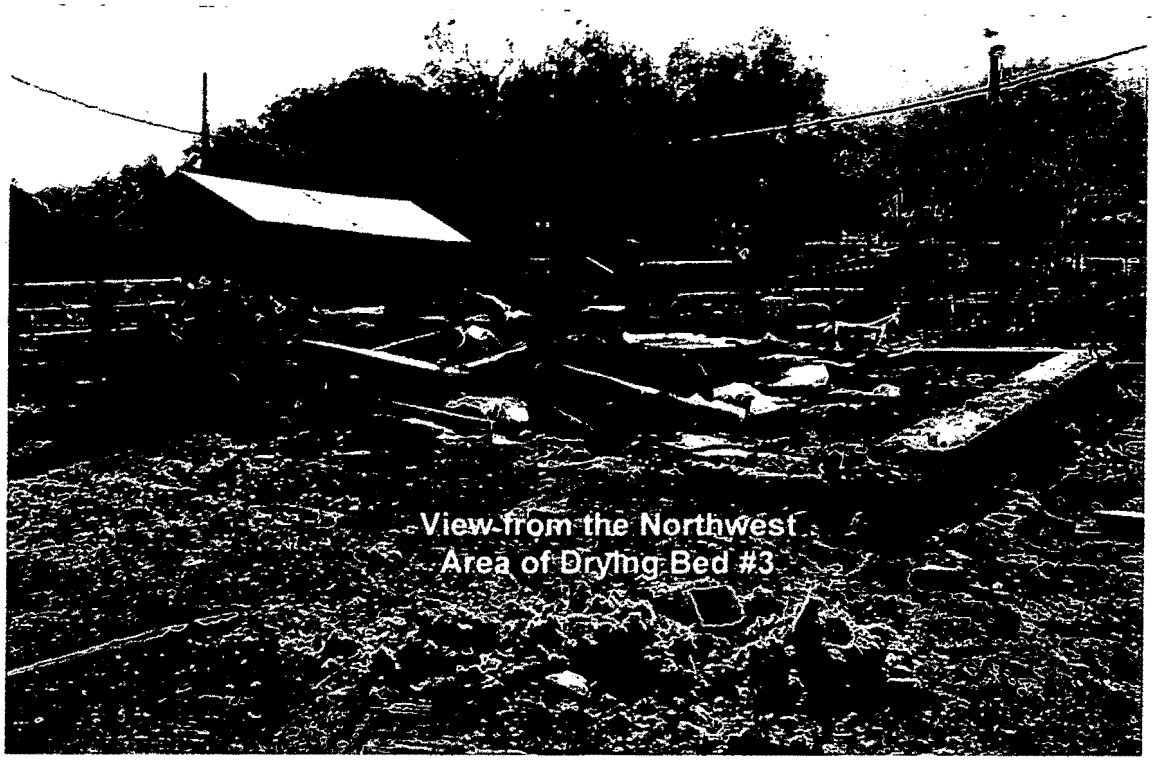
MWWTP Building/Structures Before Demolition

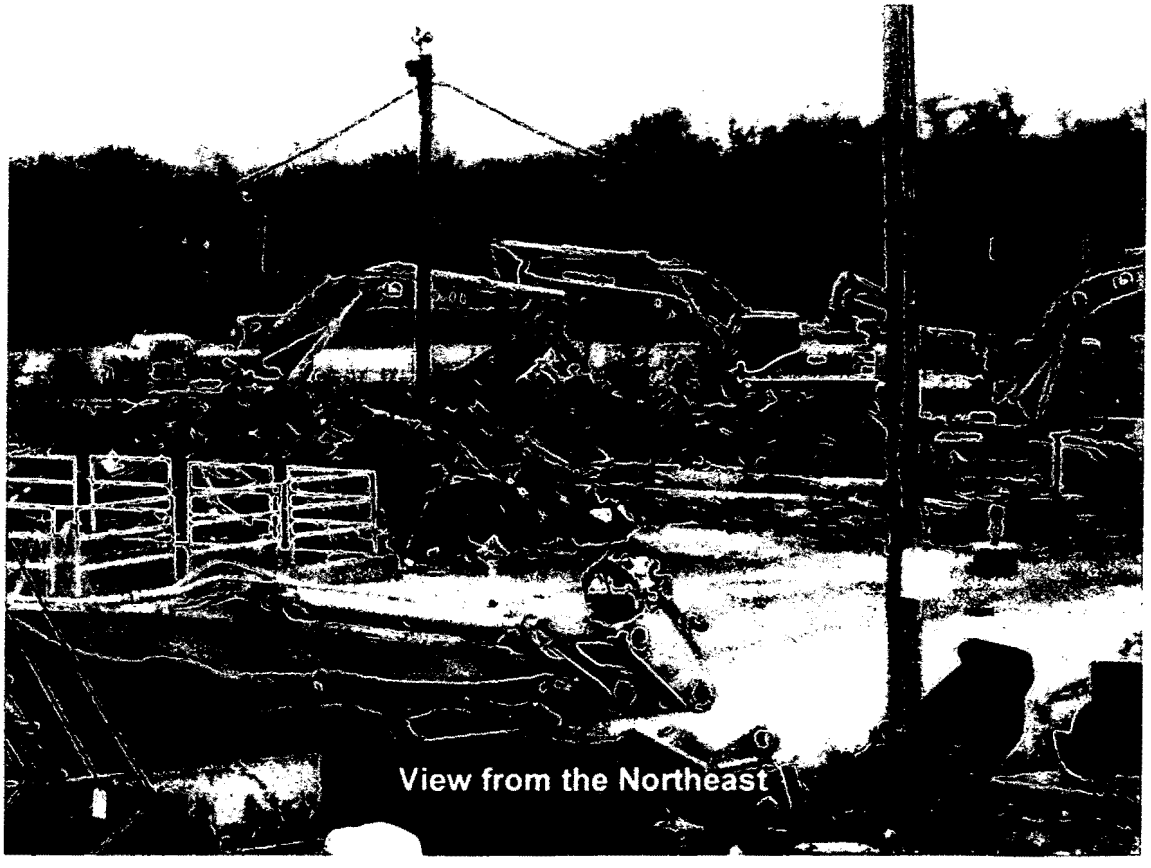


View from the West
Area of Drying Bed #3

View from the Northeast
Area of the Sludge Tanks

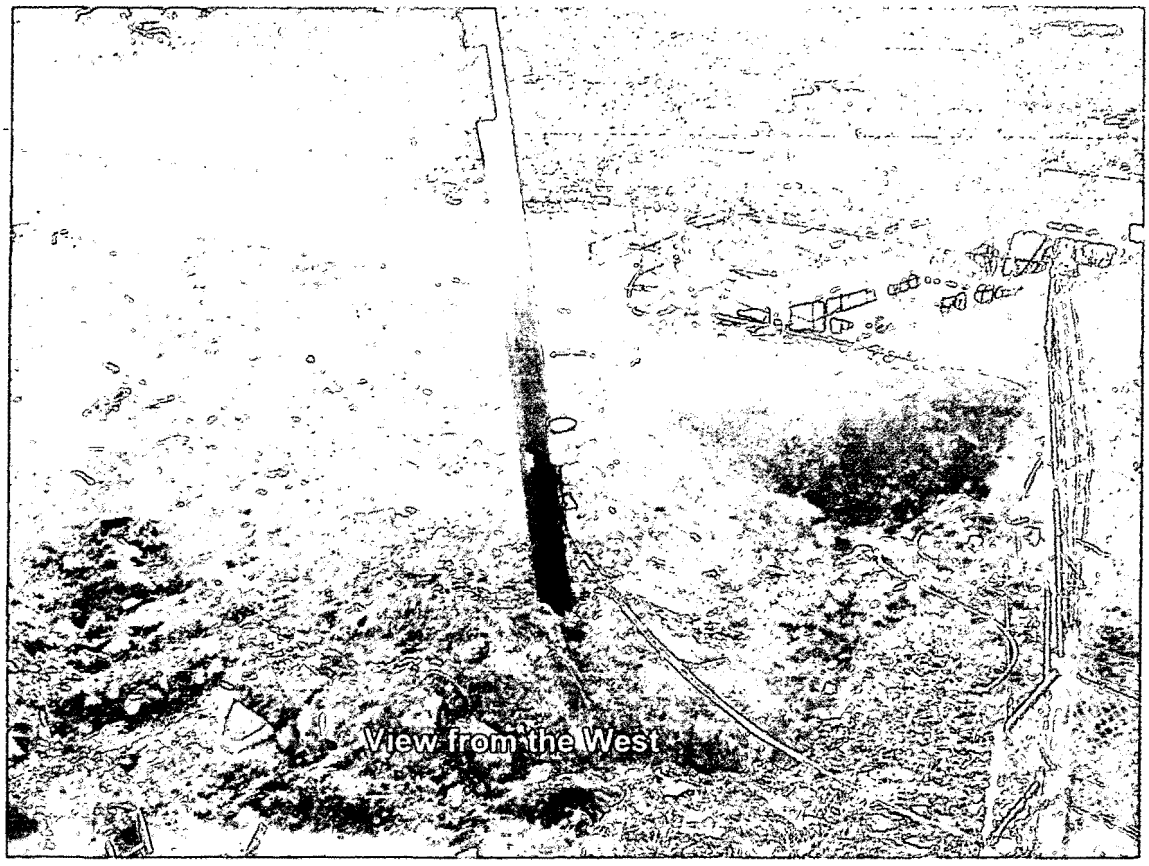
MWWTP Building/Structures During Demolition

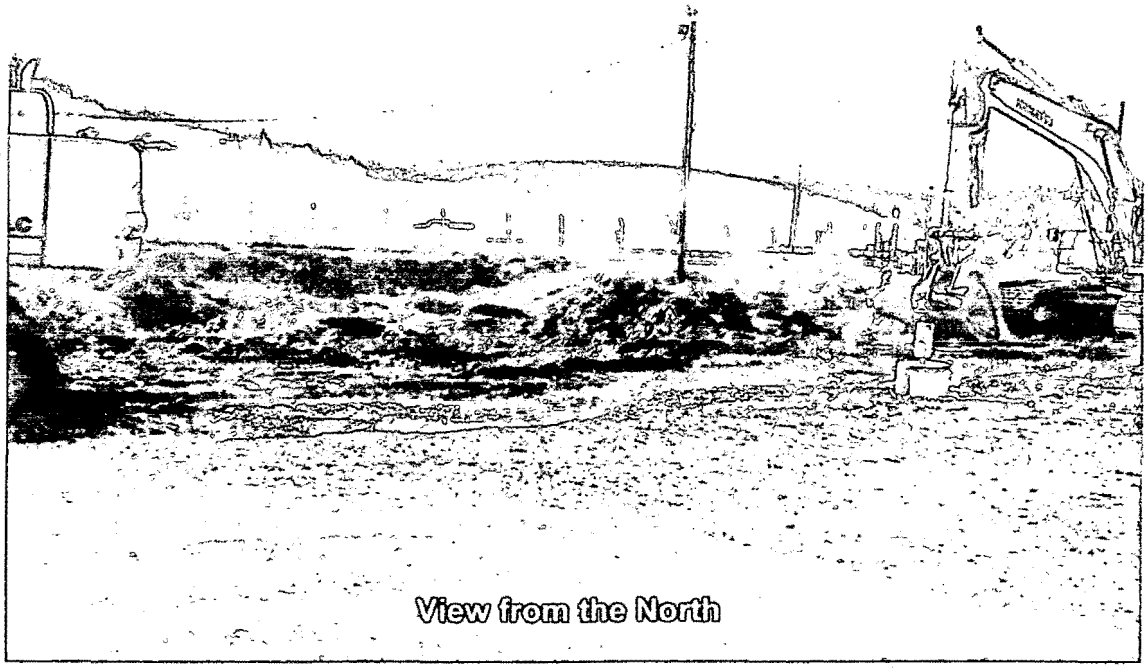




MWWTP Building/Structures During Demolition

MWWTP Building/Structures After Demolition





MWWTP Building/Structures After Demolition

APPENDIX E

RADIOLOGICAL AIR MONITORING RESULTS

RADIOLOGICAL AIR MONITORING RESULTS

RWP No.	Sample Id	Collected Date	RSDS No.	BLDG/RM/AREA*	DAC
1661	38658	14-Nov-05	05-TF-0337	MWWTP/#1/UPWIND	0.00E+00
1661	38659	14-Nov-05	05-TF-0337	MWWTP/#2/DOWNWIND	0.00E+00
1661	38662	15-Nov-05	05-TF-0338	MWWTP/#1/UPWIND	0.00E+00
1661	38663	15-Nov-05	05-TF-0338	MWWTP/#2/DOWNWIND	0.00E+00
1661	38661	16-Nov-05	05-TF-0340	MWWTP/#2/DOWNWIND	0.00E+00
1661	38660	16-Nov-05	05-TF-0340	MWWTP/#1/UPWIND	3.12E-03
1661	38664	17-Nov-05	05-TF-0341	MWWTP/#1/UPWIND	0.00E+00
1661	38665	17-Nov-05	05-TF-0341	MWWTP/#2/DOWNWIND	4.69E-03
1661	38737	21-Nov-05	05-TF-0342	MWWTP/#2/DOWNWIND	0.00E+00
1661	38736	21-Nov-05	05-TF-0342	MWWTP/#1/UPWIND	6.04E-03
1661	38738	22-Nov-05	05-TF-0343	MWWTP/#1/UPWIND	0.00E+00
1661	38739	22-Nov-05	05-TF-0343	MWWTP/#2/DOWN WIND	0.00E+00
1661	38667	28-Nov-05	05-TF-0344	MWWTP/#2/DOWNWIND	0.00E+00
1661	38666	28-Nov-05	05-TF-0344	MWWTP/#1/UPWIND	8.88E-03
1661	39209	29-Nov-05	05-TF-0345	MWWTP/#2/DOWNWIND	0.00E+00
1661	39208	29-Nov-05	05-TF-0345	MWWTP/#1/UPWIND	2.85E-05
1661	39210	30-Nov-05	05-TF-0346	MWWTP/#1/UPWIND	0.00E+00
1661	39211	30-Nov-05	05-TF-0346	MWWTP/#2/DOWNWIND	3.20E-03
1661	39213	1-Dec-05	05-TF-0348	MWWTP/#2/DOWNWIND	0.00E+00
1661	39212	1-Dec-05	05-TF-0348	MWWTP/#1/UPWIND	2.03E-05
1661	38794	5-Dec-05	05-TF-0350	MWWTP/#1/UPWIND	1.48E-05
1661	38795	5-Dec-05	05-TF-0350	MWWTP/#1/DOWNWIND	1.75E-05
1661	39245	6-Dec-05	05-TF-0351	MWWTP/#1/UPWIND	0.00E+00
1661	39246	6-Dec-05	05-TF-0351	MWWTP/#2/DOWNWIND	2.32E-05
1661	39247	7-Dec-05	05-TF-0352	MWWTP/#1/UPWIND	3.23E-05
1661	39248	7-Dec-05	05-TF-0352	MWWTP/#2/DOWNWIND	4.17E-05
1661	39267	8-Dec-05	05-TF-0354	MWWTP/#1/UPWIND	1.96E-05
1661	39268	8-Dec-05	05-TF-0354	MWWTP/#2/DOWNWIND	3.08E-05
1661	39266	12-Dec-05	05-TF-0355	MWWTP/#2/DOWNWIND	0.00E+00
1661	39265	12-Dec-05	05-TF-0355	MWWTP/#1/UPWIND	6.87E-02
1661	39324	13-Dec-05	05-TF-0356	MWWTP/#2/DOWNWIND	1.36E-05
1661	39323	13-Dec-05	05-TF-0356	MWWTP/#1/UPWIND	2.23E-02
1661	39326	14-Dec-05	05-TF-0357	MWWTP/#2/DOWNWIND	0.00E+00
1661	39325	14-Dec-05	05-TF-0357	MWWTP/#1/UPWIND	1.22E-03

*Figure 3 (Appendix A) shows the locations of the air monitoring stations.

RWP No.	Sample Id	Collected Date	RSDS No.	BLDG/RM/AREA*	DAC
1661	38805	15-Dec-05	05-TF-0358	MWWTP/#2/DOWNWIND	0.00E+00
1661	38804	15-Dec-05	05-TF-0358	MWWTP/#1/UPWIND	5.26E-05
1661	39005	19-Dec-05	05-TF-0359	MWWTP/#1/UPWIND	0.00E+00
1661	39006	19-Dec-05	05-TF-0359	MWWTP/#2/DOWNWIND	0.00E+00
1661	39009	20-Dec-05	05-TF-0360	MWWTP/#2/WIND	2.44E-05
1661	39007	20-Dec-05	05-TF-0360	MWWTP/#1/UPWIND	8.75E-03
1661	39012	21-Dec-05	05-TF-0361	MWWTP/#2/DOWNWIND	1.43E-05
1661	39011	21-Dec-05	05-TF-0361	MWWTP/#1/UPWIND	3.29E-05
1661	39018	22-Dec-05	05-TF-0362	MWWTP/#1/UPWIND	2.97E-05
1661	39019	22-Dec-05	05-TF-0362	MWWTP/#2/DOWNWIND	4.55E-03
1698	39269	3-Jan-06	06-ER-0018	MWWTP/#1/UPWIND	0.00E+00
1698	39270	3-Jan-06	06-ER-0018	MWWTP/#2/DOWNWIND	0.00E+00
1698	39272	4-Jan-06	06-ER-0019	MWWTP/#2/DOWNWIND	1.79E-05
1698	39271	4-Jan-06	06-ER-0019	MWWTP/#1/UPWIND	4.36E-03
1698	39273	5-Jan-06	06-ER-0020	MWWTP/#1/UPWIND	0.00E+00
1698	39274	5-Jan-06	06-ER-0020	MWWTP/#2/DOWNWIND	0.00E+00
1698	39145	6-Jan-06	06-ER-0012	MWWTP/#1/DOWNWIND	0.00E+00
1698	39146	6-Jan-06	06-ER-0012	MWWTP/#2/UPWIND	0.00E+00
1698	39150	7-Jan-06	06-ER-0016	MWWTP/#1/DOWNWIND	0.00E+00
1698	39153	7-Jan-06	06-ER-0016	MWWTP/#2/DOWNWIND	0.00E+00
1698	39477	9-Jan-06	06-ER-0021	MWWTP/#1/UPWIND	0.00E+00
1698	39478	9-Jan-06	06-ER-0021	MWWTP/#2/DOWNWIND	0.00E+00
1698	39329	10-Jan-06	06-ER-0024	MWWTP/#2/DOWNWIND	2.38E-05
1698	39328	10-Jan-06	06-ER-0024	MWWTP/#1/UPWIND	2.79E-03
1704	39331	11-Jan-06	06-ER-0033	MWWTP/#2/DOWNWIND	1.91E-05
1704	39330	11-Jan-06	06-ER-0033	MWWTP/#1/UPWIND	2.17E-05
1704	39480	12-Jan-06	06-ER-0040	MWWTP/#1/ END/DOWNWIND	0.00E+00
1704	39452	17-Jan-06	06-ER-0053	MWWTP/PRS-41/#2/DOWNWIND	0.00E+00
1704	39453	17-Jan-06	06-ER-0053	MWWTP/PRS-41#1/UPWIND	0.00E+00
1704	39451	18-Jan-06	06-ER-0055	MWWTP/PRS-41#1/UPWIND	0.00E+00
1704	39450	18-Jan-06	06-ER-0055	MWWTP/PRS-41#2/DOWNWIND	1.83E-05

Max	6.87E-02
Average	**2.14E-03**
Standard Deviation	9.02E-03
Confidence Interval	2.19E-03
n	65

*Figure 3 (Appendix A) shows the locations of the air monitoring stations.

APPENDIX F

RADIOLOGICAL SURVEYS

05-TF-0250 (9 Pages) MWWTP, Pre-demo Survey of H_2O & Sediment Samples
05-TF-0255 (6 Pages) Sample Water and Drain Traps in Bldg. 57 and Manway O/S of Grit Chamber Tent (Rubb Tent)
05-TF-0285 (4 Pages) Building 112, Survey Drain After Plug Removal)
05-TF-0296 (48 Pages) Grit Chamber (Tank 101)
05-TF-0353 (6 Pages) Grit Chamber (Tank 101)
05-TF-0291 (63 Pages) New Clarifier
05-TF-0299 (2 Pages) New Clarifier
05-TF-0300 (3 Pages) New Clarifier
05-TF-0316 (2 Pages) New Clarifier
05-TF-0318 (6 Pages) New Clarifier
05-TF-0303 (5 Pages) Open Pipe and Trenches
06-ER-0200 (2 Pages) Pipe, as Left
06-WM-0300 (1 Pages) SD-Beds, Smear and Direct Survey Taken on Under Ground Pipe Line (Plus Map Indicating Location)
06-ER-0307 (2 Pages) PRS 41, Survey Inside of Exposed Pipe From Dirt Fall Off (Plus Photo Indicating Location)

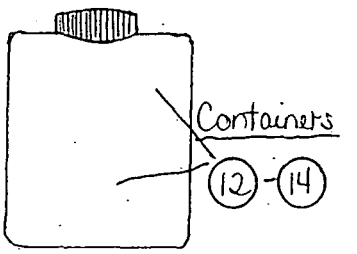
RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 9

LOCATION: (BLDG./AREA/ROOM)	SURVEY NO.
MWTP	05-TF-0250
PURPOSE: Pre-release survey of H_2O & sediment samples	RWP NO: N/A
	DATE: 6-29-05
	TIME: 1630

MAP / DRAWING

See Attached Map



Bkgd. 1.2 cpm α
158 cpm β⁻
D.L. 1.8 cpm α
20 cpm β⁻

<100 α <5K β⁻

Direct scan & pause survey conducted
See attached for integrated counts

LEGEND:

- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- —·—·—·· = radiological boundary
- # - mrem/hr neutron
- # - air sample number
- # - swipe number
- #/α or /β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360-89	5697/5715	12-13-05
	N A	

[redacted] HP# 7244/7836 Date: 7/13/05

[redacted]

Counted by: (Signature) See Attached HP# Date:

Counted by: (Printed Name)

Reviewed/Approved by: (Signature) HP# Date:

Reviewed/Approved by: (Print Name)

ML-9620 (2-98)

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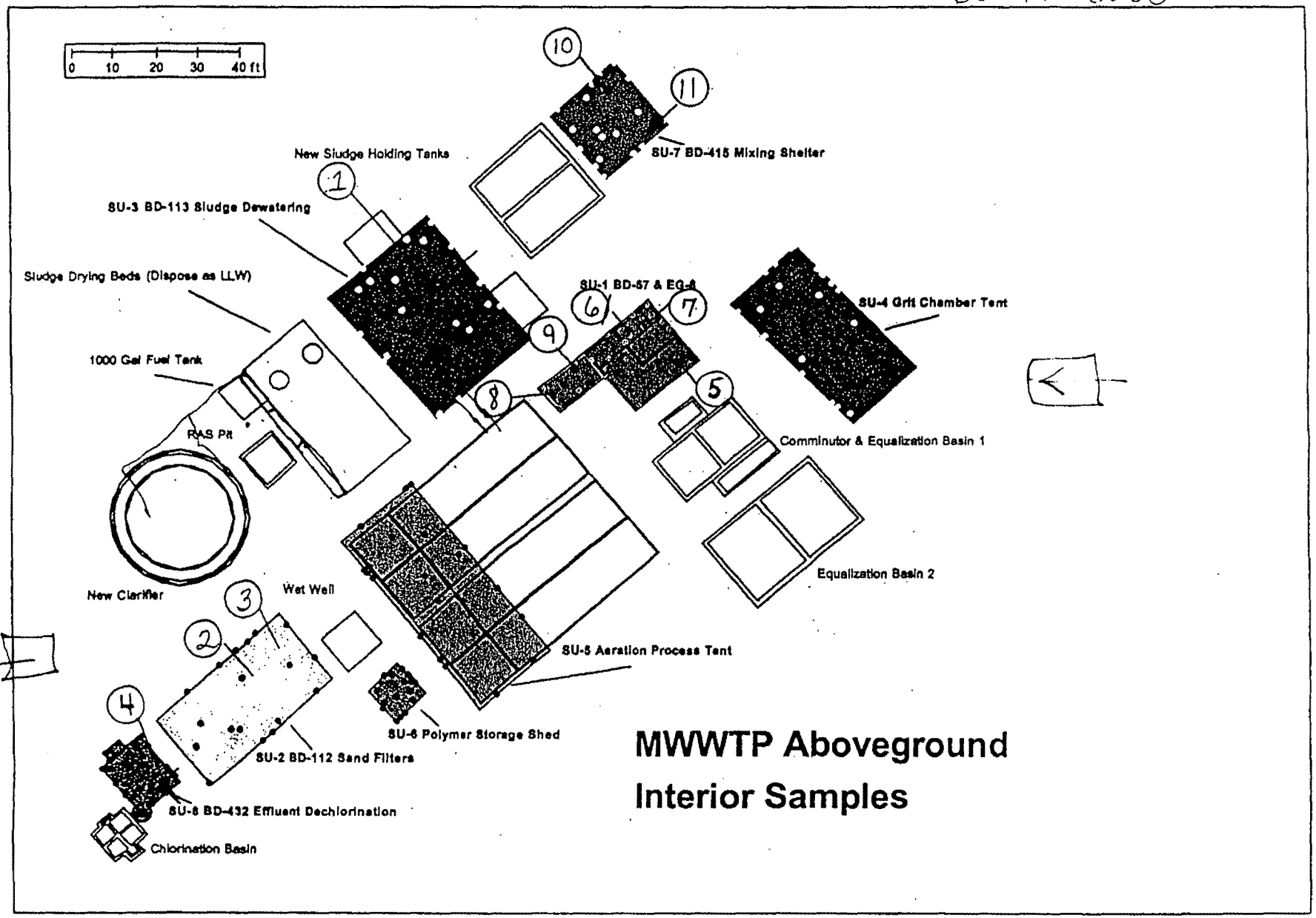
COPY PAGES 1-9

05-TF-0250



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Survey No. 05-TF-0250

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE ATTACHED SHEETS			drain
2	↓	↓	↓	drain lid
3				drain
4				sink trap
5				fume hood
6				drain
7				vent
8				↓
9				
10				
11				
12				container 1
13				container 2
14				container 3
N/A				

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
N/A				

Comments: All smears field checked with 2360 prior to submitting to count lab.

NOTES:

1. See MD-80036 10002 for calculations of WEB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR024
Batch Ended: 7/13/05 10:13

Crosstalk correction performed.

Recalibration Date: 11/03/05
Serial Number: 26966-1

Batch ID: 05-TF-0250 COLLINS (14) 07/13/05 TAS

Detector ID	Sample ID	Alpha Activity DPM	σ	flags	Beta Activity DPM	σ	flags
B1	1	0.00	1.92		0.00	1.64	
B2	2	0.00	2.02		0.00	1.26	
B3	3	0.00	1.95		0.10	2.17	
B4	4	0.00	1.90		0.43	2.00	
C1	5	0.00	2.36		0.00	2.38	
C2	6	0.94	2.20		0.78	2.72	
C3	7	0.00	2.10		0.00	1.90	
C4	8	0.00	2.07		0.00	2.23	
D1	9	1.05	2.20		0.00	2.08	
D2	10	0.00	2.23		1.26	2.19	
D3	11	1.27	1.96		2.66	2.86	
D4	12	2.68	3.01		0.00	1.44	
B1	13	0.00	1.99		2.09	2.54	
B2	14	0.00	2.05		0.00	1.72	

MO MO

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7/13/05 MO

TKS

13 Jul 2005 11:14 ALPHA/BETA - 1.09 ~~Page #1~~ 1/6/05
Protocol #: 2 PW H3 #403728 User : 5379

Time: 2.00
Data Mode: DPM Nuclide: SMGL02 Quench Set: SMGL02
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	8.20
Region B:	2.0 -	18.6	0	0.0	7.95
Region C:	40.0 -	2000	0	0.0	9.00

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
05-TF-0250 (14) COLLINS 07/13/05 TAS
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\prot1.dat
Count Data Filename: c:\data\SDATA2.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	8.20	7.95	1	B	677.35		0.00	9.00
0	2.00	571.97	544.28	0		600.24	1060.28	89.70	1.00
1	2.00	0.00	0.00	0		526.43	0.00	0.00	0.00
2	2.00	0.00	0.00	0		353.67	0.00	0.00	0.00
3	2.00	0.00	0.00	0		524.82	0.00	0.00	0.00
4	2.00	0.80	1.29	47		592.05	1.49	12.56	3.31
5	2.00	1.67	1.86	0		481.94	3.47	9.97	7.50
6	2.00	0.00	0.00	0		468.60	0.00	0.00	0.00
7	2.00	1.30	1.05	0		636.21	2.34	8.50	2.00
8	2.00	0.00	0.00	0		641.92	0.00	0.00	0.00
9	2.00	0.00	0.00	0		552.16	0.00	0.00	0.00
10	2.00	0.00	0.00	0		605.58	0.00	0.00	1.50
11	2.00	0.00	0.00	0		649.15	0.00	0.00	3.50
12	2.00	0.00	0.00	0		604.98	0.00	0.00	0.00
13	2.00	1.80	1.25	0		614.48	3.30	8.84	4.00
14	2.00	0.00	0.00	0		633.76	0.00	0.00	2.50

NO

AA

RSDS#: 05-TF-0250 RCT: MO RCT: Jmc

43-89 ALPHA BKG:	1.2	Factor	8	PROBE AREA:	100	cm2	Surface Eff:	1	ALPHA
43-89 BETA BKG:	158	Factor	4	PROBE AREA:	100	cm2	Surface Eff:	1	BETA

LOCATION	2360#	RCT ID	PROBE	RAD TYPE	ITEM	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
Bldg. 113	5697	7836	5715	ALPHA	D #1	6/29/05	8:00	2	120	0
Bldg. 112	5697	7836	5715	ALPHA	D #2	6/29/05	8:00	4	120	6
Bldg. 112	5697	7836	5715	ALPHA	D #3	6/29/05	8:00	4	120	6
Bldg. 112	5697	7836	5715	ALPHA	D #4	6/29/05	8:00	4	120	6
Bldg. 57	5697	7836	5715	ALPHA	F	6/29/05	8:00	4	120	5
Bldg. 57	5697	7836	5715	ALPHA	D #5	6/29/05	8:00	4	120	6
Bldg. 57	5697	7836	5715	ALPHA	V #1	6/29/05	8:00	8	120	22
Bldg. EG-8	5697	7836	5715	ALPHA	V #2	6/29/05	8:00	7	120	18
Bldg. EG-8	5697	7836	5715	ALPHA	V #3	6/29/05	8:00	3	120	2
Bldg. 415	5697	7244	5715	ALPHA	V #4	6/29/05	8:00	27	120	98
Bldg. 415	5697	7244	5715	ALPHA	V #5	6/29/05	8:00	15	120	50
Bldg. 113	5697	7836	5715	BETA	D #1	6/29/05	8:00	350	120	68
Bldg. 112	5697	7836	5715	BETA	D #2	6/29/05	8:00	336	120	40
Bldg. 112	5697	7836	5715	BETA	D #3	6/29/05	8:00	365	120	98
Bldg. 112	5697	7836	5715	BETA	D #4	6/29/05	8:00	350	120	68
Bldg. 57	5697	7836	5715	BETA	F	6/29/05	8:00	364	120	96
Bldg. 57	5697	7836	5715	BETA	D #5	6/29/05	8:00	443	120	254
Bldg. 57	5697	7836	5715	BETA	V #1	6/29/05	8:00	489	120	346
Bldg. EG-8	5697	7836	5715	BETA	V #2	6/29/05	8:00	383	120	134
Bldg. EG-8	5697	7836	5715	BETA	V #3	6/29/05	8:00	363	120	94
Bldg. 415	5697	7244	5715	BETA	V #4	6/29/05	8:00	321	120	10
Bldg. 415	5697	7244	5715	BETA	V #5	6/29/05	8:00	242	120	0
Items: D=drain, F=fumehood & V=vent										
D #2 = drain lid										

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CH2MHILL

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
6-29-05	Sediment / H_2O	L. Oeffner	3
PROJECT/FUNCTION:	**PRIMARY CONTACT/PHONE NO.:**		
BOSS	B. Coblentz 608-8206		
CHARGE NUMBER:	**DATE(S) COLLECTED:**	**RSDS# (if applicable):**	**ATTACHMENTS (list):**
	6-28-05	05-TF-0250	

ANALYSES REQUESTED (check):

- ☑ ^3H ☐ Characterize/Approve for Sanitary or Storm Discharge. Estimated Volume for release:_____ Approved by:_____
- ☑ Gross α ☐ pH ☐ Moisture
- ☑ Isotopic Analysis: Pu_____ U_____ Th_____ Am_____ Other_____ ☐ Other _____

Additional Information:

NOTE: Attach additional information (e.g. RSDS, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS
0503944	B-113	1	
3945	B-112	2	*
3946	↓	3	

COMMENTS:

ANALYZED BY: L. L. Hopkins

DATE: 7-11-05

Laboratory ID#: 0503944 - 0503946
Project/function: Boss
Submitted: Jun 29, 2005
Submitted by: L. Oeffner
Point of Contact: B. Coblentz 608-8206
RSDS#: ~~01-TF-0250~~ 05
Date: ~~Jul 11, 2005~~

Lab ID 0503944
Sample Location B-113 Sediment #1

Isotope	dpm/g	Uncertainty +/-	LDL
Pu-238	0.30	0.13	0.16
Pu-239/240	<LDL	<LDL	0.44
Th-227	0.28	0.13	0.15
Th-228	1.24	0.31	0.61
Th-230	1.24	0.28	0.15
Th-232	1.24	0.28	0.15
U-233/234	0.94	0.28	0.50
U-235	<LDL	<LDL	0.18
U-238	1.28	0.31	0.18

Lab ID 0503945
Sample Location B-112 Sediment #2

Isotope	dpm/g	Uncertainty +/-	LDL
Pu-238	7.33	0.95	0.54
Pu-239/240	0.22	0.13	0.20
Th-227	0.83	0.25	0.52
Th-228	0.67	0.21	0.41
Th-230	1.33	0.33	0.67
Th-232	0.78	0.22	0.15
U-233/234	1.14	0.36	0.28
U-235	<LDL	<LDL	0.76
U-238	1.34	0.39	0.28

Lab ID 0503945
Sample Location B-112 Liquid #2

Isotope	dpm/mL	Uncertainty +/-	LDL
3H	2.65	1.58	1.33
Gross Alpha	<LDL	<LDL	0.60

Lab ID	0503946
Sample Location	B-112 Sediment #3

Isotope	dpm/g	Uncertainty +/-	LDL
Pu-238	20.03	1.85	0.40
Pu-239/240	<LDL	<LDL	0.15
Th-227	0.76	0.22	0.16
Th-228	0.94	0.25	0.16
Th-230	1.64	0.37	0.70
Th-232	0.94	0.26	0.43
U-233/234	1.80	0.50	0.83
U-235	<LDL	<LDL	0.83
U-238	1.80	0.48	0.31

[redacted]

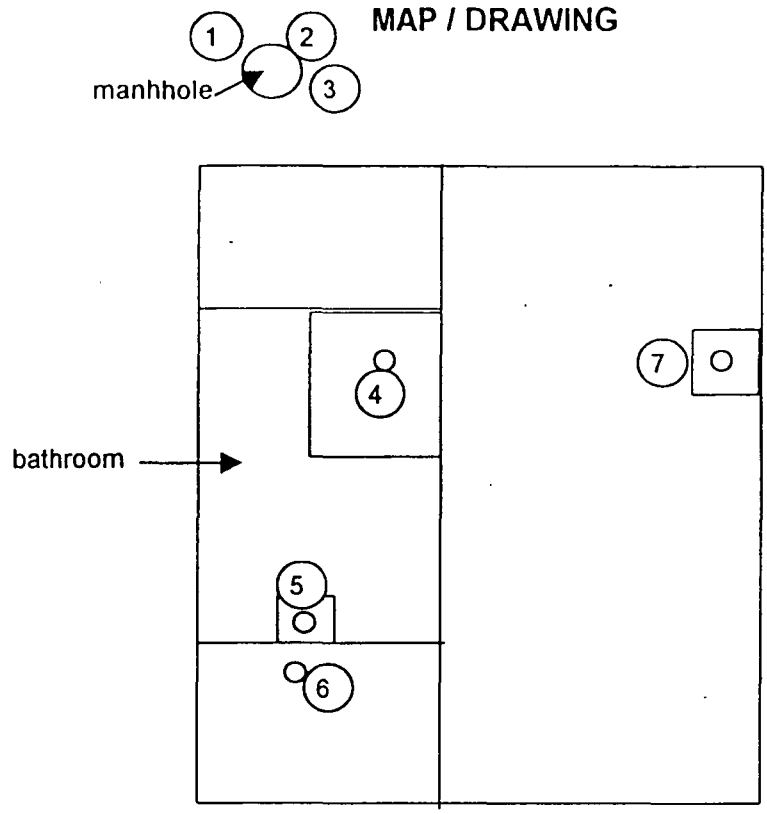
1585 — 7-11-05
HP # — Date

7783 — 7.11.5
HP # — Date

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM)	SURVEY NO.
Bldg # 57	05-TF-0255
PURPOSE: Sample water and drain traps in Bldg 57 and manway o/s of Grit Chamber tent (Rubb tent)	RWP NO. N/A
	DATE 7/19/05
	TIME 8:00

MAP / DRAWING



BLDG # 57

Liquid sample taken at #2,#4.
All other locations had insufficient material. Therefore, smears and direct readings taken only.

Bk= 1.2 cpm ± 134 cpm β⁻
DL= 1.8 cpm ± 20 cpm β⁻

<100 alpha

<5K beta

LEGEND:
- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- — · — · — · · = radiological boundary

- # - mrem/hr neutron
- # - swipe number
- # - air sample number
- #/α or /β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Lud 2360/4389	5767/5798	8/10/05
	NA	

[redacted] HP# 7244 7836 Date 7/20/05

Counted by: (Signature) See attached HP# Date

Counted by: (Printed Name)

Reviewed/Approved by (Signature) HP# Date

Reviewed/Approved by (Print Name)

COPY

Pages 1-6

Survey No.
05-TF-0255

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE ATTACHED SHEETS			I/S manhole
2				↓
3				container
4				shower drain
5				bathroom sink
6				closet drain
7	↓	↓	↓	57-sink
		A		
		N		

Removable Contamination				
Swipes (dpm/100cm^2)				
Sample #	β/γ	Alpha	Tritium	Comments
		A		
		N		

Comments: I/S = inside. All smears field checked with 2360 prior to submitting to count lab.

NOTES:

1. See MD-80036 10002 for calculations of WEB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR015
Batch Ended: 7/19/05 9:48
Cal. Due Date: 11/17/05
Serial Number: 26966-3

Batch ID: 05-TF-0255 COLLINS [7] GWD

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.18		0.00	1.33	
A2	2	0.00	2.05		2.75	2.33	
A3	3	0.00	2.27		0.00	1.27	
A4	4	0.00	2.12		0.32	1.71	
B1	5	2.61	2.63		0.00	1.21	
B2	6	1.33	1.85		0.00	1.13	
B3	7	0.00	2.20		0.31	1.88	

J.C J.C

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GWD

19 Jul 2005 10:38 ALPHA/BETA - 1.09 ~~Page #1~~
Protocol #: 4 PW H3 #410462 User : 5801

Time: 2.00
Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	7.11
Region B:	2.0 -	18.6	0	0.0	6.67
Region C:	40.0 -	2000	0	0.0	8.18

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
05-TF-0255 COLLINS [7] GWD
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT4.DAT
Count Data Filename: C:\DATA\SDATA4.DAT
Spectrum Data Drive & Path: C:\DATA

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	7.11	6.67	0	B	672.20		0.00	8.18
0	2.00	588.47	541.93	0		606.33	1093.51	87.23	7.32
1	2.00	0.00	0.00	8		563.15	0.00	0.00	1.82
2	2.00	2.89	2.83	0		471.53	6.12	10.15	3.82
3	2.00	1.38	0.79	0		638.10	2.50	8.06	0.00
4	2.00	18.89	17.29	0		547.81	36.88	14.60	10.82
5	2.00	3.58	4.02	0		412.60	8.26	11.36	3.32
6	2.00	5.02	5.27	0		557.59	9.73	10.10	0.00
7	2.00	1.58	2.02	0		560.81	3.05	8.69	0.00

JC

RSDS#: 05-TF-0255 RCT: JMC RCT: 140

43-89 ALPHA BKG:	1.2	Factor	8	PROBE AREA:	100	cm2	Surface Eff:	1	ALPHA
43-89 BETA BKG:	134	Factor	4	PROBE AREA:	100	cm2	Surface Eff:	1	BETA

LOCATION	2360#	RCT ID	PROBE	RAD TYPE	ITEM	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
shower	5767	7836	5798	ALPHA	1	7/19/05	8:00	6	120	14
bathroom sink	5767	7836	5798	ALPHA	2	7/19/05	8:00	0	120	0
closet	5767	7836	5798	ALPHA	3	7/19/05	8:00	2	120	0
57-sink	5767	7836	5798	ALPHA	4	7/19/05	8:00	0	120	0
shower	5767	7836	5798	BETA	1	7/19/05	8:00	390	120	244
bathroom sink	5767	7836	5798	BETA	2	7/19/05	8:00	348	120	160
closet	5767	7836	5798	BETA	3	7/19/05	8:00	308	120	80
57-sink	5767	7836	5798	BETA	4	7/19/05	8:00	328	120	120

CH2MHILL

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES:
7/19/05	H_2O	J. Collins	2

PROJECT/FUNCTION:	PRIMARY CONTACT/PHONE NO.:
BOSS	B. Coblentz

CHARGE NUMBER:	DATE(S) COLLECTED:	RSD8# (if applicable):	ATTACHMENTS (list):
	7/19/05	05-TF-0255	

ANALYSES REQUESTED (check):

- ☑ ^3H
- ☑ Characterize/Approve for Sanitary or Storm Discharge. Estimated Volume for release: 1400 gal. Approved by: R Pavlick
- ☑ Gross α
- ☐ pH
- ☐ Moisture
- ☐ Isotopic Analysis: Pu_____ U_____ Th_____ Am_____ Other_____
- ☐ Other _____

Additional Information:

NOTE: Attach additional information (e.g. RSDS, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	^3H pCi/L RESULTS	GROSS ALPHA DOM pCi/mL RESULTS
0504314	(manhole) Grit chamber tent	1	7.4	<0.6
0504315	57 (shower)	2	<0.6	<0.6

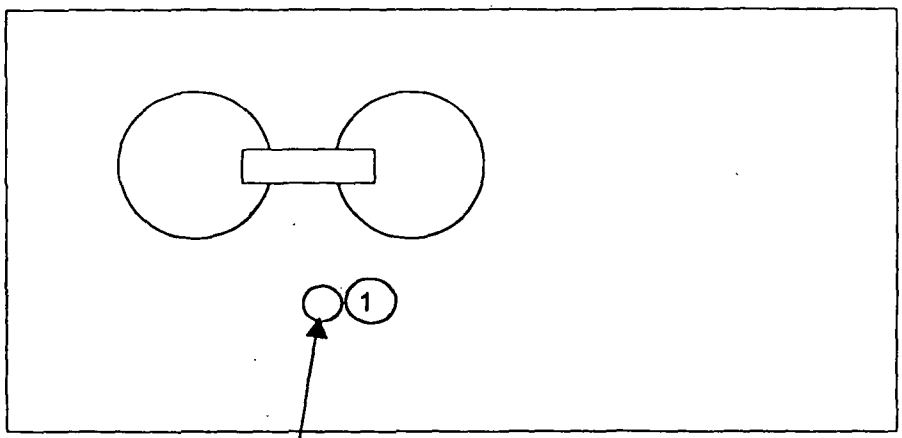
COMMENTS:

ANALYZED BY: R. Pavlick DATE: 7-20-05

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM)	SURVEY NO.
Bldg. # 112	05-TF-0285
PURPOSE:	RWP NO.
Survey drain after plug removal	N/A
	DATE: 8/31/05
	TIME: 14:30

MAP / DRAWING



Bkgd= 2.2 cpm alpha
133 cpm beta
DL= 2.2 cpm alpha
20 cpm beta

<100 alpha

<5K beta

LEGEND:

= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
— · — · — · · = radiological boundary

- mrem/hr neutron
- swipe number
- air sample number
#/α or /β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Lud 2360/4389	5704/5714	10/21/05
	NA	

Completed by: (Signature) [redacted]	HP# 7836	Date 9-1-05
Completed by: (Printed Name) [redacted]		
Counted by: (Signature) See attached	HP#	Date
Counted by: (Printed Name)		
Reviewed/Approved by: (Signature)	HP#	Date
Reviewed/Approved by: (Print Name)		

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COPY

PAGES 1-4

Survey No. 05-TF-0285

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm^2)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE ATTACHED SHEET			i/s drain
	N		A	

Removable Contamination				
Swipes (dpm/100cm^2)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: Smear taken inside of drain after plug was removed. Smear field counted on lud 2360. <1K alpha, beta, drain is dry with no sediments.

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR061
Batch Ended: 8/31/05 15:54

Crosstalk correction performed.

Recalibration Date: 11/03/05
Serial Number: 26966-1

Batch ID: 05-TF-0285 OEFFNER (1) AG

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
D4	1	0.00	2.15		0.00	1.44	

ND ND

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Page 1 of 1 ND 9/1/05

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31 Aug 2005 17:12 ALPHA/BETA - 1.09 Page #1 ~~09/1/~~
Protocol #: 3 PW H3 #403728 User : 5801

Time: 2.00
Data Mode: DPM Nuclide: SMGL02 Quench Set: SMGL02
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	18.6	0	0.0	8.20
Region B:	2.0	18.6	0	0.0	7.74
Region C:	40.0	2000	0	0.0	10.30

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
~~05-I-1603 PRUCNAL [15] GWD~~ 05-TF-0285 offner [1] Gwd 9/1/05
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\prot1.dat
Count Data Filename: c:\data\SDATA3.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	8.20	7.74	2	B	668.03		0.00	10.30
0	2.00	458.41	438.62	0		610.61	842.49	75.62	0.00
1	2.00	0.00	0.00	13		389.62	0.00	0.00	0.70

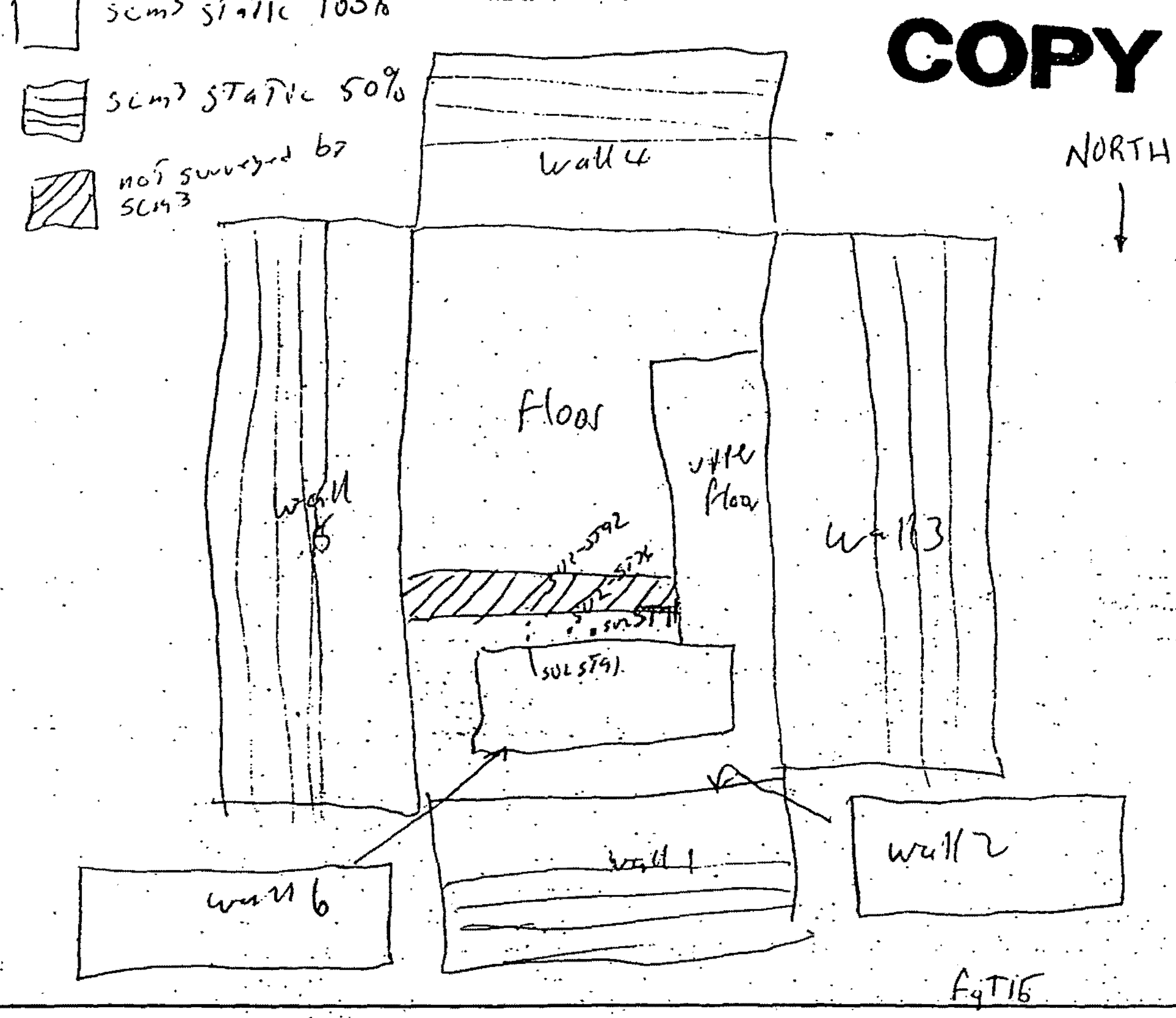
MO

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Water Treatment	SURVEY NO. 05-TF-0296
PURPOSE: Shunka survey of SU2 Grit chamber Tank	RWP NO. N/A
	DATE: ~~9/8/05~~ 9/7/05
	TIME: ~~1800~~ 2024

MAP / DRAWING

COPY



LEGEND:
\# = mrem/hr (γ) whole body
\#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
— · — · · = radiological boundary
△# = mrem/hr neutron
(#) = swipe number
[#] = air sample number
(#/α) = α/β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
SCM3	53/20	6/1/06
2350	5923/5926	5/17/06
2350	5928/5927	5/24/06
N/A	→	→

Completed by: (Signature) [redacted]	HP# 3145	Date: 9/7/05
Completed by: (Print Name)		
Counted by: (Signature) See Attached	HP#	Date:
Counted by: (Print Name) ↓		
Reviewed/Approved by: (Signature) [redacted]	HP# 4707	Date: 10/20/05
Reviewed/Approved by: (Print Name) [redacted]		

Survey No.
05-TF-0296

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination

Swipes (dpm/100cm²)

Sample #	β / γ	Alpha	Tritium	Comments
1	See Attached Sheets			SU2 - ST2
2				SU2 - ST 11
3				SU2 - ST 13
4				SU2 - ST 82
5				SU2 - ST 76
6				SU2 - ST 91
7				SU2 - ST 92

N/A

Removable Contamination

Swipes (dpm/100cm²)

Sample #	β / γ	Alpha	Tritium	Comments
	See Attached Sheets			

N/A

COMMENTS: All Results < Applicable limits except where indicated on Shonka Report Investigation Tables (Pages 5, 6, 7, 8, 14, 21, 28, 32, 37, & 45 of this RSDS package). See RSDS 05-TF-0353 for followup survey of associated Shonka Survey Strip number locations

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β / γ, alpha, or tritium, leave column blank. Mark column N/A if not needed. If count room results are attached, write " see attached " in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR017
Batch Ended: 9/8/05 14:13
Cal. Due Date: 11/17/05
Serial Number: 26966-3

Batch ID: 05-TF-0296 ROWE [7] GWD

Detector ID	Sample ID	Alpha Activity DPM	σ	flags	Beta Activity DPM	σ	flags
B1	1	0.00	1.92		1.73	2.07	
B2	2	0.00	1.96		4.36	2.74	
B3	3	0.00	2.20		0.31	1.88	
B4	4	0.00	1.96		0.00	1.21	
C1	5	3.72	2.92		2.41	2.46	
C2	6	0.00	1.91		0.00	1.13	
C3	7	0.00	2.06		0.00	1.22	

MO MO

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08 Sep 2005 14:47 ALPHA/BETA - 1.09 Page #1
Protocol #: 4 PW H3 #410462 User : 2138

Time: 2.00
Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	- 18.6	0	0.0	7.29
Region B:	2.0	- 18.6	0	0.0	6.78
Region C:	40.0	- 2000	0	0.0	9.94

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
05-TF-0296 M.D.ROWE (7) AG
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT4.DAT
Count Data Filename: C:\DATA\SDATA4.DAT
Spectrum Data Drive & Path: C:\DATA

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	7.29	6.78	1	B	666.47		0.00	9.94
0	2.00	555.81	519.49	0		601.57	1036.91	84.05	0.06
1	2.00	0.00	0.00	0		606.54	0.00	0.00	0.00
2	2.00	0.00	0.00	0		584.68	0.00	0.00	0.00
3	2.00	0.00	0.00	0		637.40	0.00	0.00	0.06
4	2.00	0.00	0.00	0		604.46	0.00	0.00	0.00
5	2.00	0.00	0.00	0		389.31	0.00	0.00	1.06
6	2.00	2.21	2.49	0		575.24	4.21	8.93	0.97
7	2.00	22.71	17.65	0		580.11	43.13	15.24	0.06

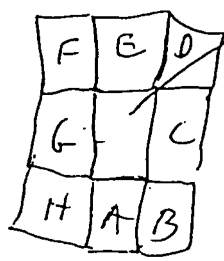
Investigation Table

Type	Value	Strip	Location From SW of Survey (X,Y)cm	Location From SW of Strip (X,Y)cm	Grid (X,Y)	Inv (Counts)	Count Time
Spot	622	82	(115,250)	(0,65)	N/A		

This table details the location of values that exceed criteria. In the case to 100 cm² (spot) alarms both the SCM strip number and the location relative to the south west corner of the survey. In the case of square meter (Average) alarms the meter grid coordinates are given.

SU2 Trenchway

Scan of Strip 82 resulted in elevated reading Static of SU2 ST82



SU2 ST82
1294 d/m/100cm² α

Investigation Table

Type	Value	Strip	Location From SW of Survey (X,Y)cm	Location From SW of Strip (X,Y)cm	Grid (X,Y)	Inv (Counts)	Count Time
Spot	271	13	(125,90)	(0,85)	N/A		

This table details the location of values that exceed criteria. In the case to 100 cm² (spot) alarms both the SCM strip number and the location relative to the south west corner of the survey. In the case of square meter (Average) alarms the meter grid coordinates are given.

SU2 Floor of Trench

Scan of Strip 13 resulted in no elevated readings

Static of SU2 ST13 no elevated reading

OS-TF-0296 7ot-19 [illegible] 11/02/05

Investigation Table

	Type	Value	Strip	Location From SW of Survey (X,Y)cm	Location From SW of Strip (X,Y)cm	Grid (X,Y)	Inv (Counts)	Count Time
②	Spot	931	11	(110,95)	(5,90)	N/A		
②	Spot	426	11	(110,80)	(5,75)	N/A		
①	Spot	311	2	(20,80)	(5,75)	N/A		
①	Spot	277	2	(20,95)	(5,90)	N/A		

This table details the location of values that exceed criteria. In the case to 100 cm² (spot) alarms both the SCM strip number and the location relative to the south west corner of the survey. In the case of square meter (Average) alarms the meter grid coordinates are given.

SU7 Top Ledges

① Scan of Strip 2 resulted in no ~~[illegible]~~ elevated Readings [illegible] 9/4/05
Static in Strip 2 SU2 ST2 no elevated Readings

② Scan of Strip 11 resulted no Elevated Readings
Static in Strip 11 SU ST11 no elevated readings

Investigation Table 05-TF-0296 80+49.m 11/02/05

Type	Value	Strip	Location From SW of Survey (X,Y)cm	Location From SW of Strip (X,Y)cm	Grid (X,Y)	Inv (Counts)	Count Time
Spot	277	92	(215,215)	(0,30)	N/A		
Spot	242	91	(205,200)	(0,15)	N/A		
Spot	242	76	(60,320)	(5,135)	N/A		

This table details the location of values that exceed criteria. In the case to 100 cm² (spot) alarms both the SCM strip number and the location relative to the south west corner of the survey. In the case of square meter (Average) alarms the meter grid coordinates are given.

SW2 Lower wall

SW2-ST76 476 d/m/100 cm² α

ST 91 123 d/m/100 cm²

ST 92 101 d/m/100cm²

ST 76 L 112 d/m/100cm²

ST 76 M - 90/PPM/100cm

ST 71 97 d/m/100cm²

Water Treatment SU2 Shanka elevated readings Verification Survey

11/02/05

RSDS# 05-TF-0296 RCT: 3145 RCT: N/A

Alpha	43-68 BKG:	0	EFF:	0.2073	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :	1
Beta	43-68 BKG:	0	EFF:	0.2046	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :	2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # :	3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # :	4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	Item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	SU2ST2	5923	3145	5925	1	1	9/3/05	20:40	15	120	57
ALPHA	SU2ST11	5923	3145	5925	1	2	9/3/05	20:51	19	120	73
ALPHA	SU2ST13	5923	3145	5925	1	3	9/3/05	22:26	22	120	84
ALPHA	SU2ST82	5923	3145	5925	1	4	9/3/05	22:39	338	120	1294
ALPHA	SU2ST82A	5923	3145	5925	1	5	9/3/05	22:49	11	120	42
ALPHA	SU2ST82B	5923	3145	5925	1	6	9/3/05	22:54	13	120	50
ALPHA	SU2ST82C	5923	3145	5925	1	7	9/3/05	22:59	18	120	69
ALPHA	SU2ST82D	5923	3145	5925	1	8	9/3/05	23:02	15	120	57
ALPHA	SU2ST82E	5923	3145	5925	1	9	9/3/05	23:06	15	120	57
ALPHA	SU2ST82F	5923	3145	5925	1	10	9/3/05	23:10	13	120	50
ALPHA	SU2ST82G	5923	3145	5925	1	11	9/3/05	23:14	8	120	31
ALPHA	SU2ST82H	5923	3145	5925	1	12	9/3/05	23:18	18	120	69
BETA	SU2ST2	5923	3145	5925	2	1	9/3/05	20:42	266	60	2064
BETA	SU2ST11	5923	3145	5925	2	2	9/3/05	20:52	223	60	1730
BETA	SU2ST13	5923	3145	5925	2	3	9/3/05	22:27	344	60	2669
BETA	SU2ST82	5923	3145	5925	2	4	9/3/05	22:40	278	60	2157
BETA	SU2ST82A	5923	3145	5925	2	5	9/3/05	22:50	226	60	1753
BETA	SU2ST82B	5923	3145	5925	2	6	9/3/05	22:55	187	60	1451
BETA	SU2ST82C	5923	3145	5925	2	7	9/3/05	23:00	177	60	1373
BETA	SU2ST82D	5923	3145	5925	2	8	9/3/05	23:03	180	60	1396
BETA	SU2ST82E	5923	3145	5925	2	9	9/3/05	23:07	189	60	1466
BETA	SU2ST82F	5923	3145	5925	2	10	9/3/05	23:11	184	60	1427
BETA	SU2ST82G	5923	3145	5925	2	11	9/3/05	23:15	187	60	1451
BETA	SU2ST82H	5923	3145	5925	2	12	9/3/05	23:19	199	60	1544

05-TF-0296

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water treatment SU2 verification of Sonka elevated readings

11/02/05

RSDS# 05-TF-0296 RCT: 3145 RCT: N/A

Alpha	43-68 BKG:	0	EFF:	0.22	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 1
Beta	43-68 BKG:	0	EFF:	0.168	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	Item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	SU2ST76	5928	3145	5827	1	1	9/7/05	19:07	132	120	476
ALPHA	SU2ST76A	5928	3145	5827	1	2	9/7/05	19:11	22	120	79
ALPHA	SU2ST76B	5928	3145	5827	1	3	9/7/05	19:15	36	120	130
ALPHA	SU2ST76C	5928	3145	5827	1	4	9/7/05	19:19	76	120	274
ALPHA	SU2ST76D	5928	3145	5827	1	5	9/7/05	19:24	33	120	119
ALPHA	SU2ST76E	5928	3145	5827	1	6	9/7/05	19:28	42	120	152
ALPHA	SU2ST76F	5928	3145	5827	1	7	9/7/05	19:32	24	120	87
ALPHA	SU2ST76G	5928	3145	5827	1	8	9/7/05	19:37	18	120	65
ALPHA	SU2ST76H	5928	3145	5827	1	9	9/7/05	19:41	27	120	97
ALPHA	SU2ST76I	5928	3145	5827	1	10	9/7/05	19:45	27	120	97
ALPHA	SU2ST76J	5928	3145	5827	1	11	9/7/05	19:49	31	120	112
ALPHA	SU2ST76K	5928	3145	5827	1	12	9/7/05	19:54	25	120	90
ALPHA	SU2ST76L	5928	3145	5827	1	13	9/7/05	19:58	31	120	112
ALPHA	SU2STM	5928	3145	5827	1	14	9/7/05	20:03	25	120	90
ALPHA	SU2ST91	5928	3145	5827	1	15	9/7/05	20:15	34	120	123
ALPHA	SU2ST92	5928	3145	5827	1	16	9/7/05	20:19	28	120	101
ALPHA	SU2ST71	5928	3145	5827	1	17	9/7/05	20:23	27	120	97
BETA	SU2ST76	5928	3145	5827	2	1	9/7/05	19:08	188	60	1776
BETA	SU2ST76A	5928	3145	5827	2	2	9/7/05	19:12	185	60	1748
BETA	SU2ST76B	5928	3145	5827	2	3	9/7/05	19:16	180	60	1701
BETA	SU2ST76C	5928	3145	5827	2	4	9/7/05	19:20	173	60	1635
BETA	SU2ST76D	5928	3145	5827	2	5	9/7/05	19:25	151	60	1427
BETA	SU2ST76E	5928	3145	5827	2	6	9/7/05	19:29	189	60	1786
BETA	SU2ST76F	5928	3145	5827	2	7	9/7/05	19:34	159	60	1502
BETA	SU2ST76G	5928	3145	5827	2	8	9/7/05	19:38	173	60	1635
BETA	SU2ST76H	5928	3145	5827	2	9	9/7/05	19:42	167	60	1578
BETA	SU2ST76I	5928	3145	5827	2	10	9/7/05	19:46	152	60	1436
BETA	SU2ST76J	5928	3145	5827	2	11	9/7/05	19:50	173	60	1635
BETA	SU2ST76K	5928	3145	5827	2	12	9/7/05	19:55	179	60	1691
BETA	SU2ST76L	5928	3145	5827	2	13	9/7/05	19:59	184	60	1738
BETA	SU2STM	5928	3145	5827	2	14	9/7/05	20:04	179	60	1691
BETA	SU2ST91	5928	3145	5827	2	15	9/7/05	20:16	170	60	1606
BETA	SU2ST92	5928	3145	5827	2	16	9/7/05	20:20	156	60	1474
BETA	SU2ST71	5928	3145	5827	2	17	9/7/05	20:24	196	60	1852

Survey Report

50-2

Survey Location:	1T-15
Survey File Name:	FAT1503A
Survey Date:	September 1, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON/ROWE

Criteria

Any 100 cm^2 Measurement:	300 net dpm/100 cm^2
Average Over Any 1 m^2:	100 net dpm/100 cm^2
Investigation Level 100cm^2:	225 net dpm/100 cm^2
Investigation Level m^2:	75 net dpm/100 cm^2

System Information

Background:	Background not Subtracted
Efficiency (100 cm^2):	C-180: 28.2%
m^2 Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a

Survey Results

Maximum 100 cm^2:	**277 dpm/100 cm^2**
Maximum m^2 Average:	21 dpm/100 cm^2
Survey Location Code:	B0000B0000FZ0001F01D101HE0012650FAT1503A

NOTE: Bold Text Denotes Values Exceeding Criteria.

Grit Chamber Floors, Alpha Corner Mode

David Kelley

11-1-05

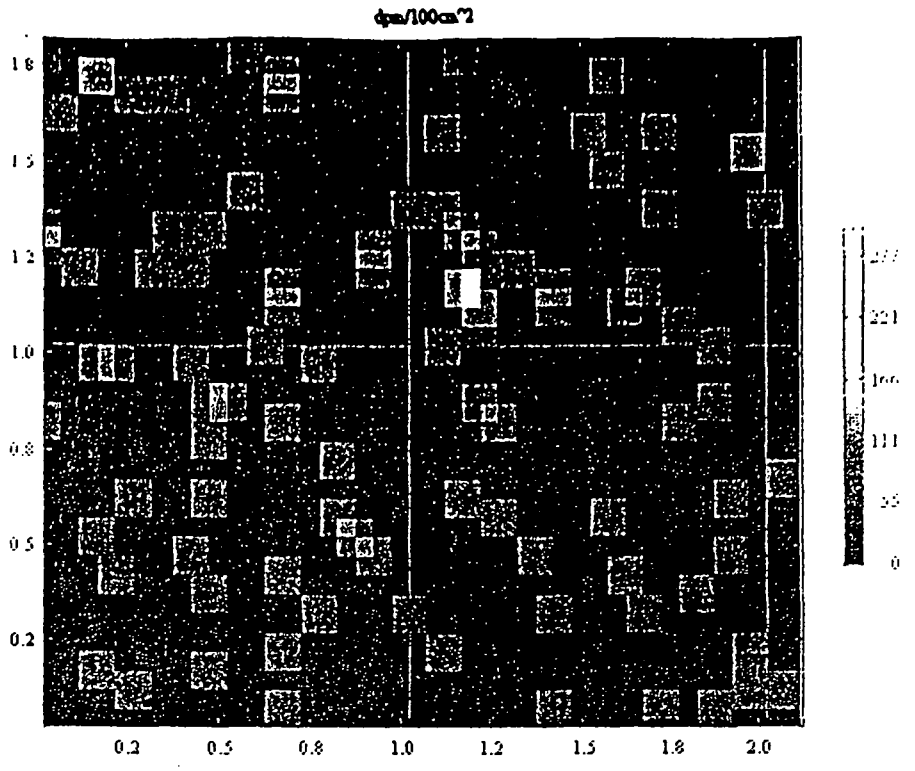


Figure 1: Meter Grid overlaid onto image plot of 100cm^2 areas. The color scale is in dpm per 100cm^2.

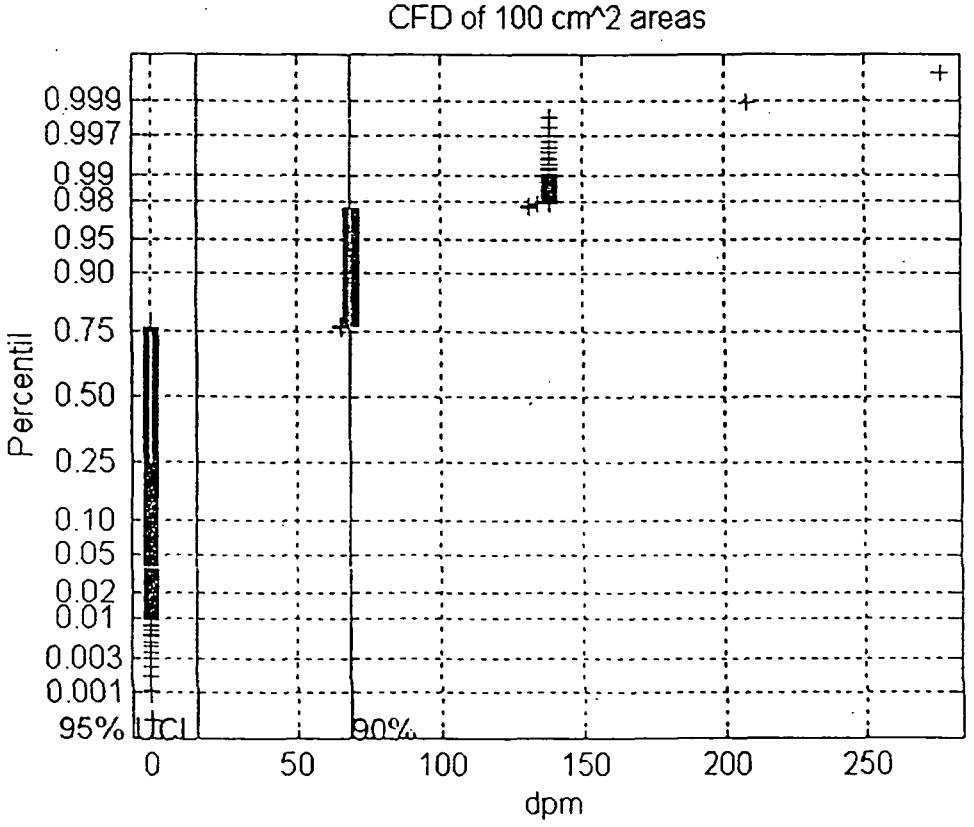


Figure 2: CFD of surface activity in 100cm^2 areas. The horizontal scale is in dpm per 100cm^2.

Meter Grid Summary Table

X	Y	Mean dpm/100cm^2	Max dpm/100cm^2	Min dpm/100cm^2	Std dpm/100cm^2	100cm^2 Areas
1	1	18	138	0	32	100
1	2	21	138	0	36	80
2	1	15	138	0	30	100
2	**2**	**21**	**277**	**0**	**42**	**80**
3	1	15	69	0	29	10
3	2	21	69	0	24	8

The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm^2. Meters with no recorded data are not displayed.

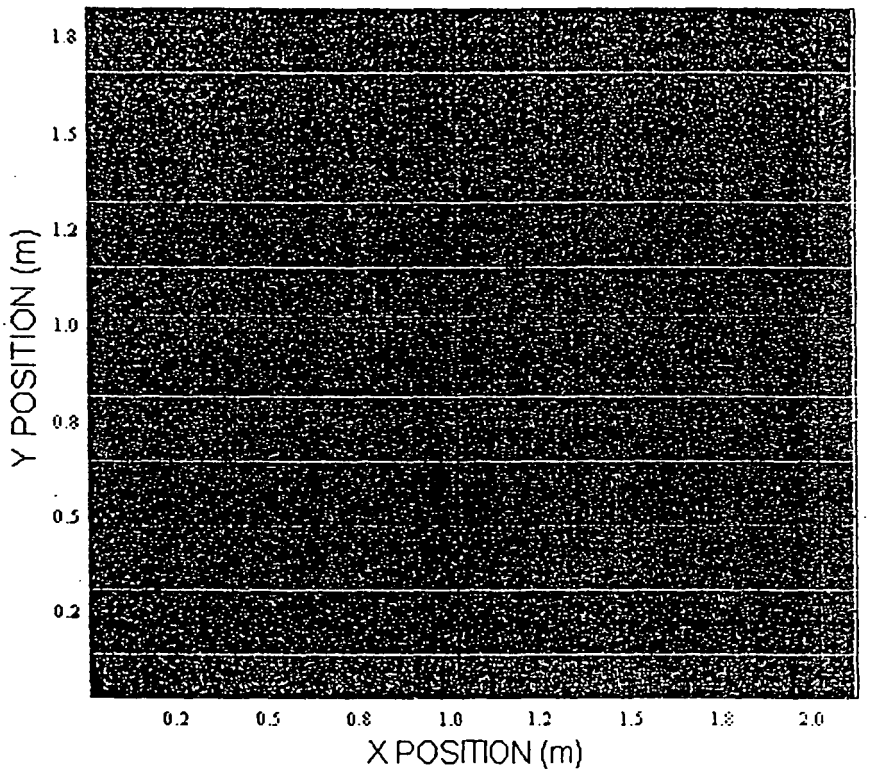


Figure 3: Yellow denotes meter grids that exceed criteria , while red corresponds to 100cm^2 areas exceeding criteria.

Investigation Table

Type	Value	Strip	Location From SW of Survey (X,Y)cm	Location From SW of Strip (X,Y)cm	Grid (X,Y)	Inv (Counts)	Count Time
Spot	277	12	(120,115)	(5,110)	N/A		

This table details the location of values that exceed criteria. In the case to 100 cm^2 (spot) alarms both the SCM strip number and the location relative to the south west corner of the survey. In the case of square meter (Average) alarms the meter grid coordinates are given.

OS-TF-0296 14 of 19 11/02/05

Survey Report

Survey Location:	1T-15
Survey File Name:	FAT1504A
Survey Date:	September 1, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON/ROWE
Criteria	
Any 100 cm^2 Measurement:	15,000 net dpm/100 cm^2
Average Over Any 1 m^2:	5,000 net dpm/100 cm^2
Investigation Level 100cm^2:	11,250 net dpm/100 cm^2
Investigation Level m^2:	3,750 net dpm/100 cm^2
System Information	
Background:	C-180: 392 cpm
Efficiency (100 cm^2):	C-180: 22.3%
m^2 Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a
Survey Results	
Maximum 100 cm^2:	3,186 dpm/100 cm^2
Maximum m^2 Average:	1,086 dpm/100 cm^2
Survey Location Code:	B0000B0000FZ0001F01D001HE0012250FAT1504A

NOTE: Bold Text Denotes Values Exceeding Criteria.

Grit Chamber Floor, Beta Lower Mode

David Kelley

11-1-05

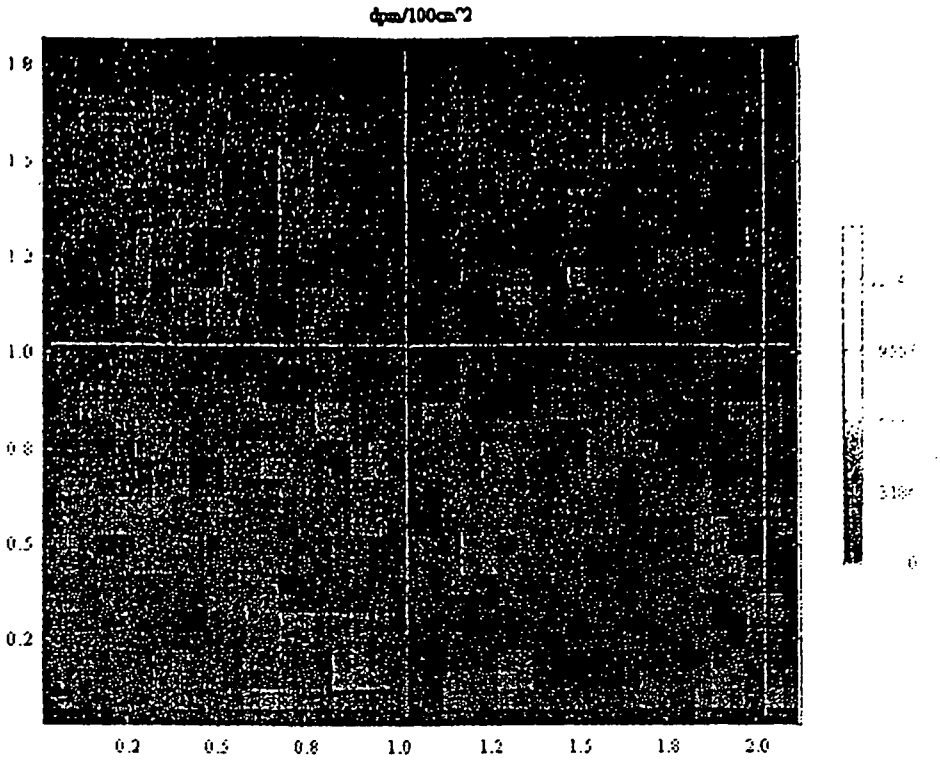


Figure 1: Meter Grid overlaid onto image plot of 100cm^2 areas. The color scale is in dpm per 100cm^2.

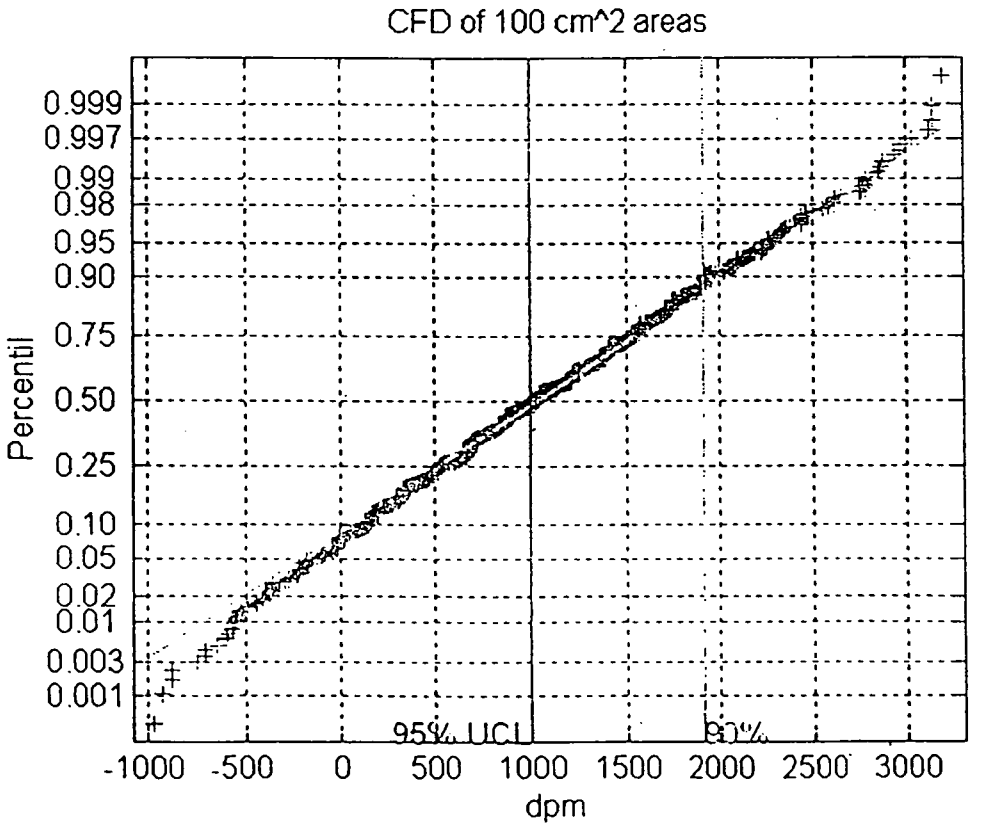


Figure 2: CFD of surface activity in 100cm^2 areas. The horizontal scale is in dpm per 100cm^2.

Meter Grid Summary Table

X	Y	Mean dpm/100cm^2	Max dpm/100cm^2	Min dpm/100cm^2	Std dpm/100cm^2	100cm^2 Areas
1	1	1,086	3,116	-883	754	100
1	2	1,052	3,139	-709	795	80
2	1	922	2,964	-491	700	100
2	2	870	3,186	-653	688	80
3	1	930	2,871	-930	935	10
3	2	893	2,135	-561	802	8

The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm^2. Meters with no recorded data are not displayed.

Survey Report

Survey Location:	IT-15
Survey File Name:	FAT1503B
Survey Date:	September 2, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON/ROWE

Criteria

Any 100 cm^2 Measurement:	300 net dpm/100 cm^2
Average Over Any 1 m^2:	100 net dpm/100 cm^2
Investigation Level 100cm^2:	225 net dpm/100 cm^2
Investigation Level m^2:	75 net dpm/100 cm^2

System Information

Background:	Background not Subtracted
Efficiency (100 cm^2):	C-180: 28.2%
m^2 Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a

Survey Results

Maximum 100 cm^2:	**541 dpm/100 cm^2**
Maximum m^2 Average:	32 dpm/100 cm^2

Survey Location Code: B0000B0000FZ0001F01D101HE0012650FAT1503B

NOTE: Bold Text Denotes Values Exceeding Criteria.

Grit Chamber Floors of Trench 1, Alpha Corner Mode

David Kelley

11-1-05

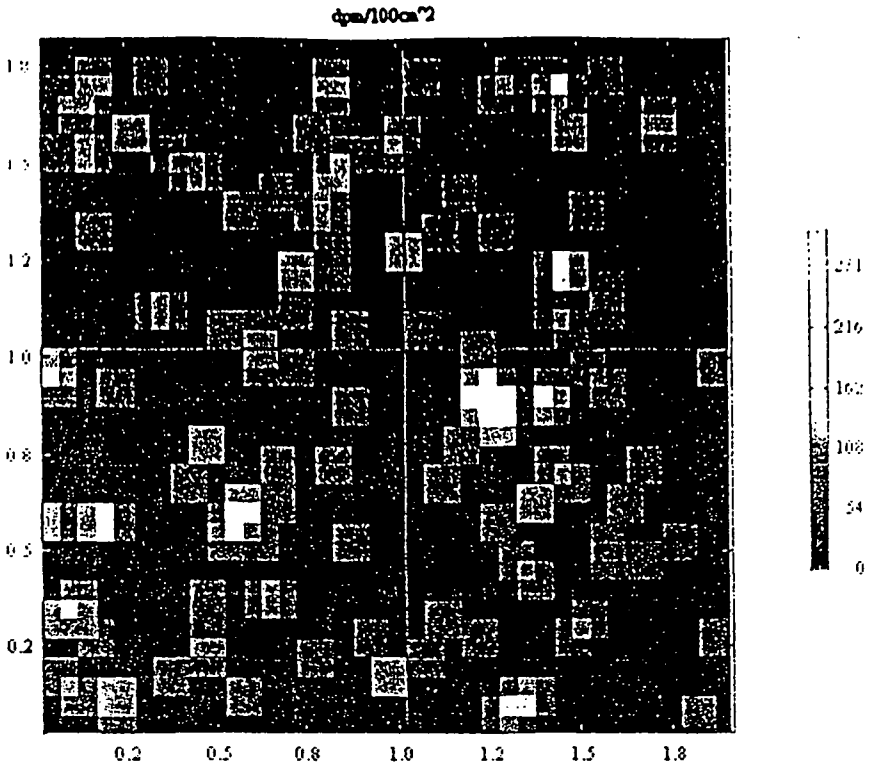


Figure 1: Meter Grid overlaid onto image plot of 100cm^2 areas. The color scale is in dpm per 100cm^2.

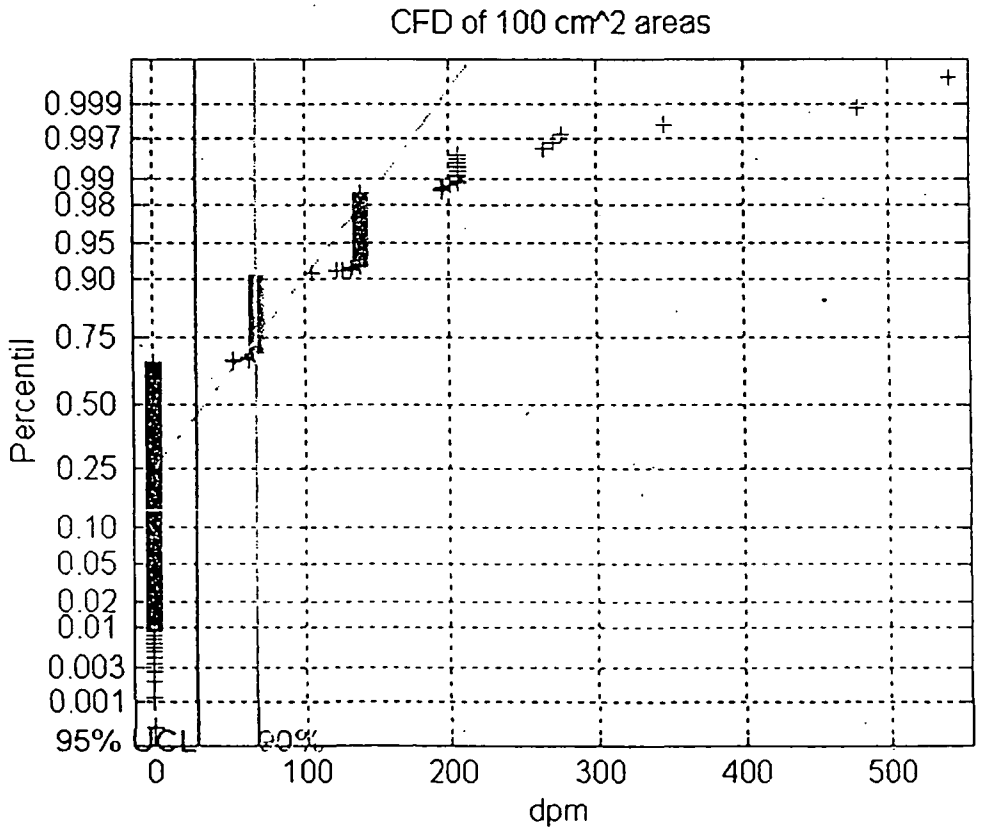


Figure 2: CFD of surface activity in 100cm^2 areas. The horizontal scale is in dpm per 100cm^2.

Meter Grid Summary Table

X	Y	Mean dpm/100cm^2	Max dpm/100cm^2	Min dpm/100cm^2	Std dpm/100cm^2	100cm^2 Areas
1	1	32	271	0	52	100
1	2	29	138	0	46	80
2	1	30	541	0	64	90
2	2	30	207	0	44	72

The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm^2. Meters with no recorded data are not displayed.

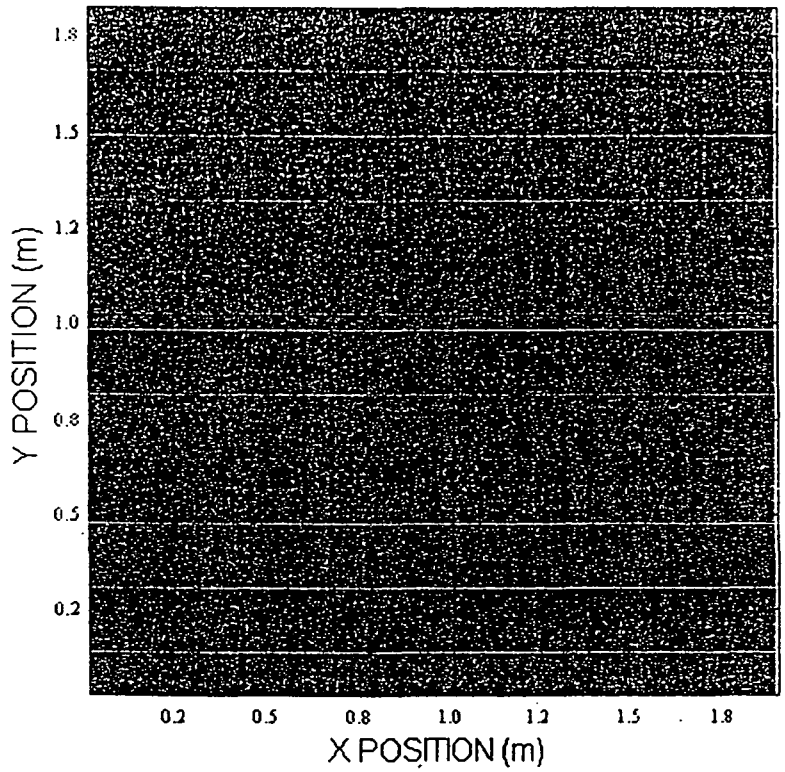


Figure 3: Yellow denotes meter grids that exceed criteria , while red corresponds to 100cm^2 areas exceeding criteria.

Investigation Table

Type	Value	Strip	Location From SW of Survey (X,Y)cm	Location From SW of Strip (X,Y)cm	Grid (X,Y)	Inv (Counts)	Count Time
Spot	541	13	(125,90)	(0,85)	N/A		
Spot	271	6	(55,60)	(0,55)	N/A		

This table details the location of values that exceed criteria. In the case to 100 cm^2 (spot) alarms both the SCM strip number and the location relative to the south west corner of the survey. In the case of square meter (Average) alarms the meter grid coordinates are given.

Survey Report

Survey Location:	TT-15
Survey File Name:	FAT1504B
Survey Date:	September 2, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON/ROWE
Criteria	
Any 100 cm^2 Measurement:	15,000 net dpm/100 cm^2
Average Over Any 1 m^2:	5,000 net dpm/100 cm^2
Investigation Level 100cm^2:	11,250 net dpm/100 cm^2
Investigation Level m^2:	3,750 net dpm/100 cm^2
System Information	
Background:	C-180: 392 cpm
Efficiency (100 cm^2):	C-180: 22.3%
m^2 Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a
Survey Results	
Maximum 100 cm^2:	4,013 dpm/100 cm^2
Maximum m^2 Average:	1,204 dpm/100 cm^2
Survey Location Code:	B0000B0000FZ0001F01D001HE0012250FAT1504B

NOTE: Bold Text Denotes Values Exceeding Criteria.

Grit Chamber Floor of Trench, Beta Corner Mode

David Kelley

11-1-05

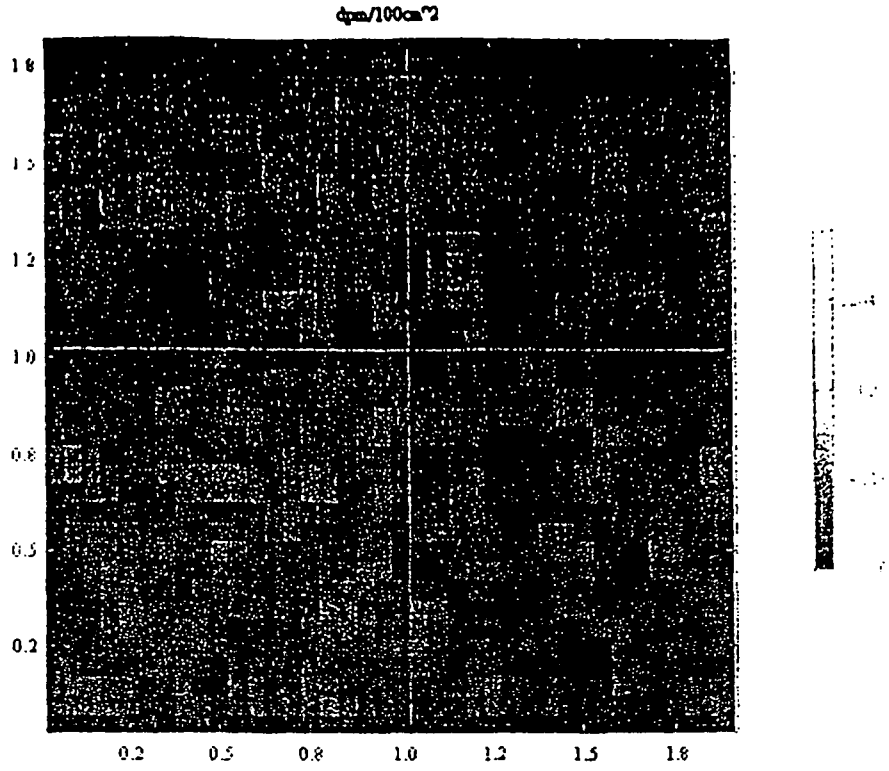


Figure 1: Meter Grid overlaid onto image plot of 100cm^2 areas. The color scale is in dpm per 100cm^2.

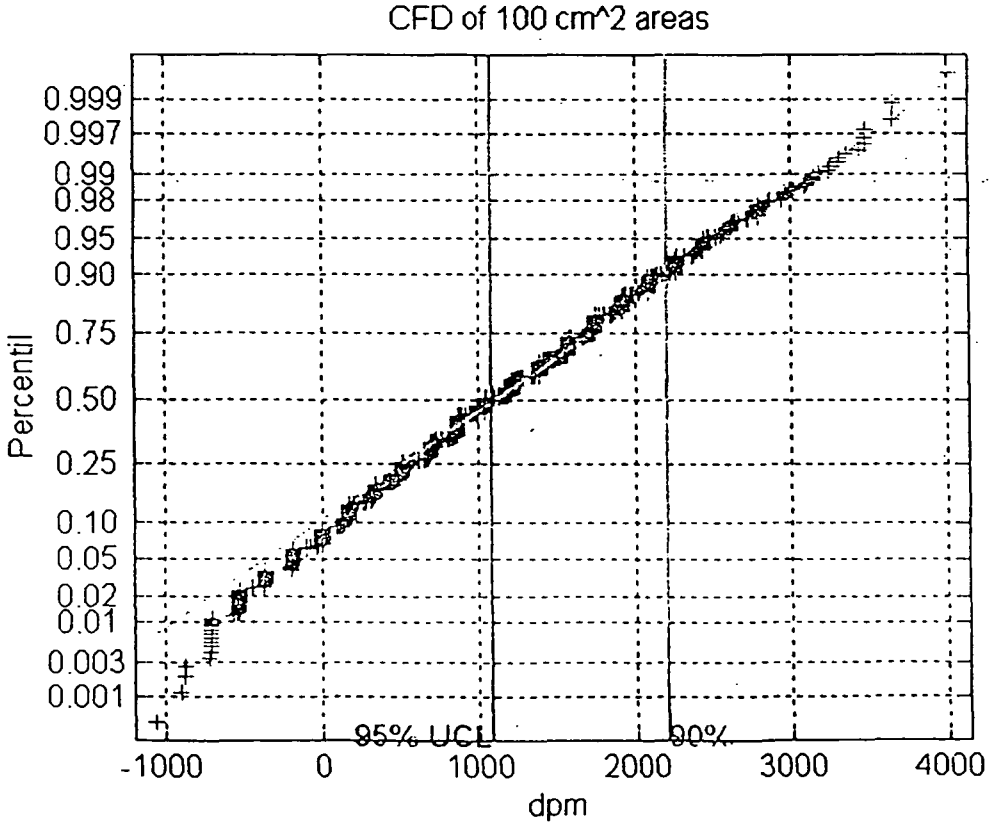


Figure 2: CFD of surface activity in 100cm^2 areas. The horizontal scale is in dpm per 100cm^2.

Meter Grid Summary Table

X	Y	Mean dpm/100cm^2	Max dpm/100cm^2	Min dpm/100cm^2	Std dpm/100cm^2	100cm^2 Areas
1	1	1,204	3,489	-534	775	100
1	2	1,202	4,013	-908	914	80
2	1	960	3,261	-883	900	90
2	2	1,081	3,664	-709	876	72

The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm^2. Meters with no recorded data are not displayed.

Survey Report

Survey Location:	IT-15
Survey File Name:	FAT1503C
Survey Date:	September 2, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON/ROWE

Criteria

Any 100 cm^2 Measurement:	300 net dpm/100 cm^2
Average Over Any 1 m^2:	100 net dpm/100 cm^2
Investigation Level 100cm^2:	225 net dpm/100 cm^2
Investigation Level m^2:	75 net dpm/100 cm^2

System Information

Background:	Background not Subtracted
Efficiency (100 cm^2):	C-180: 28.2%
m^2 Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a

Survey Results

Maximum 100 cm^2:	**1,862 dpm/100 cm^2**
Maximum m^2 Average:	**78 dpm/100 cm^2**

Survey Location Code: B0000B0000FZ0001F01D101HE0012650FAT1503C

NOTE: Bold Text Denotes Values Exceeding Criteria.

Grit Chamber ~~Floors~~ Top Ledge Alpha Corner Mode

David Kelley

11-1-05

SIMS Report Generator V5.3k Date: 10-05-2005 Time: 15:51:14 FAT1503C-1

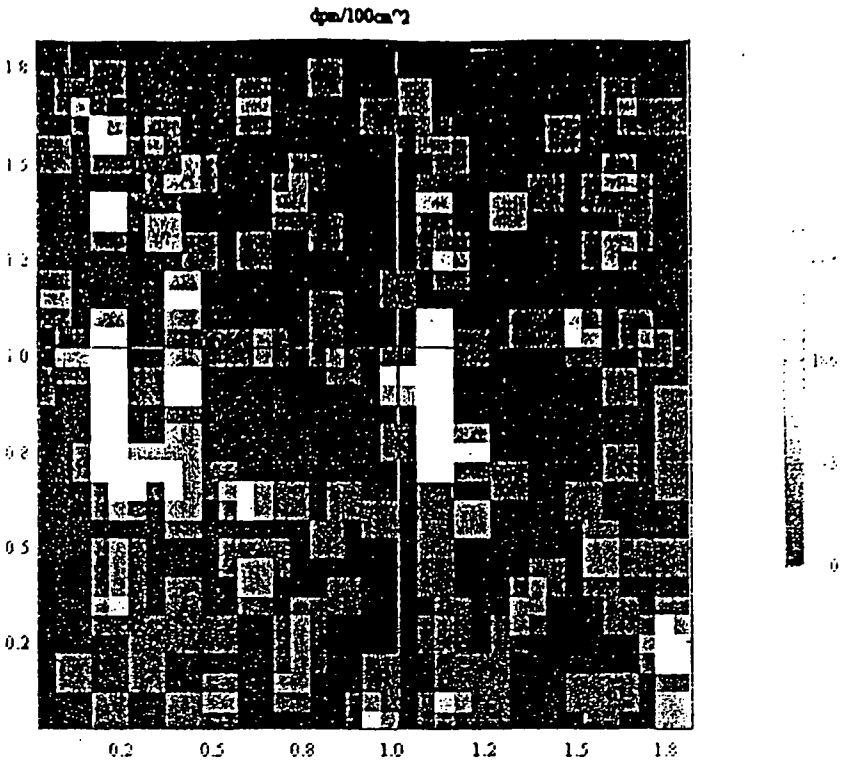


Figure 1: Meter Grid overlaid onto image plot of 100cm^2 areas. The color scale is in dpm per 100cm^2.

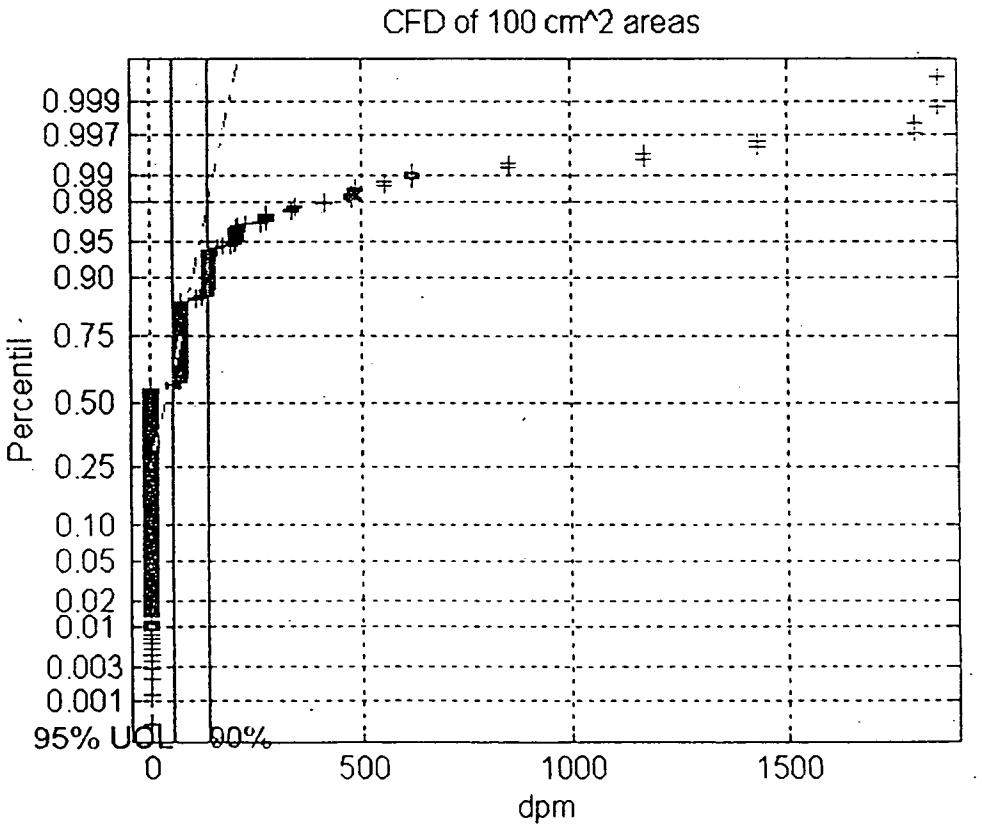


Figure 2: CFD of surface activity in 100cm^2 areas. The horizontal scale is in dpm per 100cm^2.

Meter Grid Summary Table

X	Y	Mean dpm/100cm^2	Max dpm/100cm^2	Min dpm/100cm^2	Std dpm/100cm^2	100cm^2 Areas
1	1	57	622	0	106	100
1	2	50	346	0	69	80
2	1	78	1,862	0	265	80
2	2	67	479	0	75	64

The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm^2. Meters with no recorded data are not displayed.

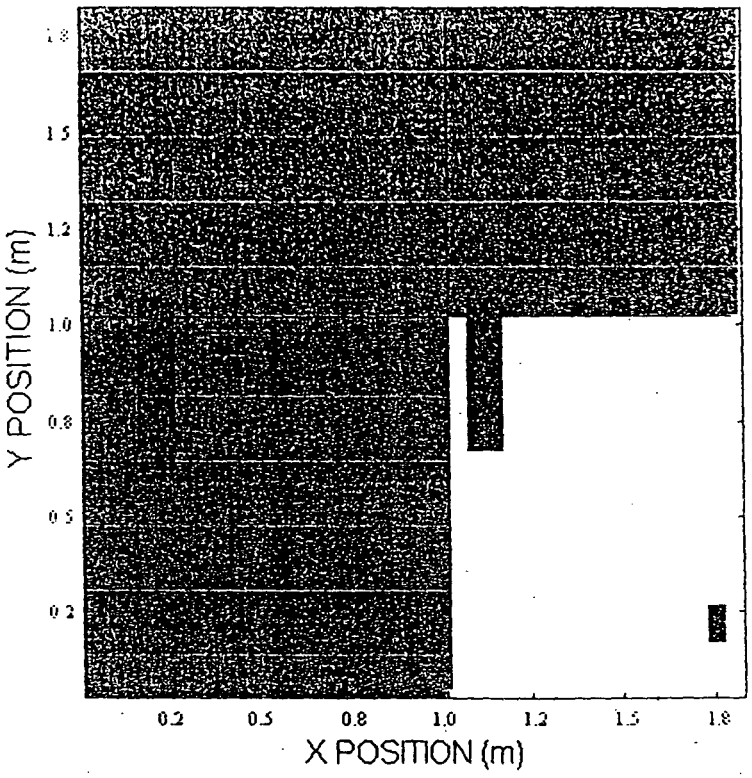


Figure 3: Yellow denotes meter grids that exceed criteria , while red corresponds to 100cm^2 areas exceeding criteria.

Investigation Table

Type	Value	Strip	Location From SW of Survey (X,Y)cm	Location From SW of Strip (X,Y)cm	Grid (X,Y)	Inv (Counts)	Count Time
Spot	1862	11	(110,95)	(5,90)	N/A		
Spot	851	11	(110,80)	(5,75)	N/A		
Spot	622	2	(20,80)	(5,75)	N/A		
Spot	553	2	(20,95)	(5,90)	N/A		
Spot	346	3	(25,135)	(0,130)	N/A		
Spot	346	18	(175,25)	(0,20)	N/A		
Spot	337	4	(40,95)	(5,90)	N/A		
Spot	277	3	(25,65)	(0,60)	N/A		
Spot	229	15	(150,105)	(5,100)	N/A		
Grid	78	N/A	N/A	N/A	(2,1)		

This table details the location of values that exceed criteria. In the case to 100 cm^2 (spot) alarms both the SCM strip number and the location relative to the south west corner of the survey. In the case of square meter (Average) alarms the meter grid coordinates are given.

Survey Report

Survey Location:	IT-15
Survey File Name:	FAT1504C
Survey Date:	September 2, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON/ROWE

Criteria

Any 100 cm^2 Measurement:	15,000 net dpm/100 cm^2
Average Over Any 1 m^2:	5,000 net dpm/100 cm^2
Investigation Level 100cm^2:	11,250 net dpm/100 cm^2
Investigation Level m^2:	3,750 net dpm/100 cm^2

System Information

Background:	C-180: 392 cpm
Efficiency (100 cm^2):	C-180: 22.3%
m^2 Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a

Survey Results

Maximum 100 cm^2:	**11,359 dpm/100 cm^2**
Maximum m^2 Average:	1,395 dpm/100 cm^2
Survey Location Code:	B0000B0000FZ0001F01D001HE0012250FAT1504C

NOTE: Bold Text Denotes Values Exceeding Criteria.

Grit Chamber Top ledge, Beta

David Kelley

11-1-05

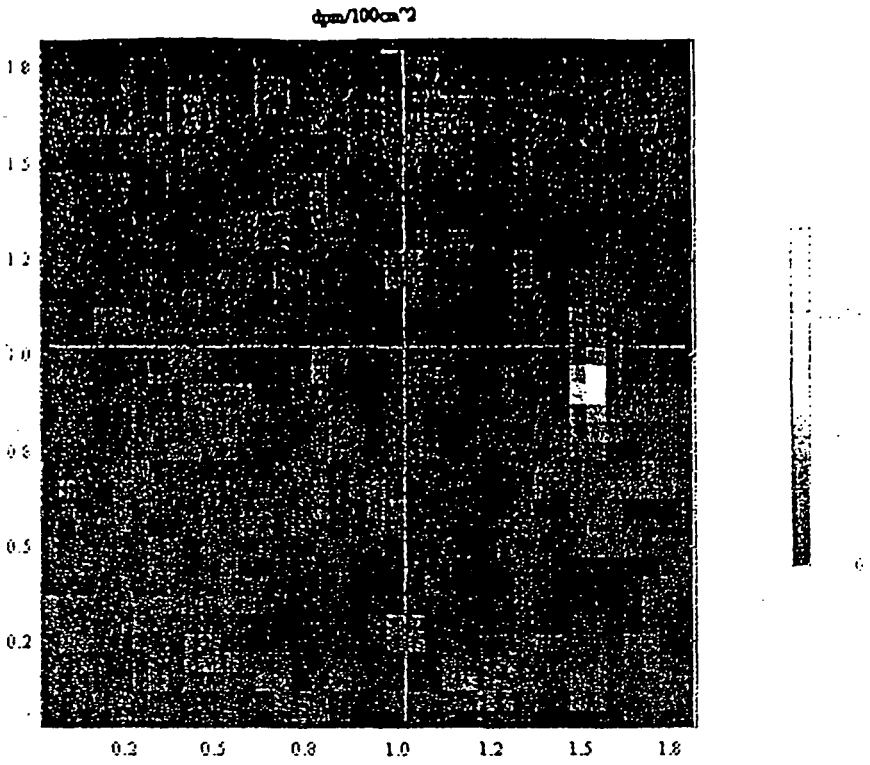


Figure 1: Meter Grid overlaid onto image plot of 100cm^2 areas. The color scale is in dpm per 100cm^2.

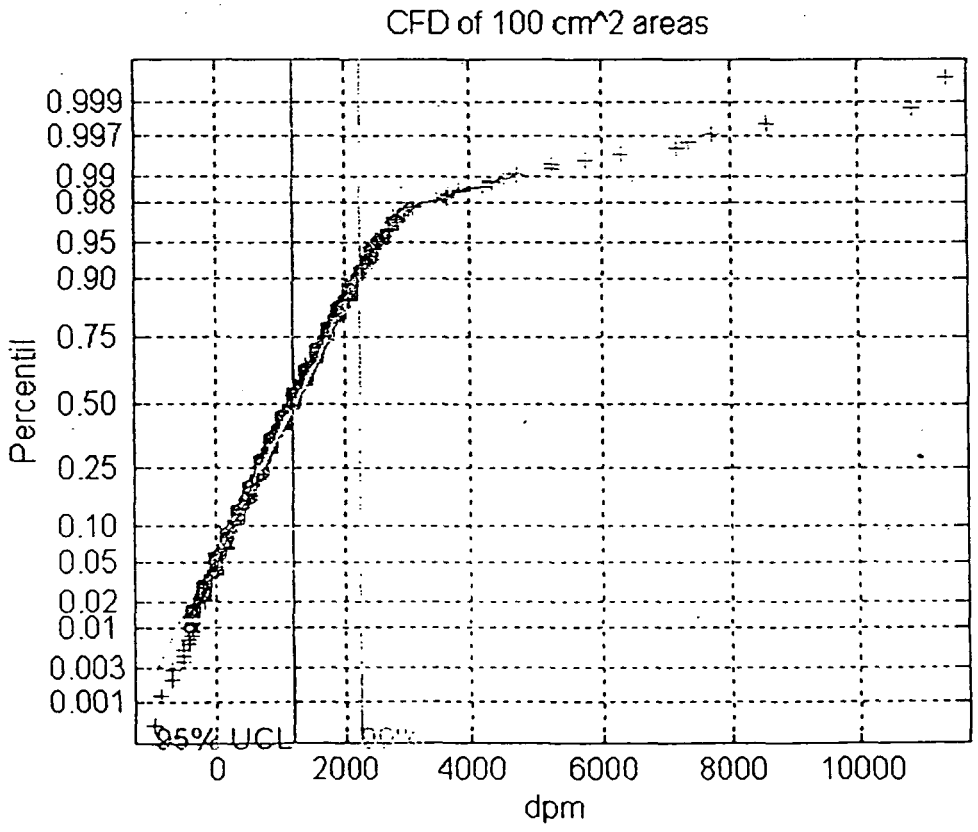


Figure 2: CFD of surface activity in 100cm^2 areas. The horizontal scale is in dpm per 100cm^2.

Meter Grid Summary Table

X	Y	Mean dpm/100cm²	Max dpm/100cm²	Min dpm/100cm²	Std dpm/100cm²	100cm² Areas
1	1	1,164	3,839	-433	721	100
1	2	1,114	4,363	-883	847	80
2	**1**	**1,277**	**11,359**	**-709**	**1,559**	**80**
2	2	1,395	5,762	-359	940	64

The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm². Meters with no recorded data are not displayed.

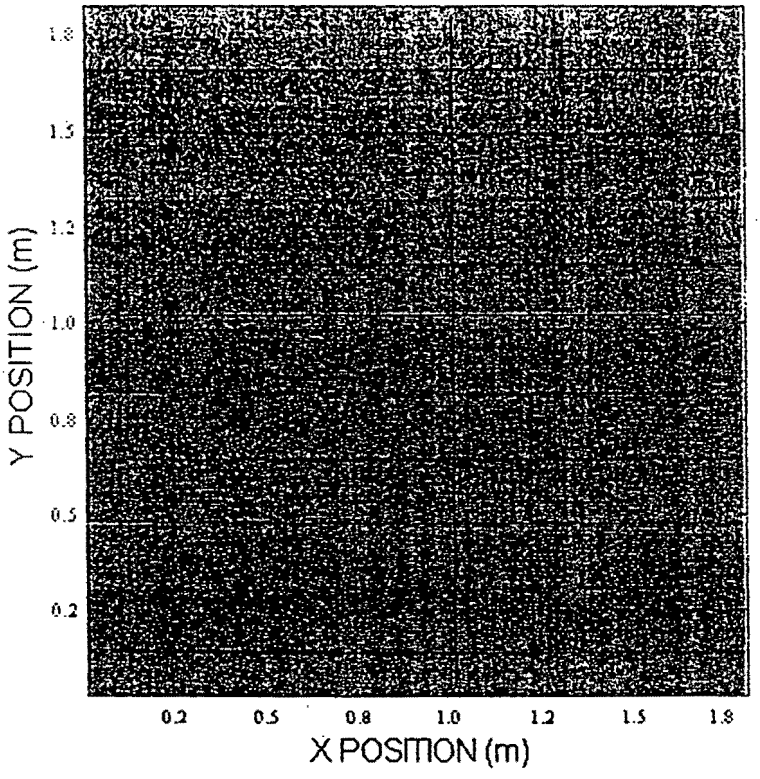


Figure 3: Yellow denotes meter grids that exceed criteria , while red corresponds to 100cm² areas exceeding criteria.

Investigation Table

Type	Value	Strip	Location From SW of Survey (X,Y)cm	Location From SW of Strip (X,Y)cm	Grid (X,Y)	Inv (Counts)	Count Time
Spot	11359	16	(155,95)	(0,90)	N/A		

This table details the location of values that exceed criteria. In the case to 100 cm^2 (spot) alarms both the SCM strip number and the location relative to the south west corner of the survey. In the case of square meter (Average) alarms the meter grid coordinates are given.

Survey Report

Survey Location:	1T-15
Survey File Name:	FAT1513A
Survey Date:	September 1, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON/ROWE

Criteria

Any 100 cm^2 Measurement:	300 net dpm/100 cm^2
Average Over Any 1 m^2:	100 net dpm/100 cm^2
Investigation Level 100cm^2:	225 net dpm/100 cm^2
Investigation Level m^2:	75 net dpm/100 cm^2

System Information

Background:	Background not Subtracted
Efficiency (100 cm^2):	C-180: 28.2%
m^2 Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a

Survey Results

Maximum 100 cm^2:	**553 dpm/100 cm^2**
Maximum m^2 Average:	72 dpm/100 cm^2
Survey Location Code:	B0000B0000FZ0001F01D101HE0012650FAT1513A

NOTE: Bold Text Denotes Values Exceeding Criteria.

Grit Chamber Lower Walls, Alpha Corner Mode

David Kelley

11-1-05

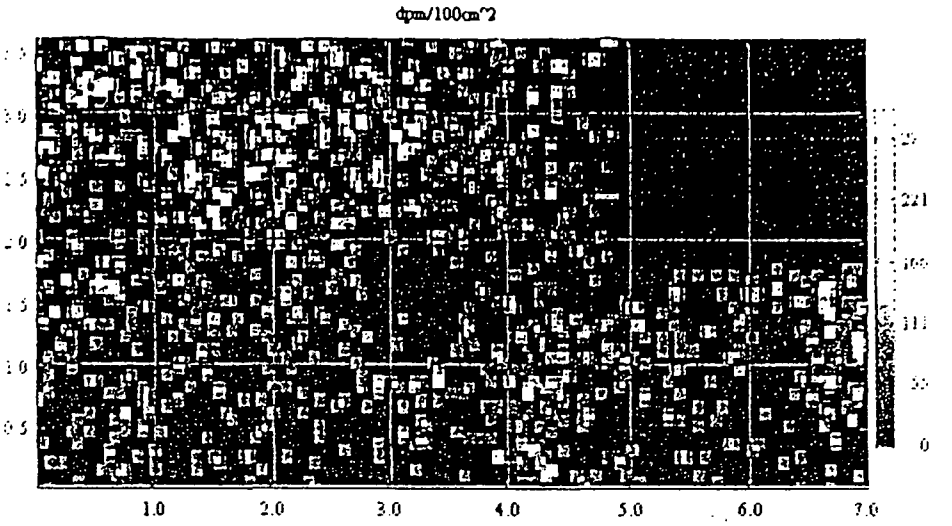


Figure 1: Meter Grid overlaid onto image plot of 100cm^2 areas. The color scale is in dpm per 100cm^2.

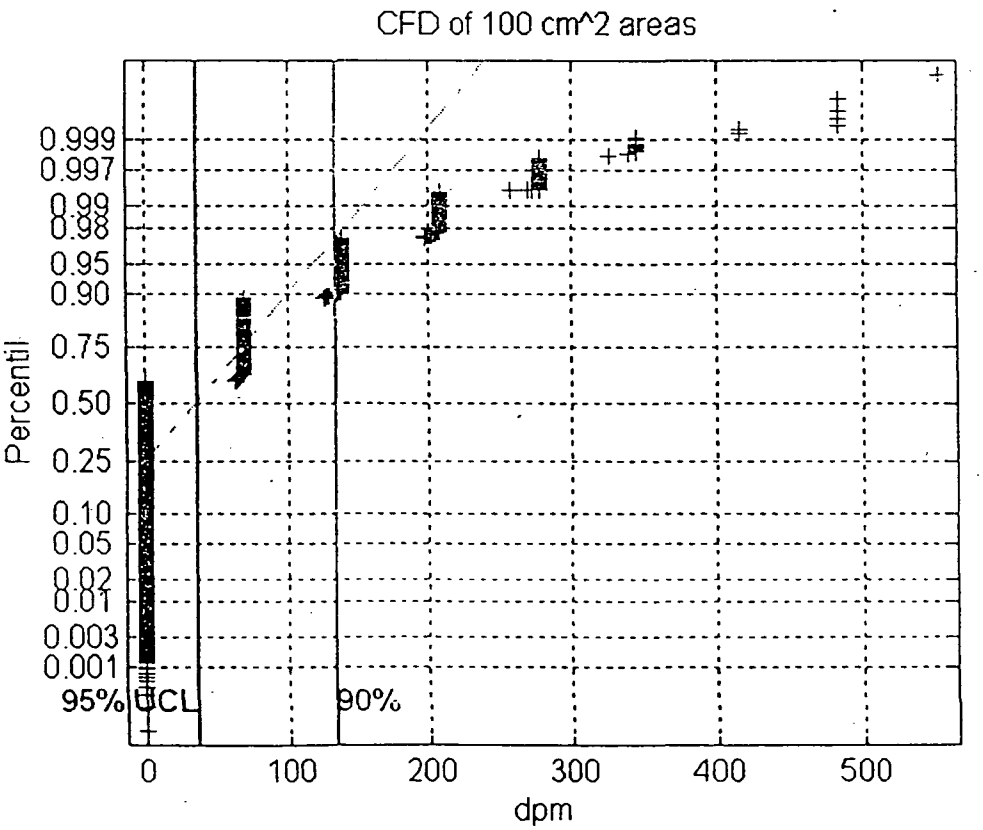


Figure 2: CFD of surface activity in 100cm^2 areas. The horizontal scale is in dpm per 100cm^2.

Meter Grid Summary Table

X	Y	Mean dpm/100cm²	Max dpm/100cm²	Min dpm/100cm²	Std dpm/100cm²	100cm² Areas
1	1	31	207	0	41	100
1	2	39	277	0	60	100
1	3	38	207	0	48	100
1	4	60	484	0	74	60
2	1	21	205	0	35	100
2	2	32	277	0	44	100
2	3	64	341	0	73	100
2	4	50	277	0	57	60
3	1	17	207	0	36	100
3	2	29	484	0	45	100
3	3	72	553	0	89	100
3	4	56	207	0	55	60
4	1	27	207	0	46	100
4	2	14	207	0	33	100
4	3	49	346	0	58	100
4	4	45	138	0	45	60
5	1	47	346	0	68	100
5	2	39	277	0	51	98
5	3	35	277	0	50	90
5	4	31	346	0	73	54
6	1	17	207	0	36	100
6	2	29	207	0	42	80
6	3	N/A	N/A	N/A	N/A	0
6	4	N/A	N/A	N/A	N/A	0
7	1	23	204	0	40	100
7	2	53	346	0	73	80
7	3	N/A	N/A	N/A	N/A	0
7	4	N/A	N/A	N/A	N/A	0

The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm². Meters with no recorded data are not displayed.

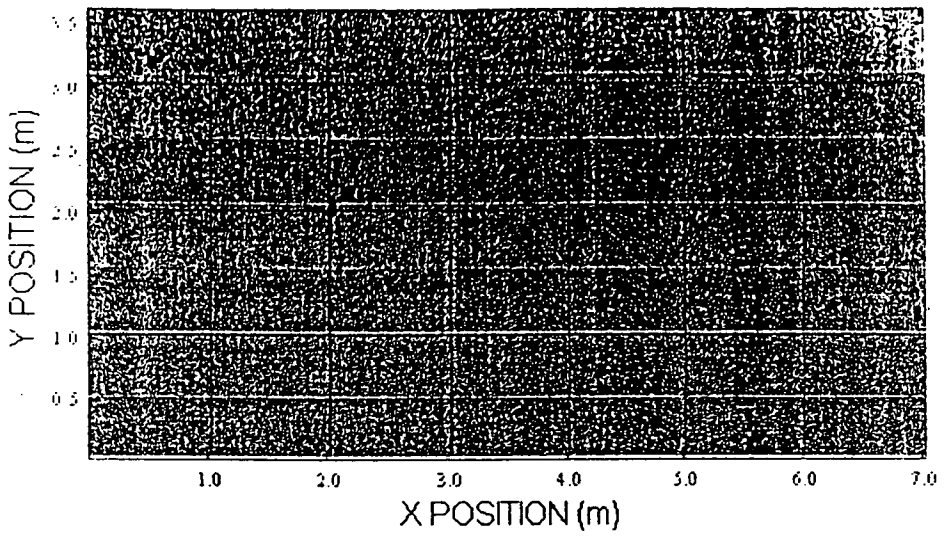


Figure 3: Yellow denotes meter grids that exceed criteria , while red corresponds to 100cm^2 areas exceeding criteria.

Investigation Table

Type	Value	Strip	Location From SW of Survey (X,Y)cm	Location From SW of Strip (X,Y)cm	Grid (X,Y)	Inv (Counts)	Count Time
Spot	553	92	(215,215)	(0,30)	N/A		
Spot	484	91	(205,200)	(0,15)	N/A		
Spot	484	76	(60,320)	(5,135)	N/A		
Spot	346	102	(320,290)	(5,105)	N/A		
Spot	346	44	(435,15)	(0,10)	N/A		
Spot	346	119	(485,355)	(0,170)	N/A		
Spot	346	67	(665,145)	(0,140)	N/A		
Spot	346	70	(695,120)	(0,115)	N/A		
Spot	341	86	(160,235)	(5,50)	N/A		
Spot	326	102	(315,270)	(0,85)	N/A		
Spot	277	42	(415,80)	(0,75)	N/A		
Spot	277	114	(435,240)	(0,55)	N/A		
Spot	277	42	(420,35)	(5,30)	N/A		
Spot	277	6	(55,165)	(0,160)	N/A		
Spot	277	75	(45,310)	(0,125)	N/A		
Spot	277	75	(45,325)	(0,140)	N/A		
Spot	277	82	(120,320)	(5,135)	N/A		
Spot	277	84	(135,245)	(0,60)	N/A		
Spot	277	85	(150,220)	(5,35)	N/A		
Spot	277	89	(185,250)	(0,65)	N/A		
Spot	277	21	(210,155)	(5,150)	N/A		
Spot	277	91	(210,265)	(5,80)	N/A		
Spot	277	98	(280,290)	(5,105)	N/A		
Spot	277	41	(405,150)	(0,145)	N/A		
Spot	277	44	(435,85)	(0,80)	N/A		
Spot	277	115	(445,335)	(0,150)	N/A		
Spot	277	67	(665,165)	(0,160)	N/A		
Spot	272	79	(90,335)	(5,150)	N/A		

This table details the location of values that exceed criteria. In the case to 100 cm^2 (spot) alarms both the SCM strip number and the location relative to the south west corner of the survey. In the case of square meter (Average) alarms the meter grid coordinates are given.

05-TF-0296 ~~18 of 19~~ 11/62/05

Survey Report

Survey Location:	1T-15
Survey File Name:	FAT1514A
Survey Date:	September 1, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON/ROWE

Criteria

Any 100 cm^2 Measurement:	15,000 net dpm/100 cm^2
Average Over Any 1 m^2:	5,000 net dpm/100 cm^2
Investigation Level 100cm^2:	11,250 net dpm/100 cm^2
Investigation Level m^2:	3,750 net dpm/100 cm^2

System Information

Background:	C-180: 392 cpm
Efficiency (100 cm^2):	C-180: 22.3%
m^2 Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a

Survey Results

Maximum 100 cm^2:	3,489 dpm/100 cm^2
Maximum m^2 Average:	1,060 dpm/100 cm^2
Survey Location Code:	B0000B0000FZ0001F01D001HE0012450FAT1514A

NOTE: Bold Text Denotes Values Exceeding Criteria.

Grit Chamber Lower Walls, Beta Corner Mad

David Kelley

11-1-05

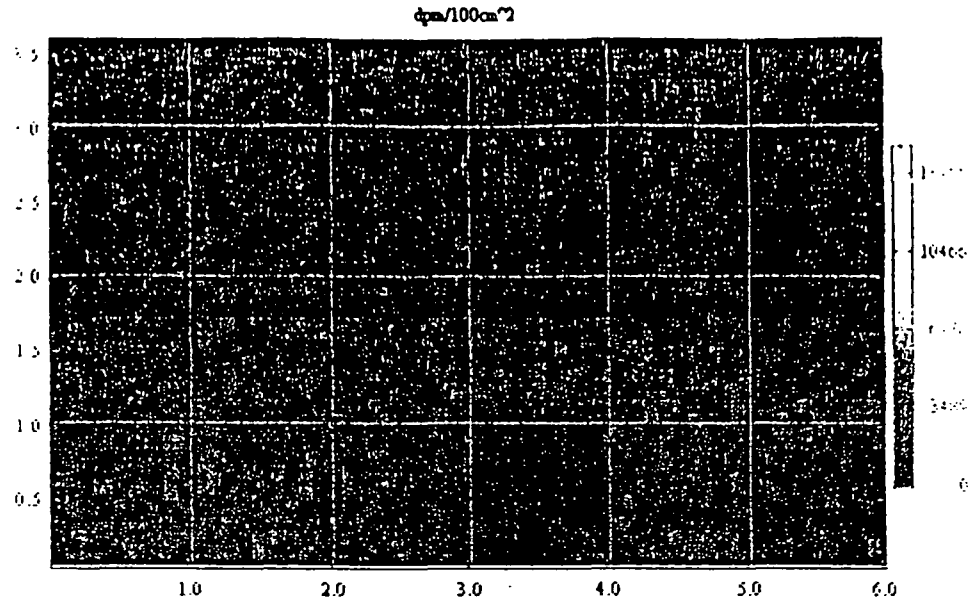


Figure 1: Meter Grid overlaid onto image plot of 100cm^2 areas. The color scale is in dpm per 100cm^2.

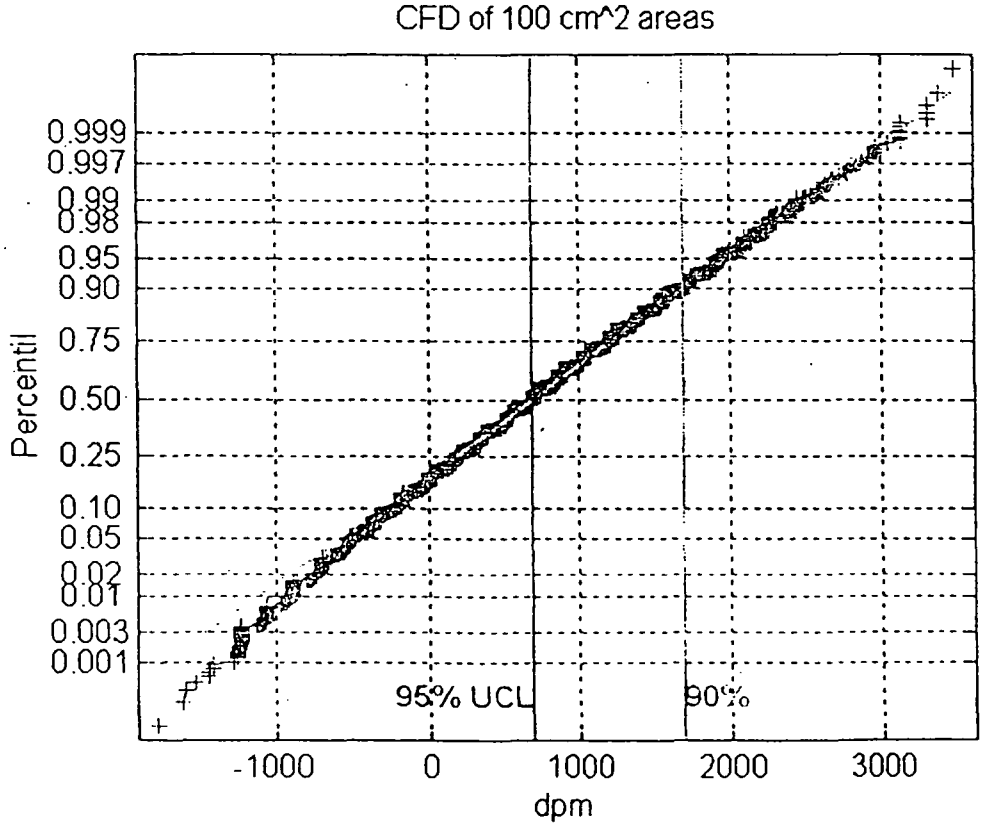


Figure 2: CFD of surface activity in 100cm^2 areas. The horizontal scale is in dpm per 100cm^2.

Meter Grid Summary Table

X	Y	Mean dpm/100cm^2	Max dpm/100cm^2	Min dpm/100cm^2	Std dpm/100cm^2	100cm^2 Areas
1	1	749	2,978	-796	680	100
1	2	588	2,614	-1,058	655	100
1	3	794	3,489	-709	681	100
1	4	659	2,292	-1,058	737	60
2	1	702	3,314	-944	762	100
2	2	761	3,139	-883	755	100
2	3	1,044	3,396	-184	742	100
2	4	974	2,925	-917	847	60
3	1	281	2,579	-1,130	642	100
3	2	606	2,868	-730	689	100
3	3	954	3,314	-533	668	100
3	4	862	3,139	-1,233	846	60
4	1	-7	1,646	-1,247	508	100
4	2	648	2,762	-1,599	782	100
4	3	1,060	3,314	-887	757	100
4	4	982	2,964	-1,233	866	60
5	1	669	2,907	-572	661	100
5	2	714	3,139	-1,084	756	100
5	3	703	2,964	-1,058	594	100
5	4	755	2,964	-709	755	60
6	1	502	2,441	-1,058	719	100
6	2	551	3,139	-1,233	769	98
6	3	784	2,565	-202	593	90
6	4	607	2,079	-883	757	54

The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm^2. Meters with no recorded data are not displayed.

Survey Report

Survey Location:	IT-15
Survey File Name:	FAT1513B
Survey Date:	September 2, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON/ROWE

Criteria

Any 100 cm^2 Measurement:	300 net dpm/100 cm^2
Average Over Any 1 m^2:	100 net dpm/100 cm^2
Investigation Level 100cm^2:	225 net dpm/100 cm^2
Investigation Level m^2:	75 net dpm/100 cm^2

System Information

Background:	Background not Subtracted
Efficiency (100 cm^2):	C-180: 28.2%
m^2 Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a

Survey Results

Maximum 100 cm^2:	**1,245 dpm/100 cm^2**
Maximum m^2 Average:	59 dpm/100 cm^2

Survey Location Code: B0000B0000FZ0001F01D101HE0012650FAT1513B

NOTE: Bold Text Denotes Values Exceeding Criteria.

Grit Chamber Trench Walls, Aleha Corner Mode

David Kelley

11-1-05

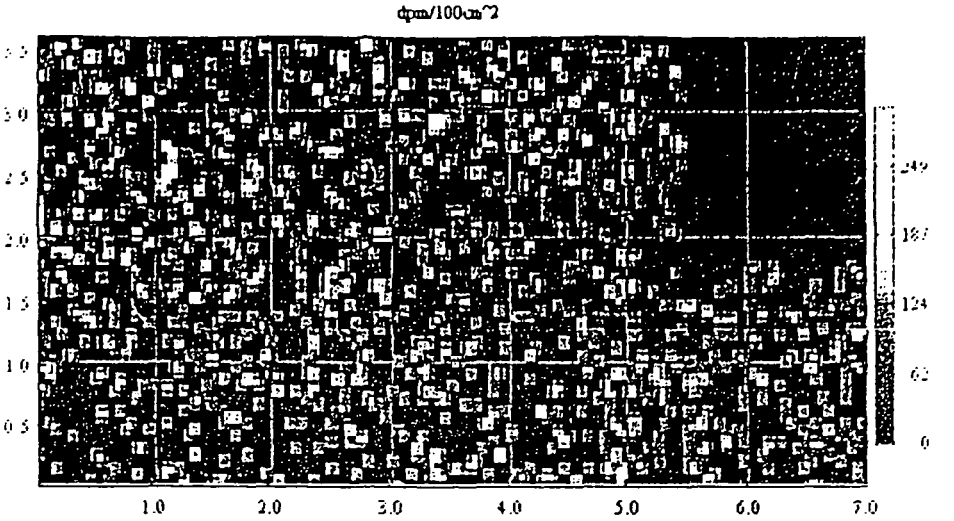


Figure 1: Meter Grid overlaid onto image plot of 100cm^2 areas. The color scale is in dpm per 100cm^2.

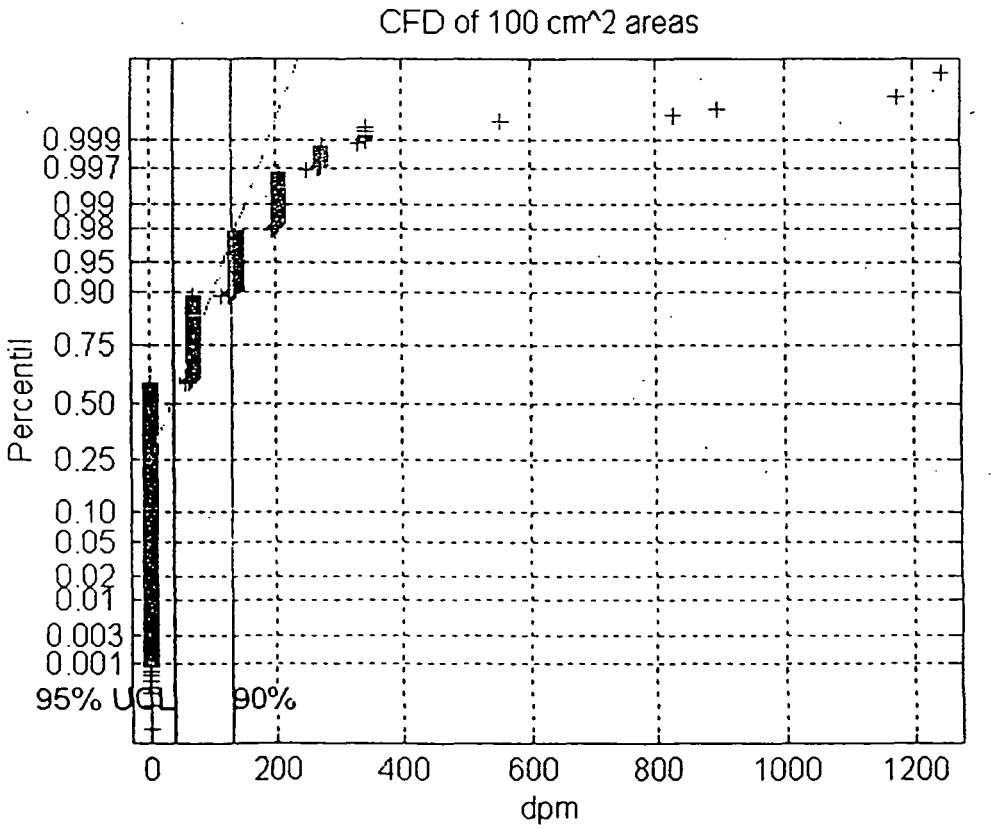


Figure 2: CFD of surface activity in 100cm^2 areas. The horizontal scale is in dpm per 100cm^2.

Meter Grid Summary Table

X	Y	Mean dpm/100cm²	Max dpm/100cm²	Min dpm/100cm²	Std dpm/100cm²	100cm² Areas
1	1	24	207	0	38	100
1	**2**	**45**	**277**	**0**	**54**	**100**
1	**3**	**47**	**270**	**0**	**60**	**100**
1	**4**	**36**	**277**	**0**	**46**	**60**
2	1	32	207	0	49	100
2	**2**	**43**	**254**	**0**	**52**	**100**
2	**3**	**59**	**1,245**	**0**	**127**	**100**
2	4	30	207	0	41	60
3	1	31	207	0	46	100
3	**2**	**37**	**346**	**0**	**50**	**100**
3	**3**	**42**	**346**	**0**	**60**	**100**
3	**4**	**33**	**277**	**0**	**51**	**60**
4	1	40	207	0	51	100
4	2	30	207	0	43	100
4	**3**	**35**	**346**	**0**	**49**	**100**
4	4	41	207	0	53	60
5	**1**	**41**	**277**	**0**	**61**	**100**
5	2	34	207	0	51	100
5	3	42	207	0	53	100
5	4	38	207	0	48	60
6	1	45	207	0	52	100
6	2	30	207	0	50	90
6	**3**	**44**	**277**	**0**	**57**	**50**
6	4	40	138	0	47	30
7	1	35	207	0	48	100
7	**2**	**41**	**275**	**0**	**53**	**80**
7	3	N/A	N/A	N/A	N/A	0
7	4	N/A	N/A	N/A	N/A	0

The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm². Meters with no recorded data are not displayed.

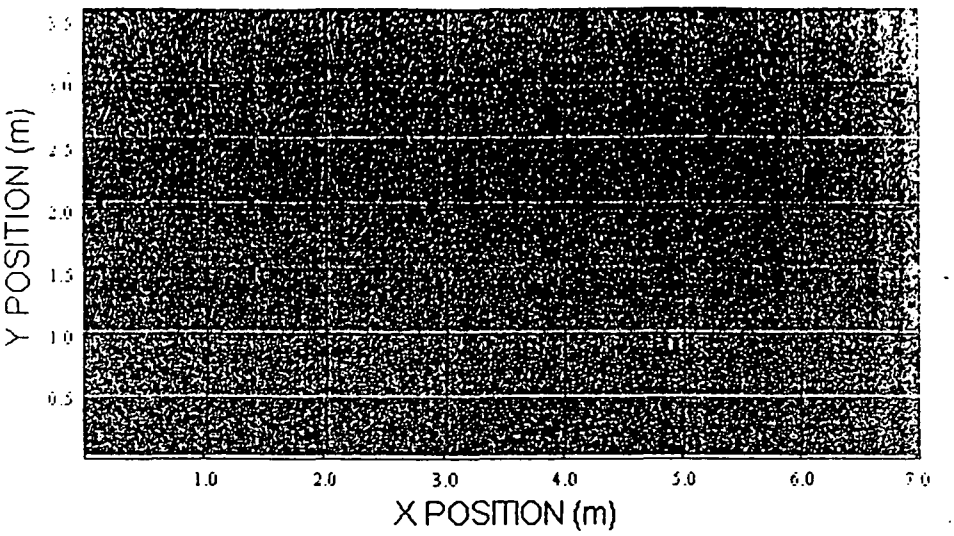


Figure 3: Yellow denotes meter grids that exceed criteria , while red corresponds to 100cm^2 areas exceeding criteria.

Investigation Table

Type	Value	Strip	Location From SW of Survey (X,Y)cm	Location From SW of Strip (X,Y)cm	Grid (X,Y)	Inv (Counts)	Count Time
Spot	1245	82	(115,250)	(0,65)	N/A		
Spot	346	89	(185,240)	(0,55)	N/A		
Spot	346	100	(295,200)	(0,15)	N/A		
Spot	346	104	(340,290)	(5,105)	N/A		
Spot	335	91	(210,210)	(5,25)	N/A		
Spot	277	78	(80,185)	(5,0)	N/A		
Spot	277	78	(80,320)	(5,135)	N/A		
Spot	277	99	(285,350)	(0,165)	N/A		
Spot	277	50	(495,10)	(0,5)	N/A		
Spot	277	50	(495,90)	(0,85)	N/A		
Spot	277	125	(545,275)	(0,90)	N/A		
Spot	276	43	(430,60)	(5,55)	N/A		
Spot	275	70	(695,125)	(0,120)	N/A		
Spot	273	84	(140,205)	(5,20)	N/A		
Spot	270	72	(15,205)	(0,20)	N/A		
Spot	254	14	(140,150)	(5,145)	N/A		

This table details the location of values that exceed criteria. In the case to 100 cm^2 (spot) alarms both the SCM strip number and the location relative to the south west corner of the survey. In the case of square meter (Average) alarms the meter grid coordinates are given.

05-TF-0144

19 of 19

11/02/05

Survey Report

Survey Location:	1T-15
Survey File Name:	FAT1514B
Survey Date:	September 2, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON/ROWE

Criteria	
Any 100 cm^2 Measurement:	15,000 net dpm/100 cm^2
Average Over Any 1 m^2:	5,000 net dpm/100 cm^2
Investigation Level 100cm^2:	11,250 net dpm/100 cm^2
Investigation Level m^2:	3,750 net dpm/100 cm^2

System Information	
Background:	C-180: 392 cpm
Efficiency (100 cm^2):	C-180: 22.3%
m^2 Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a

Survey Results	
Maximum 100 cm^2:	5,104 dpm/100 cm^2
Maximum m^2 Average:	1,134 dpm/100 cm^2
Survey Location Code:	B0000B0000FZ0001F01D001HE0012450FAT1514B

NOTE: Bold Text Denotes Values Exceeding Criteria.

Grit Chamber trench Walls, Beta Corner Mode

David Kelley

11-1-05

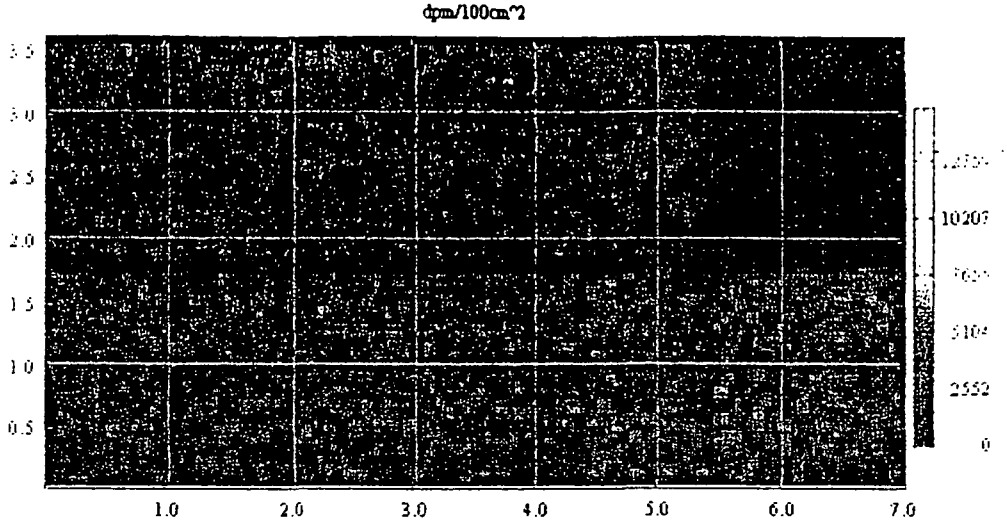


Figure 1: Meter Grid overlaid onto image plot of 100cm² areas. The color scale is in dpm per 100cm².

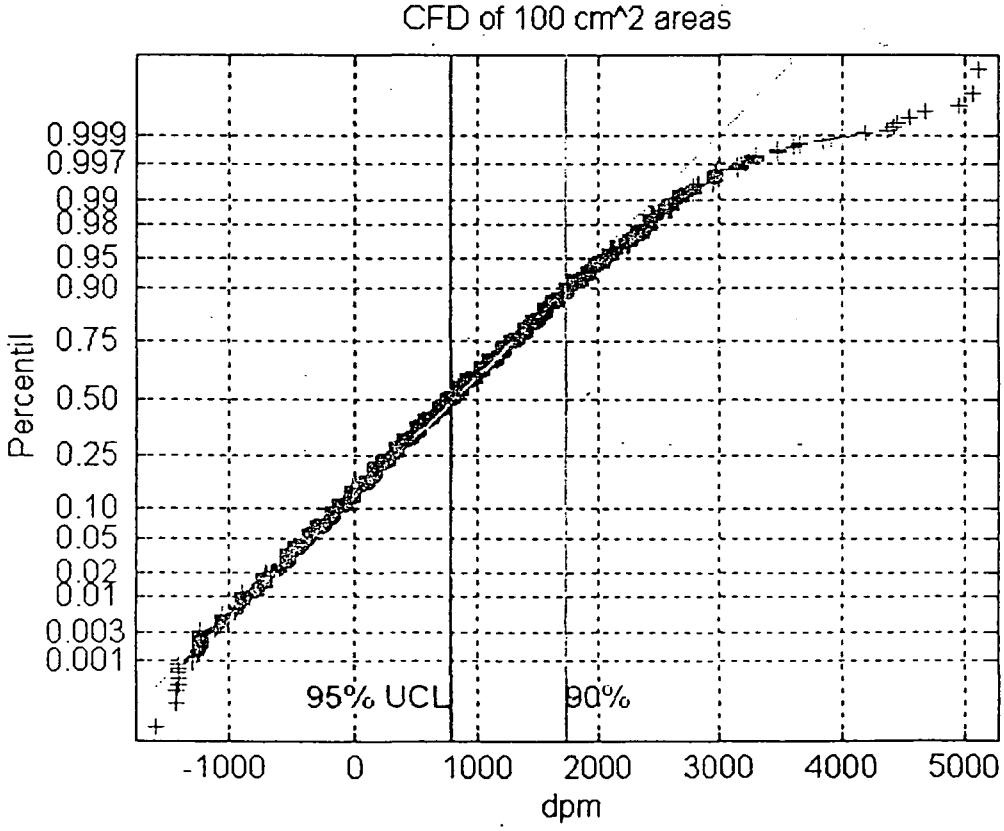


Figure 2: CFD of surface activity in 100cm² areas. The horizontal scale is in dpm per 100cm².

Meter Grid Summary Table

X	Y	Mean dpm/100cm²	Max dpm/100cm²	Min dpm/100cm²	Std dpm/100cm²	100cm² Areas
1	1	689	2,964	-1,233	740	100
1	2	687	3,139	-1,233	756	100
1	3	862	2,789	-393	751	100
1	4	742	3,139	-883	755	60
2	1	566	2,356	-741	614	100
2	2	611	2,439	-883	739	100
2	3	741	2,789	-883	655	100
2	4	716	2,439	-1,058	705	60
3	1	706	2,614	-534	722	100
3	2	674	2,982	-1,254	836	100
3	3	878	2,789	-709	600	100
3	4	915	5,063	-1,058	1,022	60
4	1	799	2,610	-1,058	686	100
4	2	707	2,614	-883	616	100
4	3	971	3,219	-161	613	100
4	4	832	3,250	-1,058	765	60
5	1	855	3,314	-554	762	100
5	2	806	4,188	-787	742	100
5	3	1,021	2,789	-542	768	100
5	4	823	2,437	-929	700	60
6	1	954	3,489	-1,233	893	100
6	2	652	2,964	-1,058	797	90
6	3	650	2,789	-756	740	50
6	4	630	2,265	-1,408	763	30
7	1	831	2,789	-534	698	100
7	2	1,134	5,104	-548	955	80
7	3	N/A	N/A	N/A	N/A	0
7	4	N/A	N/A	N/A	N/A	0

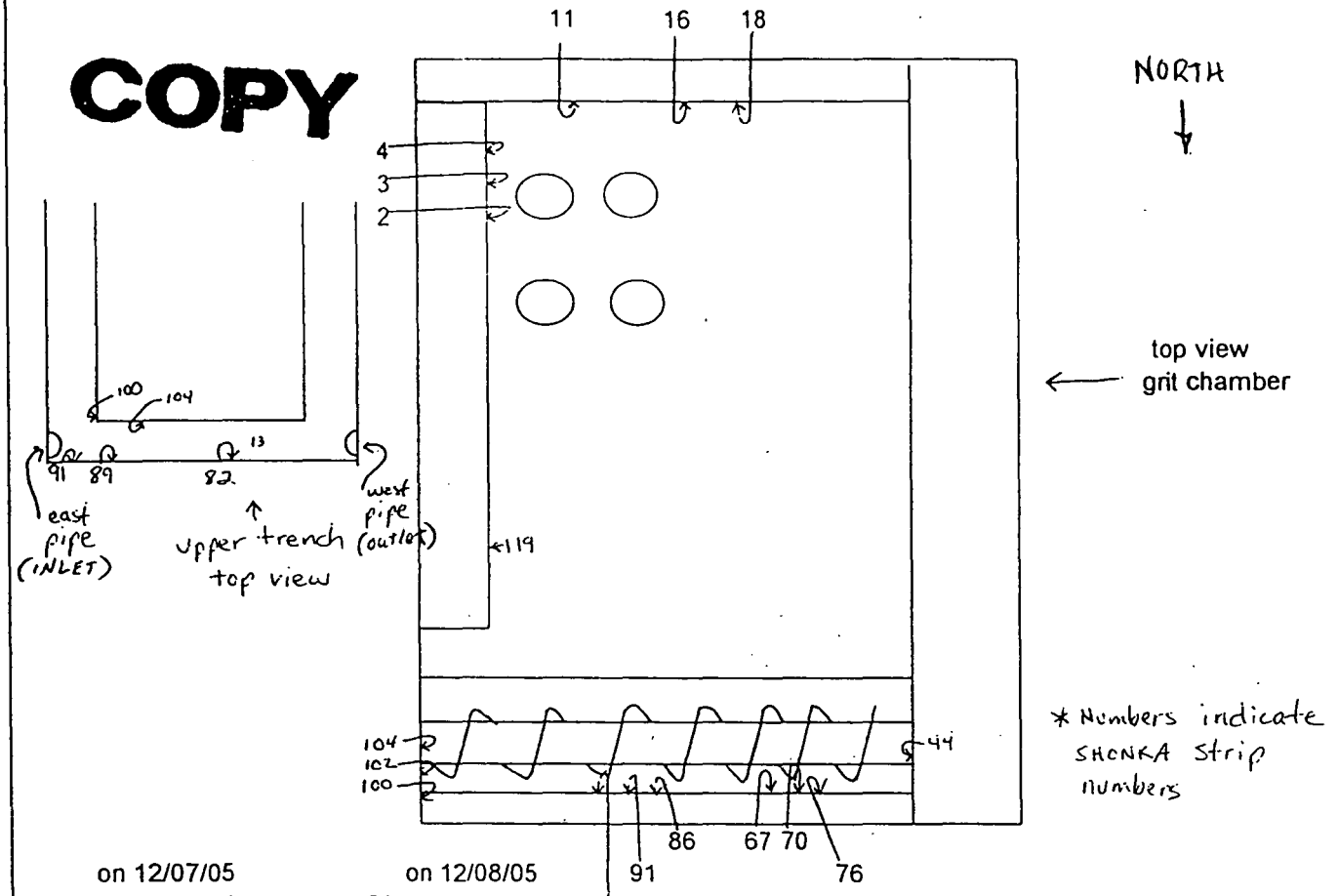
The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm². Meters with no recorded data are not displayed.

RADIOLOGICAL SURVEY DATA SHEET

Page _1___ of 6

LOCATION (BLDG./AREA/ROOM)	SURVEY NO
Grit Chamber	05-TF-0353
PURPOSE	**RWP NO**
	N/A
SHONKA verification readings	**DATE**
Ref: TR. 05-TF-0296	12/7/05
	12:00

MAP / DRAWING



on 12/07/05	on 12/08/05
Bk= 1 cpm alpha	Bk= 1 cpm alpha
198 cpm beta	173 cpm beta
DL= 1.4 cpm alpha	DL= 1.4 cpm alpha
30 cpm beta	30 cpm beta

LEGEND:

- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- — · — · — · · = radiological boundary

△ # - mrem/hr neutron

⬭ # - swipe number

□ # - air sample number

⬭ #/α or /β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal Due Date
Lud 2360	5751/5785	11/7/06
~~Lud 2360~~	~~5753/5826/5962/5963~~	~~1-13-06~~ 12/7/05
	NA	12/08/06

[redacted] HP# 7836 7244 Date 12/13/05

Completed by [redacted]

Counted by (Signature) N/A HP# Date

Counted by (Printed Name)

Reviewed by [redacted] HP# 7707 Date 12/21/05

Reviewed/Approved by [redacted]

Verification Survey of SU-2 (Lower Wall)

RSDS#: 05-TF-0353 RCT: MO RCT: GYMC

43-89 ALPHA BKG:	0.6	Factor	8	PROBE AREA:	100	cm2	Surface Eff:	1	ALPHA
43-89 BETA BKG:	198	Factor	4	PROBE AREA:	100	cm2	Surface Eff:	1	BETA

LOCATION	2360#	RCT ID	PROBE	RAD TYPE	ITEM	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
#92	5751	7244	5785	ALPHA	1	12/7/05	8:00	5	60	35
#91	5751	7244	5785	ALPHA	2	12/7/05	8:00	2	60	11
#76	5751	7244	5785	ALPHA	3	12/7/05	8:00	21	60	163 *
#102	5751	7244	5785	ALPHA	4	12/7/05	8:00	6	60	43
#44	5751	7244	5785	ALPHA	5	12/7/05	8:00	10	60	75
#119	5751	7244	5785	ALPHA	6	12/7/05	8:00	6	60	43
#67	5751	7244	5785	ALPHA	7	12/7/05	8:00	7	60	51
#70	5751	7244	5785	ALPHA	8	12/7/05	8:00	18	60	139 *
#86	5751	7244	5785	ALPHA	9	12/7/05	8:00	14	60	107 *
#102	5751	7244	5785	ALPHA	10	12/7/05	8:00	7	60	51
#92	5751	7244	5785	BETA	1	12/7/05	8:00	225	60	108
#91	5751	7244	5785	BETA	2	12/7/05	8:00	253	60	220
#76	5751	7244	5785	BETA	3	12/7/05	8:00	230	60	128
#102	5751	7244	5785	BETA	4	12/7/05	8:00	205	60	28
#44	5751	7244	5785	BETA	5	12/7/05	8:00	218	60	80
#119	5751	7244	5785	BETA	6	12/7/05	8:00	198	60	0
#67	5751	7244	5785	BETA	7	12/7/05	8:00	184	60	0
#70	5751	7244	5785	BETA	8	12/7/05	8:00	266	60	272
#86	5751	7244	5785	BETA	9	12/7/05	8:00	190	60	0
#102	5751	7244	5785	BETA	10	12/7/05	8:00	200	60	8

* See page 5 for average dpm/100 cm²

Verification Survey of SU-2 (Top Ledge & Trench)

RSDS#: 05-TF-0353 RCT: 1170 RCT: [illegible]

43-89 ALPHA BKG:	1	Factor	8	PROBE AREA:	100	cm2	Surface Eff:	1	ALPHA
43-89 BETA BKG:	173	Factor	4	PROBE AREA:	100	cm2	Surface Eff:	1	BETA

LOCATION	2360#	RCT ID	PROBE	RAD TYPE	ITEM	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
#11	5753	7244	5806	ALPHA	11	12/8/05	12:00	5	60	32
#11	5753	7244	5806	ALPHA	12	12/8/05	12:00	5	60	32
#2	5753	7244	5806	ALPHA	13	12/8/05	12:00	1	60	0
#2	5753	7244	5806	ALPHA	14	12/8/05	12:00	7	60	48
#3	5753	7244	5806	ALPHA	15	12/8/05	12:00	2	60	8
#18	5753	7244	5806	ALPHA	16	12/8/05	12:00	2	60	8
#4	5753	7244	5806	ALPHA	17	12/8/05	12:00	7	60	48
#16	5753	7244	5806	ALPHA	18	12/8/05	12:00	2	60	8
#13	5753	7244	5806	ALPHA	19	12/8/05	12:00	6	60	40
#82	5753	7244	5806	ALPHA	20	12/8/05	12:00	143	60	1136 *
#89	5753	7244	5806	ALPHA	21	12/8/05	12:00	7	60	48
#100	5753	7244	5806	ALPHA	22	12/8/05	12:00	12	60	88
#104	5753	7244	5806	ALPHA	23	12/8/05	12:00	6	60	40
#91	5753	7244	5806	ALPHA	24	12/8/05	12:00	3	60	16
East Pipe	5753	7244	5806	ALPHA	25	12/8/05	12:00	0	60	0
West Pipe	5753	7244	5806	ALPHA	26	12/8/05	12:00	1	60	0
#11	5753	7244	5806	BETA	11	12/8/05	12:00	242	60	276
#11	5753	7244	5806	BETA	12	12/8/05	12:00	237	60	256
#2	5753	7244	5806	BETA	13	12/8/05	12:00	257	60	336
#2	5753	7244	5806	BETA	14	12/8/05	12:00	263	60	360
#3	5753	7244	5806	BETA	15	12/8/05	12:00	212	60	156
#18	5753	7244	5806	BETA	16	12/8/05	12:00	226	60	212
#4	5753	7244	5806	BETA	17	12/8/05	12:00	219	60	184
#16	5753	7244	5806	BETA	18	12/8/05	12:00	212	60	156
#13	5753	7244	5806	BETA	19	12/8/05	12:00	295	60	488
#82	5753	7244	5806	BETA	20	12/8/05	12:00	258	60	340

* Concrete wall removed ~ sent to rail spur.

RSDS#: 05-TF-0353

LOCATION	2360#	RCT ID	PROBE	RAD TYPE	ITEM	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
#89	5753	7244	5806	BETA	21	12/8/05	12:00	274	60	404
#100	5753	7244	5806	BETA	22	12/8/05	12:00	225	60	208
#104	5753	7244	5806	BETA	23	12/8/05	12:00	188	60	60
#91	5753	7244	5806	BETA	24	12/8/05	12:00	239	60	264
East Pipe	5753	7244	5806	BETA	25	12/8/05	12:00	565	60	1568
West Pipe	5753	7244	5806	BETA	26	12/8/05	12:00	445	60	1088

Source Matter Averages

Verification Survey of Grit Chamber Tent SU-2

RSDS#: 05-TF-0353 RCT: MC RCT: CYRC

43-89 ALPHA BKG:	0.6	Factor	8	PROBE AREA:	100	cm2	Surface Eff:	1	ALPHA
43-89 BETA BKG:	198	Factor	4	PROBE AREA:	100	cm2	Surface Eff:	1	BETA

LOCATION	2360#	RCT ID	PROBE	RAD TYPE	ITEM	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
#76-A	5751	7244	5785	ALPHA	1	12/7/05	12:30	3	60	19
#76-B	5751	7244	5785	ALPHA	2	12/7/05	12:30	9	60	67
#76-C	5751	7244	5785	ALPHA	3	12/7/05	12:30	9	60	67
#76-D	5751	7244	5785	ALPHA	4	12/7/05	12:30	5	60	35
#76-E	5751	7244	5785	ALPHA	5	12/7/05	12:30	10	60	75
#76-F	5751	7244	5785	ALPHA	6	12/7/05	12:30	5	60	35
#76-G	5751	7244	5785	ALPHA	7	12/7/05	12:30	3	60	19
#76-H	5751	7244	5785	ALPHA	8	12/7/05	12:30	4	60	27
#70-A	5751	7244	5785	ALPHA	9	12/7/05	12:30	6	60	43
#70-B	5751	7244	5785	ALPHA	10	12/7/05	12:30	8	60	59
#70-C	5751	7244	5785	ALPHA	11	12/7/05	12:30	7	60	51
#70-D	5751	7244	5785	ALPHA	12	12/7/05	12:30	7	60	51
#70-E	5751	7244	5785	ALPHA	13	12/7/05	12:30	8	60	59
#70-F	5751	7244	5785	ALPHA	14	12/7/05	12:30	9	60	67
#70-G	5751	7244	5785	ALPHA	15	12/7/05	12:30	7	60	51
#70-H	5751	7244	5785	ALPHA	16	12/7/05	12:30	3	60	19
#86-A	5751	7244	5785	ALPHA	17	12/7/05	12:30	3	60	19
#86-B	5751	7244	5785	ALPHA	18	12/7/05	12:30	9	60	67
#86-C	5751	7244	5785	ALPHA	19	12/7/05	12:30	8	60	59
#86-D	5751	7244	5785	ALPHA	20	12/7/05	12:30	8	60	59
#86-E	5751	7244	5785	ALPHA	21	12/7/05	12:30	10	60	75
#86-F	5751	7244	5785	ALPHA	22	12/7/05	12:30	11	60	83
#86-G	5751	7244	5785	ALPHA	23	12/7/05	12:30	5	60	35
#86-H	5751	7244	5785	ALPHA	24	12/7/05	12:30	11	60	83
#76-A	5751	7244	5785	BETA	1	12/7/05	12:30	242	60	176
#76-B	5751	7244	5785	BETA	2	12/7/05	12:30	217	60	76
#76-C	5751	7244	5785	BETA	3	12/7/05	12:30	226	60	112
#76-D	5751	7244	5785	BETA	4	12/7/05	12:30	242	60	176
#76-E	5751	7244	5785	BETA	5	12/7/05	12:30	224	60	104
#76-F	5751	7244	5785	BETA	6	12/7/05	12:30	231	60	132

Averages include initial counts

#76 ⇒ 21.1 dpm/100 cm² ∝

#70 ⇒ 59.9 dpm/100 cm² ∝

F72 of 161

RSDS#: 05-TF-0353

LOCATION	2360#	RCT ID	PROBE	RAD TYPE	ITEM	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
#76-G	5751	7244	5785	BETA	7	12/7/05	12:30	226	60	112
#76-H	5751	7244	5785	BETA	8	12/7/05	12:30	262	60	256
#70-A	5751	7244	5785	BETA	9	12/7/05	12:30	210	60	48
#70-B	5751	7244	5785	BETA	10	12/7/05	12:30	238	60	160
#70-C	5751	7244	5785	BETA	11	12/7/05	12:30	212	60	56
#70-D	5751	7244	5785	BETA	12	12/7/05	12:30	208	60	40
#70-E	5751	7244	5785	BETA	13	12/7/05	12:30	207	60	36
#70-F	5751	7244	5785	BETA	14	12/7/05	12:30	230	60	128
#70-G	5751	7244	5785	BETA	15	12/7/05	12:30	217	60	76
#70-H	5751	7244	5785	BETA	16	12/7/05	12:30	232	60	136
#86-A	5751	7244	5785	BETA	17	12/7/05	12:30	215	60	68
#86-B	5751	7244	5785	BETA	18	12/7/05	12:30	206	60	32
#86-C	5751	7244	5785	BETA	19	12/7/05	12:30	198	60	0
#86-D	5751	7244	5785	BETA	20	12/7/05	12:30	215	60	68
#86-E	5751	7244	5785	BETA	21	12/7/05	12:30	225	60	108
#86-F	5751	7244	5785	BETA	22	12/7/05	12:30	236	60	152
#86-G	5751	7244	5785	BETA	23	12/7/05	12:30	224	60	104
#86-H	5751	7244	5785	BETA	24	12/7/05	12:30	221	60	92

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) Water Treatment	SURVEY NO. 05-TF-0291
PURPOSE: Shunka survey of SUB Clarified and Clarifier Rim	RWP NO. 2/A
	DATE: ~~5/15/05 9/7/05~~ 8/14/05
	TIME: 2100

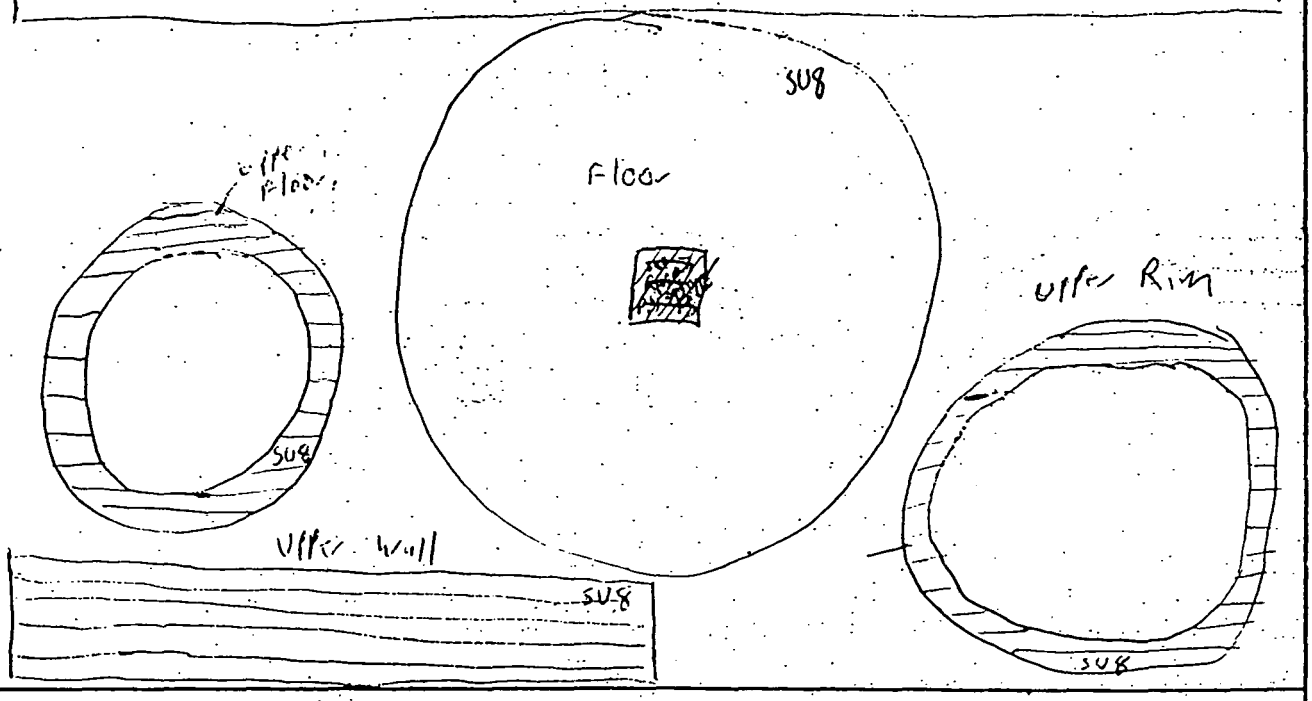
MAP / DRAWING

□ = scm 3 static strips 100%

▨ = ~~Floor~~ NOT surveyed by scm 3 readings See attached for strips with elevated

▤ = 50% survey by scm 3

Lower walls



LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

— · — · — = radiological boundary

F-ATC1

REFER TO Followup Surveys: 05-TF-0299
05-TF-0300
05-TF-0316

△ # = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
SCM 3	53/4/20	6/1/06
2350	5923/5925	5/17/06
	A	
	N	

[redacted] HP# 3145 Date: 8/14/05

Counted by: (Signature) See Attached HP# Date:

Counted by: (Print Name)

Reviewed/Approved [redacted] HP# 4707 Date: 10-13-05

Reviewed/Approved by: (Print Name) [redacted]

Survey No: 05-TF-0291

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination — Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	See Attached Sheets			SU8-ST 57
2				SU8-ST 49
3				SU8-ST 50
4				SU8-ST 42
5				SU8-ST 41
6				SU8-ST 33
7				SU8-ST 34
8				SU8-ST 25
9				SU8-ST 26
10				SU8-ST 17
11				SU8-ST 18
12				SU8-ST 9
13				SU8-ST 10
14				SU8-ST 1
15				SU8-ST 2
16				SU8-ST 111
17				SU8-ST 112
18				SU8-ST 103
19				SU8-ST 104
20				SU8-ST 95
21				SU8-ST 96 (or 141-5)
22				SU8-~~ST 93~~ ST 93
23				SU8-ST 94
24				SU8-ST 89
25			+	SU8-ST 90
26				SU8-ST 81
27				SU8-ST 82
28				SU8-ST 73
29				SU8-ST 74
30				SU8-ST 65
31	√	√	√	SU8-ST 66
				A
				N

Removable Contamination — Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
	See Attached Sheets			
		N		A

COMMENTS:

NOTES:

1. See MD-80036 10003 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha, or tritium, leave column blank. Mark column N/A if not needed. If count room results are attached, write " see attached " in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR006
Batch Ended: 10/12/05 8:41

Crosstalk correction performed.

Recalibration Date: 11/03/05
Serial Number: 26966-1

Batch ID: 05-TF-0291 [31] ROWE 10-12-05 RLH

Detector ID	Sample ID	Alpha Activity DPM	σ	flags	Beta Activity DPM	σ	flags
A1	1	1.92	2.16		0.00	1.33	
A2	2	1.74	2.21		0.37	1.81	
A3	3	0.00	2.16		0.00	1.27	
A4	4	0.00	2.05		1.15	2.16	
B1	5	0.00	2.01		3.20	2.77	
B2	6	0.00	2.11		2.28	2.66	
B3	7	1.51	1.95		0.00	2.17	
B4	8	0.00	1.87		0.00	1.21	
C1	9	0.00	2.39		1.84	3.04	
C2	10	0.00	2.18		0.00	2.37	
C3	11	0.00	2.11		0.22	2.31	
C4	12	0.00	2.05		0.00	1.35	
D1	13	0.00	2.21		0.30	2.52	
D2	14	0.00	2.20		0.01	1.80	
D3	15	0.00	1.96		2.78	2.86	
D4	16	0.29	2.17		1.87	2.75	
A1	17	0.00	2.16		0.00	1.34	
A2	18	0.00	2.20		0.00	1.30	
A3	19	0.00	2.22		2.92	2.47	
A4	20	0.00	2.07		2.38	2.49	
B1	21	1.69	1.93		0.00	1.64	
B2	22	0.00	2.07		0.00	2.08	
B3	23	0.00	1.95		0.10	2.17	
B4	24	0.00	1.94		3.82	2.80	
C1	25	0.00	2.42		4.50	3.58	
C2	26	0.00	2.23		3.64	3.31	
C3	27	0.00	2.11		0.22	2.31	
C4	28	1.51	2.10		2.33	2.86	
D1	29	0.00	2.21		0.30	2.52	
D2	30	4.14	3.06		0.00	1.80	
D3	31	0.00	1.97		4.19	3.19	

MO

MO

10/12/05

RLH

12 Oct 2005 08:55 ALPHA/BETA - 1.09 Page #1
Protocol #: 2 PW H3 #403727 User : 5662

Time: 2.00
Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	7.39
Region B:	2.0 -	18.6	0	0.0	7.15
Region C:	40.0 -	2000	0	0.0	10.72

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
05-TF-0291 [31] ROWE 10-12-05 RLH
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT2.DAT
Count Data Filename: C:\DATA\SDATA2.DAT

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2SIGMA	CPMC
-1	10.00	7.39	7.15	3	B	666.55		0.00	10.72
0	2.00	324.55	312.59	0		585.84	691.72	74.79	0.00
1	2.00	0.00	0.00	0		568.16	0.00	0.00	0.00
2	2.00	6.11	5.89	0		575.81	13.14	11.81	0.78
3	2.00	5.11	5.08	0		596.39	10.79	11.19	0.00
4	2.00	0.00	0.00	0		636.98	0.00	0.00	1.28
5	2.00	0.61	0.85	0		605.61	1.28	9.12	1.28
6	2.00	0.00	0.00	0		604.98	0.00	0.00	3.62
7	2.00	0.00	0.00	0		633.90	0.00	0.00	0.00
8	2.00	0.00	0.00	0		627.50	0.00	0.00	0.00
9	2.00	2.61	2.00	0		639.10	5.31	9.76	0.00
10	2.00	0.00	0.00	0		605.91	0.00	0.00	0.78
11	2.00	0.00	0.00	0		630.23	0.00	0.00	0.00
12	2.00	0.00	0.00	0		641.99	0.00	0.00	0.00
13	2.00	0.00	0.00	0		638.27	0.00	0.00	0.28
14	2.00	0.00	0.00	0		644.74	0.00	0.00	0.00
15	2.00	0.00	0.00	0		633.03	0.00	0.00	0.00
16	2.00	0.00	0.00	0		621.86	0.00	0.00	0.00
17	2.00	0.00	0.00	0		612.64	0.00	0.00	0.00
18	2.00	0.00	0.00	0		647.85	0.00	0.00	0.00
19	2.00	0.00	0.00	0		630.23	0.00	0.00	2.70
20	2.00	0.00	0.00	0		654.29	0.00	0.00	0.00
21	2.00	0.00	0.00	0		639.56	0.00	0.00	0.00
22	2.00	0.00	0.00	0		610.63	0.00	0.00	1.28
23	2.00	0.00	0.00	0		633.27	0.00	0.00	0.00
24	2.00	0.00	0.00	0		636.95	0.00	0.00	0.00
25	2.00	0.00	0.00	0		638.06	0.00	0.00	0.00
26	2.00	0.00	0.00	0		641.15	0.00	0.00	0.00
27	2.00	1.11	1.35	0		640.35	2.26	9.08	0.00
28	2.00	0.00	0.00	0		617.75	0.00	0.00	0.00
29	2.00	0.61	0.48	0		650.74	1.23	8.78	0.00
30	2.00	0.00	0.00	0		612.20	0.00	0.00	0.00
31	2.00	0.00	0.00	0		635.56	0.00	0.00	0.78

MD

Water Treatment SU8 Shanka Elevated readings Verifications

RSDS# 05-TF-091 RCT: 3145 RCT: N/A

Alpha	43-68 BKG:	0	EFF:	0.2073	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 1
Beta	43-68 BKG:	0	EFF:	0.2046	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	Item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	SU8ST74	5923	3145	5925	1	43	9/3/05	2:26	29	120	111
ALPHA	SU8ST65	5923	3145	5925	1	44	9/3/05	2:30	46	120	176
ALPHA	SU8ST66	5923	3145	5925	1	45	9/3/05	2:34	42	120	161
BETA	SU8ST57	5923	3145	5925	2	1	9/2/05	21:32	1506	60	11684
BETA	SU8ST57A	5923	3145	5925	2	2	9/2/05	21:36	852	60	6610
BETA	SU8ST57B	5923	3145	5925	2	3	9/2/05	21:40	1130	60	8767
BETA	SU8ST57C	5923	3145	5925	2	4	9/2/05	21:44	1885	60	14624
BETA	SU8ST57D	5923	3145	5925	2	5	9/2/05	21:49	2253	60	17479
BETA	SU8ST57E	5923	3145	5925	2	6	9/2/05	21:52	764	60	5927
BETA	SU8ST57F	5923	3145	5925	2	7	9/2/05	21:56	307	60	2382
BETA	SU8ST57G	5923	3145	5925	2	8	9/2/05	22:00	1177	60	9131
BETA	SU8ST57H	5923	3145	5925	2	9	9/2/05	22:04	3008	60	23336
BETA	SU8ST57I	5923	3145	5925	2	10	9/2/05	22:08	744	60	5772
BETA	SU8ST57J	5923	3145	5925	2	11	9/2/05	22:12	412	60	3196
BETA	SU8ST57K	5923	3145	5925	2	12	9/2/05	22:16	578	60	4484
BETA	SU8ST57L	5923	3145	5925	2	13	9/2/05	22:20	491	60	3809
BETA	SU8ST57M	5923	3145	5925	2	14	9/2/05	22:26	2031	60	15757
BETA	SU8ST57N	5923	3145	5925	2	15	9/2/05	22:30	1200	60	9310
BETA	SU8ST49	5923	3145	5925	2	16	9/2/05	22:34	1490	60	11560
BETA	SU8ST50	5923	3145	5925	2	17	9/2/05	22:38	1084	60	8410
BETA	SU8ST42	5923	3145	5925	2	18	9/2/05	22:42	774	60	6005
BETA	SU8ST41	5923	3145	5925	2	19	9/2/05	22:46	1695	60	13150
BETA	SU8ST33	5923	3145	5925	2	20	9/2/05	22:51	1670	60	12956
BETA	SU8ST34	5923	3145	5925	2	21	9/2/05	22:55	2067	60	16036
BETA	SU8ST25	5923	3145	5925	2	22	9/2/05	22:59	710	60	5508
BETA	SU8ST26	5923	3145	5925	2	23	9/2/05	23:02	657	60	5097
BETA	SU8ST17	5923	3145	5925	2	24	9/2/05	23:07	510	60	3957
BETA	SU8ST18	5923	3145	5925	2	25	9/2/05	23:11	302	60	2343
BETA	SU8ST9	5923	3145	5925	2	26	9/2/05	23:15	210	60	1629
BETA	SU8ST10	5923	3145	5925	2	27	9/2/05	23:19	162	60	1257
BETA	SU8ST1	5923	3145	5925	2	28	9/2/05	23:23	177	60	1373
BETA	SU8ST2	5923	3145	5925	2	29	9/2/05	23:28	138	60	1071
BETA	SU8ST111	5923	3145	5925	2	30	9/2/05	23:33	198	60	1536
BETA	SU8ST112	5923	3145	5925	2	31	9/2/05	23:37	177	60	1373
BETA	SU8ST103	5923	3145	5925	2	32	9/2/05	23:41	167	60	1296
BETA	SU8ST104	5923	3145	5925	2	33	9/2/05	23:45	179	60	1389
BETA	SU8ST95	5923	3145	5925	2	34	9/2/05	23:57	183	60	1420
BETA	SU8ST96	5923	3145	5925	2	35	9/3/05	0:02	167	60	1296
BETA	SU8ST93	5923	3145	5925	2	36	9/3/05	0:07	213	60	1652
BETA	SU8ST94	5923	3145	5925	2	37	9/3/05	0:12	194	60	1505
BETA	SU8ST89	5923	3145	5925	2	38	9/3/05	0:16	202	60	1567
BETA	SU8ST90	5923	3145	5925	2	39	9/3/05	0:20	220	60	1707

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Water Treatment SU8 Shanka Elevated readings Verifications

RSDS# 05-TF-0291 RCT: 3145 RCT: N/A

Alpha	43-68 BKG:	0	EFF:	0.2073	PROBE AREA:	126	cm^2	Surface Eff:	0.5	Detector # :	1
Beta	43-68 BKG:	0	EFF:	0.2046	PROBE AREA:	126	cm^2	Surface Eff:	0.5	Detector # :	2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:	0.5	Detector # :	3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:	0.5	Detector # :	4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	Item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
BETA	SU8ST81	5923	3145	5925	2	40	9/3/05	0:24	214	60	1660
BETA	SU8ST82	5923	3145	5925	2	41	9/3/05	2:19	347	60	2692
BETA	SU8ST73	5923	3145	5925	2	42	9/3/05	2:23	315	60	2444
BETA	SU8ST74	5923	3145	5925	2	43	9/3/05	2:27	281	60	2180
BETA	SU8ST65	5923	3145	5925	2	44	9/3/05	2:31	316	60	2452
BETA	SU8ST66	5923	3145	5925	2	45	9/3/05	2:35	306	60	2374

Water Treatment SU8 Shanka Elevated readings Verifications

RSDS# 05-TF-0291 RCT: 3145 RCT: N/A

Alpha	43-68 BKG:	0	EFF:	0.2073	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 1
Beta	43-68 BKG:	0	EFF:	0.2046	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	Item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	SU8ST57	5923	3145	5925	1	1	9/2/05	21:31	60	120	230
ALPHA	SU8ST57A	5923	3145	5925	1	2	9/2/05	21:35	47	120	180
ALPHA	SU8ST57B	5923	3145	5925	1	3	9/2/05	21:39	70	120	268
ALPHA	SU8ST57C	5923	3145	5925	1	4	9/2/05	21:43	82	120	314
ALPHA	SU8ST57D	5923	3145	5925	1	5	9/2/05	21:47	70	120	268
ALPHA	SU8ST57E	5923	3145	5925	1	6	9/2/05	21:51	61	120	234
ALPHA	SU8ST57F	5923	3145	5925	1	7	9/2/05	21:55	16	120	61
ALPHA	SU8ST57G	5923	3145	5925	1	8	9/2/05	21:59	10	120	38
ALPHA	SU8ST57H	5923	3145	5925	1	9	9/2/05	22:03	22	120	84
ALPHA	SU8ST57I	5923	3145	5925	1	10	9/2/05	22:07	54	120	207
ALPHA	SU8ST57J	5923	3145	5925	1	11	9/2/05	22:11	66	120	253
ALPHA	SU8ST57K	5923	3145	5925	1	12	9/2/05	22:15	82	120	314
ALPHA	SU8ST57L	5923	3145	5925	1	13	9/2/05	22:18	51	120	195
ALPHA	SU8ST57M	5923	3145	5925	1	14	9/2/05	22:25	46	120	176
ALPHA	SU8ST57N	5923	3145	5925	1	15	9/2/05	22:29	41	120	157
ALPHA	SU8ST49	5923	3145	5925	1	16	9/2/05	22:33	39	120	149
ALPHA	SU8ST50	5923	3145	5925	1	17	9/2/05	22:37	58	120	222
ALPHA	SU8ST42	5923	3145	5925	1	18	9/2/05	22:41	44	120	168
ALPHA	SU8ST41	5923	3145	5925	1	19	9/2/05	22:45	39	120	149
ALPHA	SU8ST33	5923	3145	5925	1	20	9/2/05	22:49	41	120	157
ALPHA	SU8ST34	5923	3145	5925	1	21	9/2/05	22:54	48	120	184
ALPHA	SU8ST25	5923	3145	5925	1	22	9/2/05	22:57	35	120	134
ALPHA	SU8ST26	5923	3145	5925	1	23	9/2/05	23:01	31	120	119
ALPHA	SU8ST17	5923	3145	5925	1	24	9/2/05	23:06	39	120	149
ALPHA	SU8ST18	5923	3145	5925	1	25	9/2/05	23:10	48	120	184
ALPHA	SU8ST9	5923	3145	5925	1	26	9/2/05	23:14	54	120	207
ALPHA	SU8ST10	5923	3145	5925	1	27	9/2/05	23:18	48	120	184
ALPHA	SU8ST1	5923	3145	5925	1	28	9/2/05	23:22	59	120	226
ALPHA	SU8ST2	5923	3145	5925	1	29	9/2/05	23:27	50	120	191
ALPHA	SU8ST111	5923	3145	5925	1	30	9/2/05	23:32	73	120	279
ALPHA	SU8ST112	5923	3145	5925	1	31	9/2/05	23:36	84	120	322
ALPHA	SU8ST103	5923	3145	5925	1	32	9/2/05	23:40	51	120	195
ALPHA	SU8ST104	5923	3145	5925	1	33	9/2/05	23:44	62	120	237
ALPHA	SU8ST95	5923	3145	5925	1	34	9/2/05	23:56	63	120	241
ALPHA	SU8ST96	5923	3145	5925	1	35	9/3/05	0:01	47	120	180
ALPHA	SU8ST93	5923	3145	5925	1	36	9/3/05	0:06	48	120	184
ALPHA	SU8ST94	5923	3145	5925	1	37	9/3/05	0:11	46	120	176
ALPHA	SU8ST89	5923	3145	5925	1	38	9/3/05	0:14	29	120	111
ALPHA	SU8ST90	5923	3145	5925	1	39	9/3/05	0:18	35	120	134
ALPHA	SU8ST81	5923	3145	5925	1	40	9/3/05	0:23	40	120	153
ALPHA	SU8ST82	5923	3145	5925	1	41	9/3/05	2:18	35	120	134
ALPHA	SU8ST73	5923	3145	5925	1	42	9/3/05	2:22	32	120	123

Survey Report

Survey Location:	1T-01
Survey File Name:	FAT0103A
Survey Date:	August 17, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON

Criteria	
Any 100 cm^2 Measurement:	300 net dpm/100 cm^2
Average Over Any 1 m^2:	100 net dpm/100 cm^2
Investigation Level 100cm^2:	225 net dpm/100 cm^2
Investigation Level m^2:	75 net dpm/100 cm^2
System Information	
Background:	Background not Subtracted
Efficiency (100 cm^2):	C-180: 28.2%
m^2 Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a
Survey Results	
Maximum 100 cm^2:	**692 dpm/100 cm^2**
Maximum m^2 Average:	48 dpm/100 cm^2
Survey Location Code:	B0000B0000FZ0001F01C101HE0012650FAT0103A

NOTE: Bold Text Denotes Values Exceeding Criteria.

New clarifier floor ∝

Cal Due Date 06-01-06

David Kelley

11-1-05

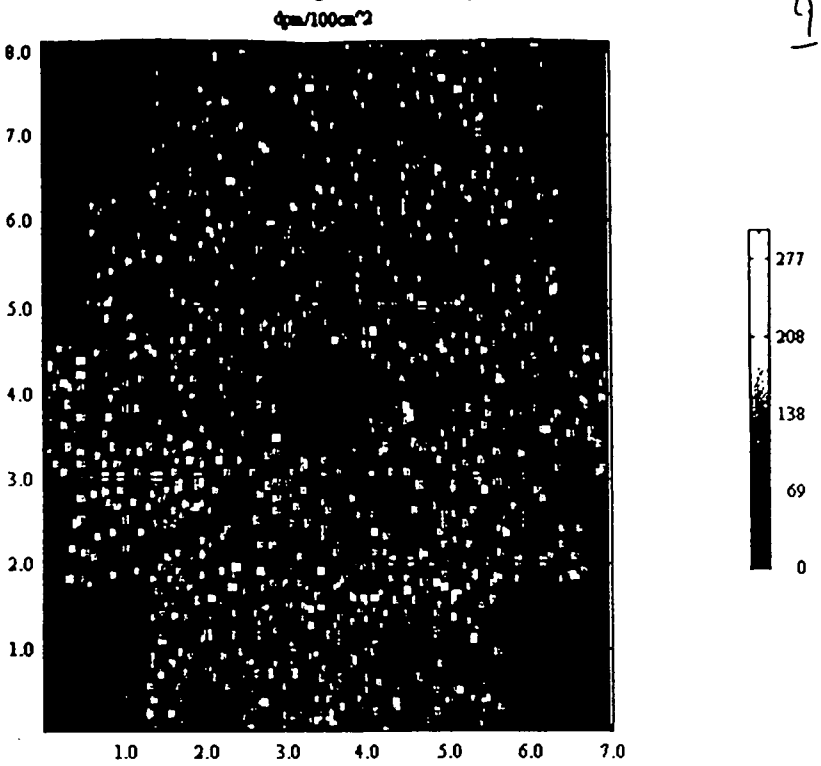

Figure 1: Meter Grid overlaid onto image plot of 100cm² areas. The color scale is in dpm per 100cm².

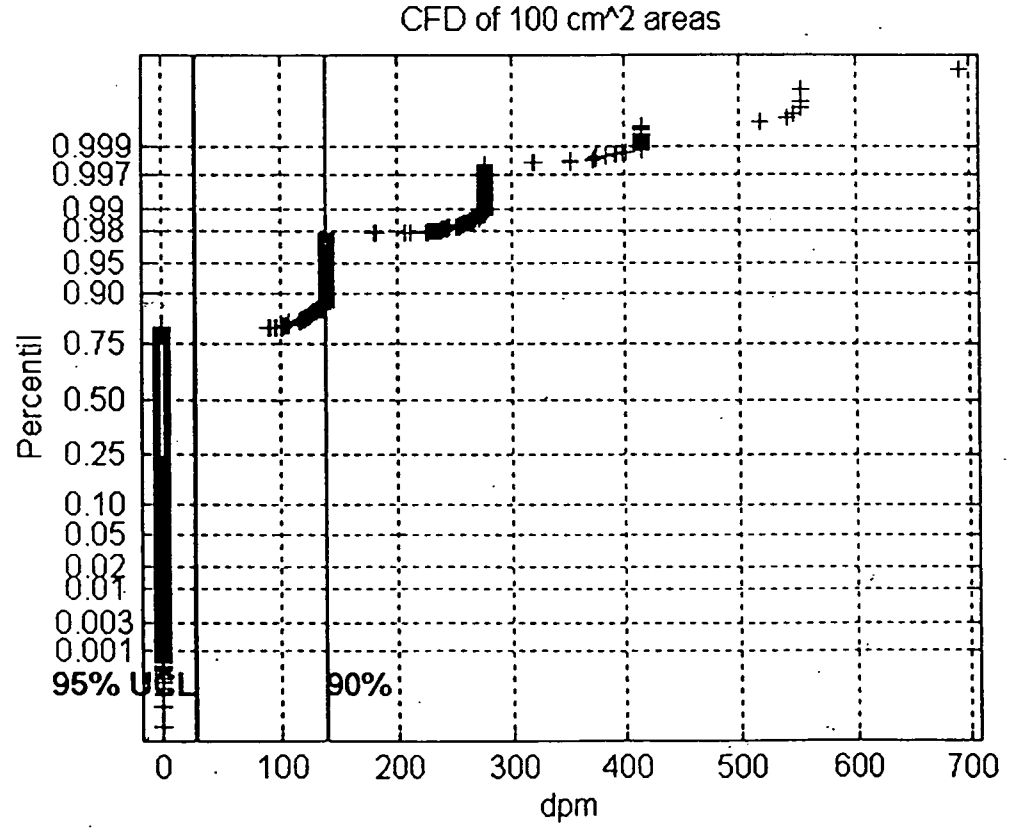

Figure 2: CFD of surface activity in 100cm² areas. The horizontal scale is in dpm per 100cm².

Meter Grid Summary Table

X	Y	Mean dpm/100cm²	Max dpm/100cm²	Min dpm/100cm²	Std dpm/100cm²	100cm² Areas
1	1	N/A	N/A	N/A	N/A	0
1	2	39	277	0	84	14
1	3	25	277	0	57	76
1	4	32	277	0	66	100
1	5	40	415	0	76	70
1	6	29	277	0	64	40
1	7	32	138	0	59	12
1	8	N/A	N/A	N/A	N/A	0
1	9	N/A	N/A	N/A	N/A	0
2	1	40	277	0	67	70
2	2	37	277	0	61	76
2	3	45	351	0	70	100
2	4	38	351	0	65	100
2	5	36	277	0	69	100
2	6	17	277	0	53	100
2	7	18	277	0	46	72
2	8	20	138	0	47	60
2	9	20	138	0	56	6
3	1	32	415	0	64	100
3	2	44	553	0	80	98
3	3	20	138	0	49	90
3	4	25	277	0	59	90
3	5	27	277	0	57	94
3	6	21	277	0	49	100
3	7	21	415	0	63	100
3	8	21	277	0	54	100
3	9	19	138	0	44	10
4	1	43	415	0	82	100
4	2	46	399	0	72	100
4	3	19	138	0	45	100
4	4	30	277	0	66	30
4	5	30	415	0	70	40
4	6	22	138	0	49	100
4	7	22	392	0	55	100
4	8	25	277	0	62	100
4	9	26	238	0	51	10

SIMS Report Generator V5.3k Date: 10-05-2005 Time: 15:33:24 FAT0103A-3

5	1	25	383	0	58	100	
5	2	48	415	0	75	100	
5	3	27	372	0	60	100	
5	4	33	692	0	92	100	
5	5	31	394	0	69	100	
5	6	22	277	0	54	100	
5	7	25	277	0	52	100	
5	8	22	277	0	57	100	
5	9	27	138	0	71	10	
6	1	29	271	0	57	70	
6	2	42	547	0	85	76	
6	3	32	321	0	62	100	
6	4	26	232	0	51	100	
6	5	27	402	0	64	100	
6	6	20	277	0	52	100	
6	7	28	277	0	57	100	
6	8	21	277	0	51	100	
6	9	23	245	0	57	10	
7	1	N/A	N/A	N/A	N/A	0	
7	2	43	415	0	109	16	
7	3	13	138	0	40	84	
7	4	25	277	0	59	100	
7	5	28	277	0	59	76	
7	6	27	415	0	63	40	
7	7	16	138	0	45	26	
7	8	13	277	0	40	20	
7	9	27	277	0	196	2	

The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm^2. Meters with no recorded data are not displayed.

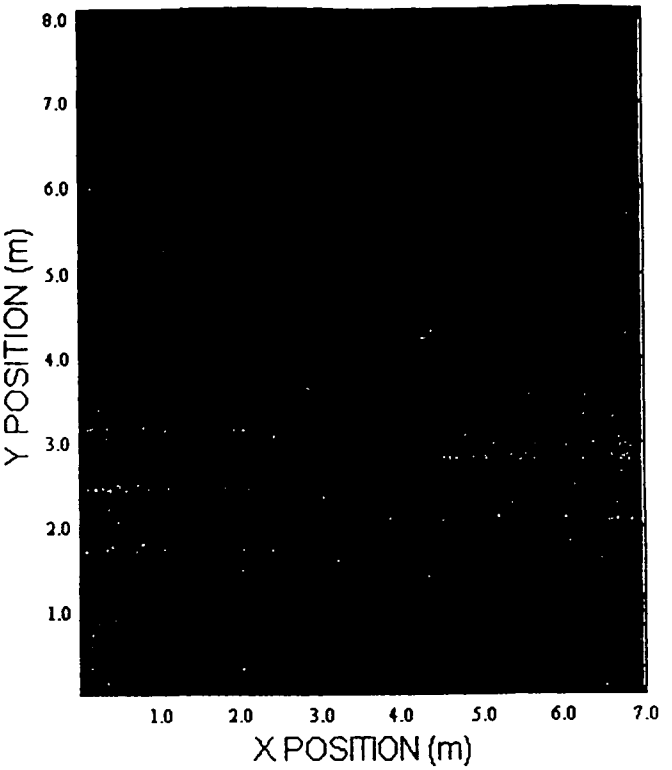

Figure 3: Yellow denotes meter grids that exceed criteria , while red corresponds to 100cm^2 areas exceeding criteria.

Investigation Table

Type	Value	Strip	Location From SW of Survey (X,Y)cm	Location From SW of Strip (X,Y)cm	Grid (X,Y)	Inv (Counts)	Count Time
Spot	692	114	(455,375)	(0,10)	N/A		
Spot	553	215	(270,190)	(5,5)	N/A		
Spot	547	177	(510,160)	(5,155)	N/A		
Spot	415	210	(30,410)	(5,130)	N/A		
Spot	415	262	(270,40)	(5,35)	N/A		
Spot	415	40	(275,685)	(5,50)	N/A		
Spot	415	9	(305,480)	(5,20)	N/A		
Spot	415	253	(355,15)	(0,10)	N/A		
Spot	415	176	(495,170)	(0,165)	N/A		
Spot	415	83	(635,520)	(5,55)	N/A		
Spot	415	164	(655,185)	(0,0)	N/A		
Spot	402	125	(565,415)	(0,50)	N/A		
Spot	399	249	(400,160)	(5,155)	N/A		
Spot	394	118	(495,450)	(0,85)	N/A		
Spot	392	8	(310,615)	(0,155)	N/A		
Spot	383	170	(440,35)	(5,30)	N/A		
Spot	375	171	(450,170)	(5,165)	N/A		
Spot	372	139	(410,235)	(5,50)	N/A		
Spot	351	228	(140,300)	(5,115)	N/A		
Spot	321	155	(570,240)	(5,55)	N/A		
Spot	319	223	(190,265)	(5,80)	N/A		
Spot	277	238	(35,180)	(0,0)	N/A		
Spot	277	208	(45,420)	(0,60)	N/A		
Spot	277	208	(45,435)	(0,75)	N/A		
Spot	277	56	(80,505)	(0,45)	N/A		
Spot	277	232	(95,300)	(0,120)	N/A		
Spot	277	54	(105,555)	(5,95)	N/A		
Spot	277	201	(115,445)	(0,85)	N/A		
Spot	277		(130,25)	(125,20)	N/A		
Spot	277	275	(135,40)	(0,35)	N/A		
Spot	277	199	(135,450)	(0,90)	N/A		
Spot	277	25	(140,630)	(0,170)	N/A		
Spot	277	274	(145,110)	(0,105)	N/A		
Spot	277	226	(155,205)	(0,20)	N/A		
Spot	277	273	(160,140)	(5,135)	N/A		
Spot	277	225	(165,290)	(0,105)	N/A		

Spot	277	224	(175,270)	(0,85)	N/A		
Spot	277	224	(180,320)	(5,135)	N/A		
Spot	277	224	(180,340)	(5,155)	N/A		
Spot	277	222	(195,210)	(0,25)	N/A		
Spot	277	222	(195,295)	(0,110)	N/A		
Spot	277	20	(195,500)	(5,40)	N/A		
Spot	277	269	(200,115)	(5,110)	N/A		
Spot	277	19	(205,590)	(5,130)	N/A		
Spot	277	17	(220,595)	(0,135)	N/A		
Spot	277	45	(225,740)	(5,105)	N/A		
Spot	277	266	(230,170)	(5,165)	N/A		
Spot	277	44	(230,645)	(0,10)	N/A		
Spot	277	43	(245,710)	(5,75)	N/A		
Spot	277	43	(245,800)	(5,165)	N/A		
Spot	277	263	(255,10)	(0,5)	N/A		
Spot	277	263	(255,85)	(0,80)	N/A		
Spot	277	12	(275,480)	(5,20)	N/A		
Spot	277	213	(285,345)	(0,160)	N/A		
Spot	277	258	(305,105)	(0,100)	N/A		
Spot	277	258	(310,70)	(5,65)	N/A		
Spot	277	246	(325,315)	(0,130)	N/A		
Spot	277	255	(335,15)	(0,10)	N/A		
Spot	277	255	(335,95)	(0,90)	N/A		
Spot	277	34	(335,715)	(5,80)	N/A		
Spot	277	255	(340,150)	(5,145)	N/A		
Spot	277	245	(340,190)	(5,5)	N/A		
Spot	277	252	(365,175)	(0,170)	N/A		
Spot	277	252	(370,30)	(5,25)	N/A		
Spot	277	61	(410,470)	(0,5)	N/A		
Spot	277	168	(415,160)	(0,155)	N/A		
Spot	277	142	(435,205)	(0,20)	N/A		
Spot	277	113	(450,455)	(5,90)	N/A		
Spot	277	145	(470,210)	(5,25)	N/A		
Spot	277	67	(470,500)	(0,35)	N/A		
Spot	277	94	(485,795)	(5,160)	N/A		
Spot	277	95	(490,660)	(0,25)	N/A		
Spot	277	177	(505,135)	(0,130)	N/A		
Spot	277	149	(505,290)	(0,105)	N/A		

Spot	277	152	(540,300)	(5,115)	N/A
Spot	277	122	(540,460)	(5,95)	N/A
Spot	277	153	(545,285)	(0,100)	N/A
Spot	277	100	(545,720)	(5,85)	N/A
Spot	277	182	(560,180)	(5,175)	N/A
Spot	277	77	(570,600)	(0,135)	N/A
Spot	277	78	(580,615)	(0,150)	N/A
Spot	277	79	(590,530)	(0,65)	N/A
Spot	277	107	(610,800)	(0,165)	N/A
Spot	277	135	(670,390)	(5,25)	N/A
Spot	277	135	(670,440)	(5,75)	N/A
Spot	277	137	(690,310)	(5,25)	N/A
Spot	277	137	(690,395)	(5,110)	N/A
Spot	276	141	(425,335)	(0,150)	N/A
Spot	274	73	(530,625)	(0,160)	N/A
Spot	273	160	(620,355)	(5,170)	N/A
Spot	273	218	(235,195)	(0,10)	N/A
Spot	272	167	(405,100)	(0,95)	N/A
Spot	271	33	(340,640)	(0,5)	N/A
Spot	271	152	(535,185)	(0,0)	N/A
Spot	271	178	(515,50)	(0,45)	N/A
Spot	268	249	(400,135)	(5,130)	N/A
Spot	268	169	(425,5)	(0,0)	N/A
Spot	267	71	(515,505)	(5,40)	N/A
Spot	266	22	(175,460)	(5,0)	N/A
Spot	266	237	(45,250)	(0,70)	N/A
Spot	266	256	(325,150)	(0,145)	N/A
Spot	266	256	(330,125)	(5,120)	N/A
Spot	265	221	(205,340)	(0,155)	N/A
Spot	264	87	(410,770)	(0,135)	N/A
Spot	264	80	(605,475)	(5,10)	N/A
Spot	263	212	(10,430)	(5,150)	N/A
Spot	263	39	(285,755)	(5,120)	N/A
Spot	263	230	(120,330)	(5,150)	N/A
Spot	261	95	(495,765)	(5,130)	N/A
Spot	261	85	(390,750)	(0,115)	N/A
Spot	261	68	(480,580)	(0,115)	N/A
Spot	261	68	(480,615)	(0,150)	N/A

Spot	260	268	(205,160)	(0,155)	N/A		
Spot	258	234	(75,285)	(0,105)	N/A		
Spot	258	234	(75,300)	(0,120)	N/A		
Spot	258	273	(160,85)	(5,80)	N/A		
Spot	257	261	(275,150)	(0,145)	N/A		
Spot	257	261	(280,70)	(5,65)	N/A		
Spot	257	25	(145,555)	(5,95)	N/A		
Spot	257	179	(530,110)	(5,105)	N/A		
Spot	256	36	(315,745)	(5,110)	N/A		
Spot	256	34	(330,755)	(0,120)	N/A		
Spot	255	109	(405,455)	(0,90)	N/A		
Spot	254	220	(220,190)	(5,5)	N/A		
Spot	254	157	(590,205)	(5,20)	N/A		
Spot	254	19	(205,610)	(5,150)	N/A		
Spot	247	97	(515,750)	(5,115)	N/A		
Spot	245	3	(360,460)	(0,0)	N/A		
Spot	245	56	(80,485)	(0,25)	N/A		
Spot	245	28	(110,490)	(0,30)	N/A		
Spot	245	274	(145,70)	(0,65)	N/A		
Spot	245	23	(165,580)	(5,120)	N/A		
Spot	245	45	(220,675)	(0,40)	N/A		
Spot	245	66	(460,515)	(0,50)	N/A		
Spot	245	116	(475,440)	(0,75)	N/A		
Spot	245	181	(550,40)	(5,35)	N/A		
Spot	245	101	(550,805)	(0,170)	N/A		
Spot	245	101	(555,680)	(5,45)	N/A		
Spot	240	204	(85,395)	(0,35)	N/A		
Spot	240	250	(385,85)	(0,80)	N/A		
Spot	240	250	(385,160)	(0,155)	N/A		
Spot	239	273	(155,25)	(0,20)	N/A		
Spot	238	29	(380,805)	(0,170)	N/A		
Spot	236	259	(300,180)	(5,175)	N/A		
Spot	235	15	(245,495)	(5,35)	N/A		
Spot	232	220	(215,320)	(0,135)	N/A		
Spot	232	157	(590,330)	(5,145)	N/A		
Spot	231	147	(485,335)	(0,150)	N/A		
Spot	230	46	(215,790)	(5,155)	N/A		
Spot	227	272	(170,100)	(5,95)	N/A		

This table details the location of values that exceed criteria. In the case to 100 cm^2 (spot) alarms both the SCM strip number and the location relative to the south west corner of the survey. In the case of square meter (Average) alarms the meter grid coordinates are given.

Survey Report

Survey Location:	~~1T-01~~ SU-8
Survey File Name:	FAT0104A
Survey Date:	August 17, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON/ROWE

Criteria	
Any 100 cm^2 Measurement:	15,000 net dpm/100 cm^2
Average Over Any 1 m^2:	5,000 net dpm/100 cm^2
Investigation Level 100cm^2:	11,250 net dpm/100 cm^2
Investigation Level m^2:	3,750 net dpm/100 cm^2
System Information	
Background:	C-180: 392 cpm
Efficiency (100 cm^2):	C-180: 22.3%
m^2 Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a
Survey Results	
Maximum 100 cm^2:	5,238 dpm/100 cm^2
Maximum m^2 Average:	1,874 dpm/100 cm^2
Survey Location Code:	B0000B0000FZ0001F01C001HE0012250FAT0104A

NOTE: Bold Text Denotes Values Exceeding Criteria.

New Clarifier Floor, Beta Corner Mode, ~~Bet~~. Positional Stitch

Cal Due Date 06-01-06

David Kelley

9-21-05

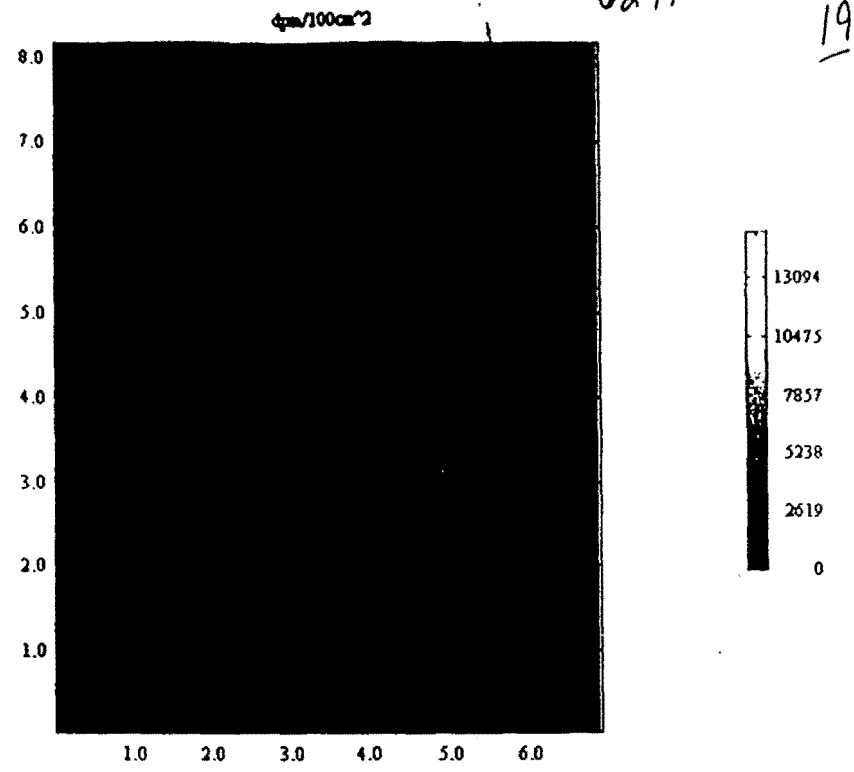

Figure 1: Meter Grid overlaid onto image plot of 100cm² areas. The color scale is in dpm per 100cm².

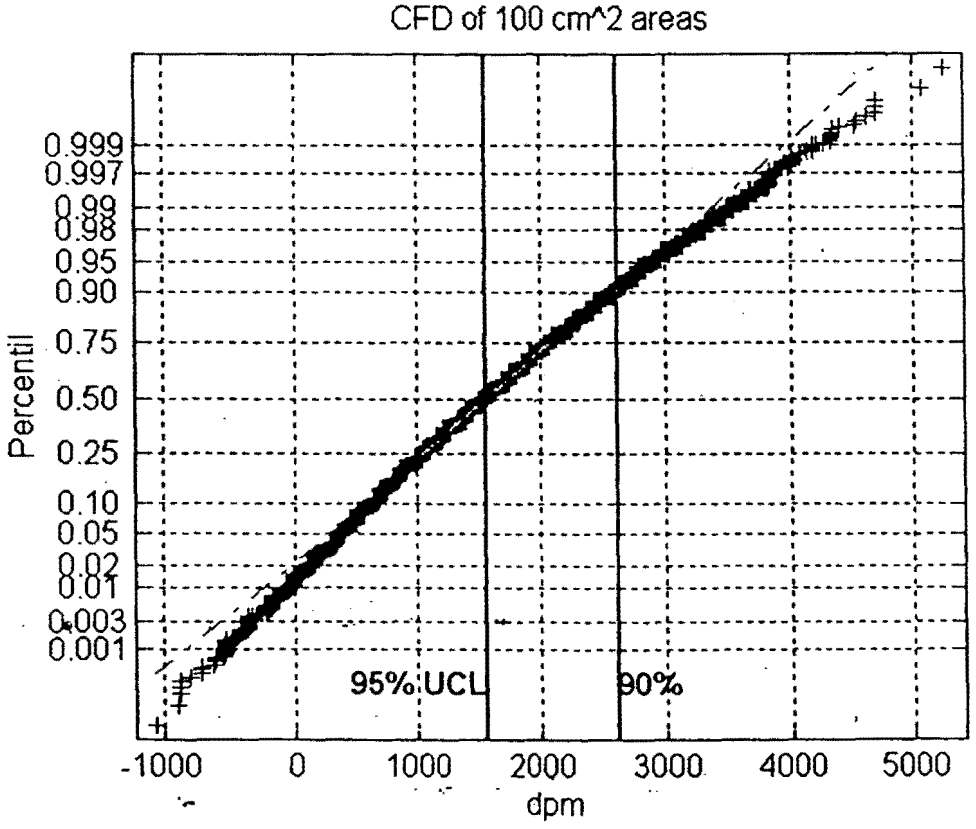

Figure 2: CFD of surface activity in 100cm² areas. The horizontal scale is in dpm per 100cm².

Meter Grid Summary Table

X	Y	Mean dpm/100cm²	Max dpm/100cm²	Min dpm/100cm²	Std dpm/100cm²	100cm² Areas
1	1	N/A	N/A	N/A	N/A	0
1	2	1,620	3,623	516	816	14
1	3	1,539	3,740	-9	802	76
1	4	1,616	3,493	-205	713	100
1	5	1,556	3,490	-9	734	90
1	6	1,481	3,489	-184	695	80
1	7	1,416	3,490	166	704	38
1	8	1,609	3,664	68	903	20
1	9	1,540	1,741	597	808	2
2	1	1,536	5,238	-9	785	80
2	2	1,665	4,013	110	756	84
2	3	1,568	4,013	-9	748	100
2	4	1,662	5,081	-9	794	100
2	5	1,647	4,713	-9	906	100
2	6	1,436	3,664	-363	810	100
2	7	1,559	3,490	157	729	100
2	8	1,581	4,013	-184	791	100
2	9	1,595	2,967	603	670	10
3	1	1,665	4,188	-184	839	100
3	2	1,542	3,839	-113	766	100
3	3	1,667	4,099	287	647	100
3	4	1,586	3,798	-184	792	96
3	5	1,352	3,763	-359	703	94
3	6	1,600	4,085	-184	782	100
3	7	1,458	4,013	-709	752	100
3	8	1,466	4,363	-78	763	100
3	9	1,458	2,614	831	419	10
4	1	1,874	4,013	516	801	99
4	2	1,615	4,638	-9	724	100
4	3	1,696	3,664	-534	880	100
4	4	1,778	4,414	-534	873	64
4	5	1,529	4,363	65	725	46
4	6	1,618	4,013	-9	794	100
4	7	1,571	4,713	-184	904	93
4	8	1,443	3,839	166	681	90
4	9	1,445	3,139	516	970	9

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5	1	1,683	3,632	-898	847	90
5	2	1,580	3,985	166	822	100
5	3	1,503	3,664	-709	757	100
5	4	1,732	4,013	166	768	100
5	5	1,525	3,489	-86	760	100
5	6	1,635	3,725	341	663	100
5	7	1,536	4,216	-883	855	100
5	8	1,609	3,839	166	702	100
5	9	1,602	3,489	691	541	10
6	1	1,578	3,839	166	765	54
6	2	1,511	4,013	-359	889	68
6	3	1,651	3,543	162	698	100
6	4	1,592	3,781	-184	850	100
6	5	1,508	3,892	-3	754	100
6	6	1,612	4,363	-358	859	100
6	7	1,618	4,342	-9	714	86
6	8	1,652	3,839	72	743	80
6	9	1,645	3,907	341	1,138	8
7	1	N/A	N/A	N/A	N/A	0
7	2	1,351	3,501	-216	616	14
7	3	1,473	3,542	-184	810	74
7	4	1,444	3,314	-606	665	90
7	5	1,701	3,839	166	724	45
7	6	N/A	N/A	N/A	N/A	0
7	7	N/A	N/A	N/A	N/A	0
7	8	N/A	N/A	N/A	N/A	0
7	9	N/A	N/A	N/A	N/A	0

The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm^2. Meters with no recorded data are not displayed.

Survey Report

Survey Location:	1T-01
Survey File Name:	FAT0103B
Survey Date:	August 20, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON/ROWE
Criteria	
Any 100 cm^2 Measurement:	300 net dpm/100 cm^2
Average Over Any 1 m^2:	100 net dpm/100 cm^2
Investigation Level 100cm^2:	225 net dpm/100 cm^2
Investigation Level m^2:	75 net dpm/100 cm^2
System Information	
Background:	Background not Subtracted
Efficiency (100 cm^2):	C-180: 28.2%
m^2 Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a
Survey Results	
Maximum 100 cm^2:	**553 dpm/100 cm^2**
Maximum m^2 Average:	**135 dpm/100 cm^2**
Survey Location Code:	B0000B0000FZ0001F01C101HE0012650FAT0103B

NOTE: Bold Text Denotes Values Exceeding Criteria.

New clarifier rim & ledge ∝

Cal Due Date 06-01-06

David Kelley

11-1-05

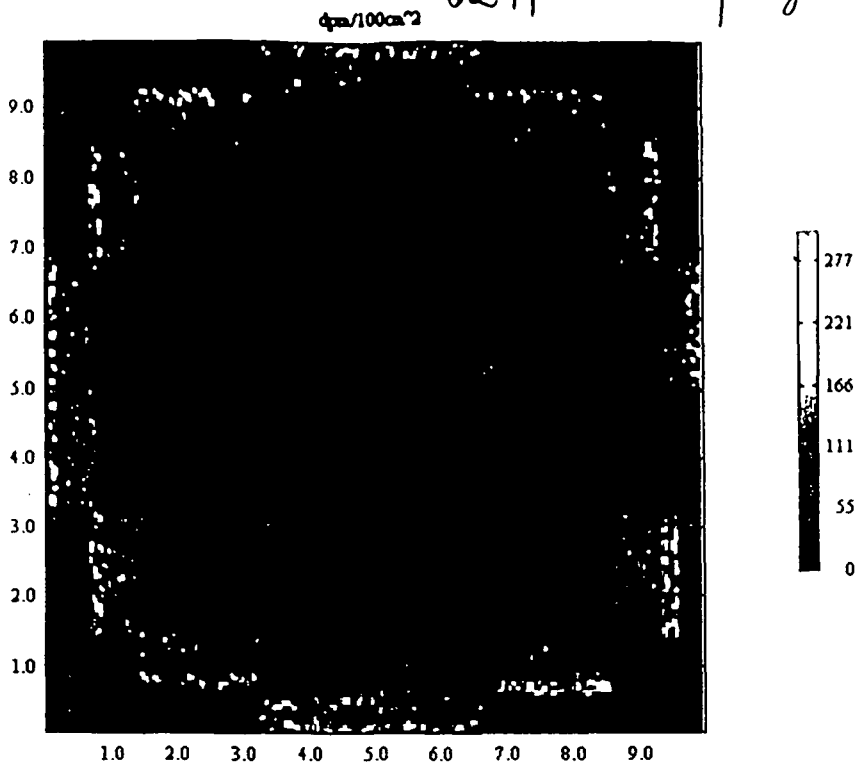

Figure 1: Meter Grid overlaid onto image plot of 100cm² areas. The color scale is in dpm per 100cm².

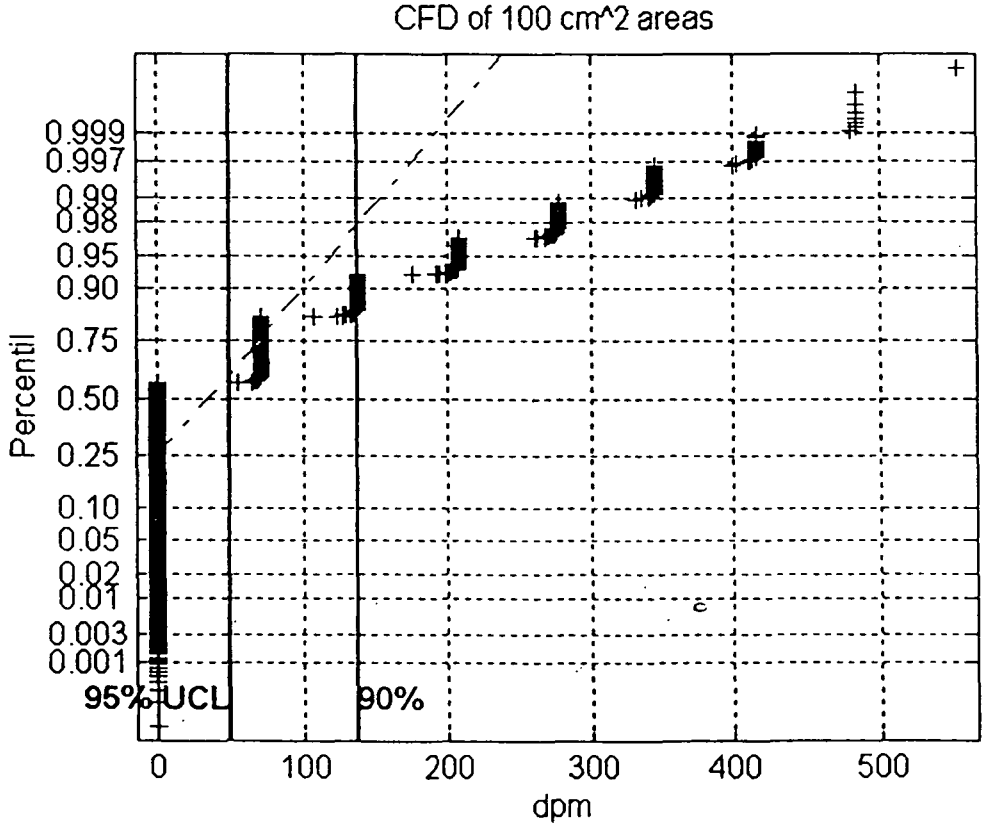

Figure 2: CFD of surface activity in 100cm² areas. The horizontal scale is in dpm per 100cm².

Meter Grid Summary Table

X	Y	Mean dpm/100cm²	Max dpm/100cm²	Min dpm/100cm²	Std dpm/100cm²	100cm² Areas
1	1	N/A	N/A	N/A	N/A	0
1	2	110	484	0	125	15
1	3	94	415	0	78	30
1	4	58	415	0	90	63
1	5	57	484	0	98	80
1	6	51	411	0	70	80
1	7	61	484	0	96	72
1	8	91	277	0	101	30
1	9	68	332	0	81	15
1	10	N/A	N/A	N/A	N/A	0
2	1	81	277	0	72	15
2	2	26	207	0	46	50
2	3	33	277	0	56	50
2	4	28	138	0	48	10
2	5	N/A	N/A	N/A	N/A	0
2	6	N/A	N/A	N/A	N/A	0
2	7	18	198	0	31	15
2	8	27	207	0	42	50
2	9	30	207	0	43	55
2	10	85	346	0	69	12
3	1	72	277	0	78	30
3	2	15	138	0	31	50
3	3	N/A	N/A	N/A	N/A	0
3	4	N/A	N/A	N/A	N/A	0
3	5	N/A	N/A	N/A	N/A	0
3	6	N/A	N/A	N/A	N/A	0
3	7	N/A	N/A	N/A	N/A	0
3	8	N/A	N/A	N/A	N/A	0
3	9	29	206	0	40	50
3	10	74	415	0	113	20
4	1	87	415	0	84	54
4	2	20	138	0	32	10
4	3	N/A	N/A	N/A	N/A	0
4	4	N/A	N/A	N/A	N/A	0
4	5	N/A	N/A	N/A	N/A	0
4	6	N/A	N/A	N/A	N/A	0

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4	7	N/A	N/A	N/A	N/A	0
4	8	N/A	N/A	N/A	N/A	0
4	9	21	69	0	33	10
4	**10**	**53**	**346**	**0**	**80**	**60**
5	**1**	**79**	**412**	**0**	**80**	**60**
5	2	N/A	N/A	N/A	N/A	0
5	3	N/A	N/A	N/A	N/A	0
5	4	N/A	N/A	N/A	N/A	0
5	5	N/A	N/A	N/A	N/A	0
5	6	N/A	N/A	N/A	N/A	0
5	7	N/A	N/A	N/A	N/A	0
5	8	N/A	N/A	N/A	N/A	0
5	9	N/A	N/A	N/A	N/A	0
5	**10**	**40**	**277**	**0**	**64**	**70**
6	**1**	**41**	**346**	**0**	**62**	**70**
6	2	N/A	N/A	N/A	N/A	0
6	3	N/A	N/A	N/A	N/A	0
6	4	N/A	N/A	N/A	N/A	0
6	5	N/A	N/A	N/A	N/A	0
6	6	N/A	N/A	N/A	N/A	0
6	7	N/A	N/A	N/A	N/A	0
6	8	N/A	N/A	N/A	N/A	0
6	9	N/A	N/A	N/A	N/A	0
6	**10**	**37**	**277**	**0**	**58**	**70**
7	**1**	**37**	**415**	**0**	**60**	**64**
7	2	17	138	0	32	8
7	3	N/A	N/A	N/A	N/A	0
7	4	N/A	N/A	N/A	N/A	0
7	5	N/A	N/A	N/A	N/A	0
7	6	N/A	N/A	N/A	N/A	0
7	7	N/A	N/A	N/A	N/A	0
7	8	N/A	N/A	N/A	N/A	0
7	9	14	69	0	29	10
7	**10**	**51**	**346**	**0**	**61**	**62**
8	**1**	**79**	**346**	**0**	**106**	**40**
8	2	22	207	0	36	40
8	3	N/A	N/A	N/A	N/A	0
8	4	N/A	N/A	N/A	N/A	0

8	5	N/A	N/A	N/A	N/A	0
8	6	N/A	N/A	N/A	N/A	0
8	7	N/A	N/A	N/A	N/A	0
8	8	N/A	N/A	N/A	N/A	0
8	9	17	138	0	33	50
8	**10**	**66**	**346**	**0**	**73**	**30**
9	**1**	**135**	**480**	**0**	**132**	**24**
9	2	15	69	0	29	42
9	3	14	138	0	33	30
9	4	23	138	0	36	6
9	5	N/A	N/A	N/A	N/A	0
9	6	N/A	N/A	N/A	N/A	0
9	7	26	138	0	51	8
9	8	24	207	0	46	40
9	9	25	207	0	39	50
9	10	62	207	0	78	15
10	1	N/A	N/A	N/A	N/A	0
10	**2**	**69**	**553**	**0**	**99**	**30**
10	**3**	**63**	**415**	**0**	**87**	**50**
10	4	29	138	0	49	10
10	5	N/A	N/A	N/A	N/A	0
10	**6**	**34**	**346**	**0**	**56**	**70**
10	**7**	**42**	**277**	**0**	**56**	**62**
10	**8**	**83**	**346**	**0**	**83**	**30**
10	**9**	**69**	**346**	**0**	**108**	**18**
10	10	N/A	N/A	N/A	N/A	0

The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm^2. Meters with no recorded data are not displayed.

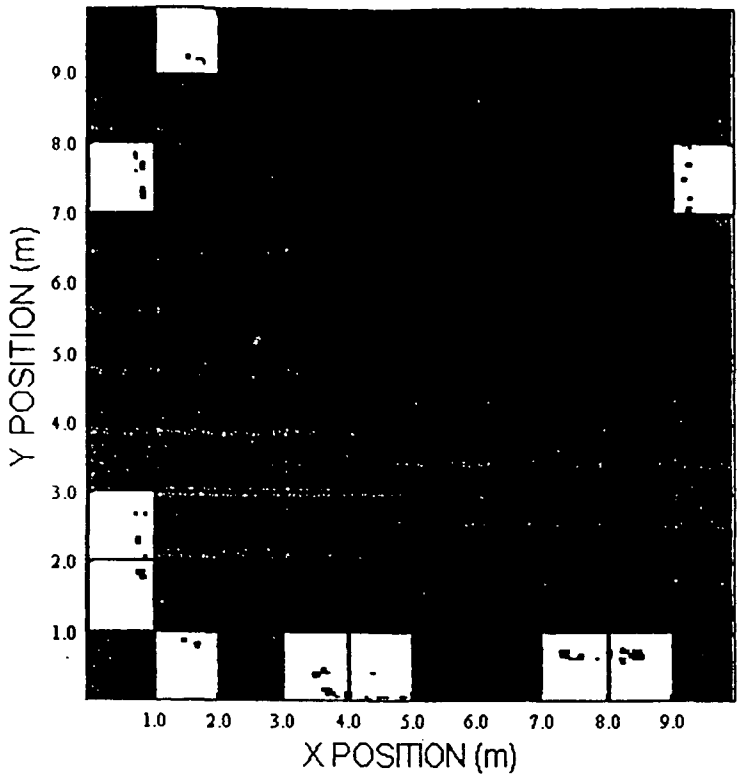

Figure 3: Yellow denotes meter grids that exceed criteria , while red corresponds to 100cm^2 areas exceeding criteria.

Investigation Table 0291

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Type	Value	Strip	Location From SW of Survey (X,Y)cm	Location From SW of Strip (X,Y)cm	Grid (X,Y)	Inv (Counts)	Count Time
Spot	553	112	(940,155)	(0,10)	N/A		
Spot	484	65	(5,475)	(0,145)	N/A		
Spot	484	57	(10,635)	(5,125)	N/A		
Spot	484	74	(85,185)	(0,35)	N/A		
Spot	480	103	(850,70)	(165,5)	N/A		
Spot	415	65	(5,440)	(0,110)	N/A		
Spot	415	65	(10,335)	(5,5)	N/A		
Spot	415	74	(90,205)	(5,55)	N/A		
Spot	415	42	(220,915)	(75,5)	N/A		
Spot	415	90	(370,20)	(45,5)	N/A		
Spot	415	95	(630,10)	(125,0)	N/A		
Spot	415	112	(940,220)	(0,75)	N/A		
Spot	412	89	(430,10)	(105,5)	N/A		
Spot	411	103	(805,70)	(120,5)	N/A		
Spot	411	57	(5,600)	(0,90)	N/A		
Spot	402	89	(400,10)	(75,5)	N/A		
Spot	346	104	(825,75)	(140,0)	N/A		
Spot	346	1	(990,555)	(0,50)	N/A		
Spot	346	66	(15,375)	(0,45)	N/A		
Spot	346	58	(15,575)	(0,65)	N/A		
Spot	346	73	(80,230)	(5,80)	N/A		
Spot	346	42	(180,915)	(35,5)	N/A		
Spot	346	41	(245,920)	(100,0)	N/A		
Spot	346	42	(310,915)	(165,5)	N/A		
Spot	346	93	(365,45)	(40,0)	N/A		
Spot	346	39	(385,935)	(60,5)	N/A		
Spot	346	96	(550,15)	(45,0)	N/A		
Spot	346	26	(660,980)	(155,0)	N/A		
Spot	346	18	(730,920)	(50,5)	N/A		
Spot	346	103	(755,65)	(70,0)	N/A		
Spot	346	11	(915,845)	(5,160)	N/A		
Spot	346	10	(925,705)	(5,20)	N/A		
Spot	346	112	(940,250)	(0,105)	N/A		
Spot	346	111	(955,160)	(0,15)	N/A		
Spot	346	111	(955,185)	(0,40)	N/A		
Spot	346	111	(955,280)	(0,135)	N/A		

Spot	343	73	(75,270)	(0,120)	N/A
Spot	342	104	(735,75)	(50,0)	N/A
Spot	341	50	(85,695)	(0,20)	N/A
Spot	332	50	(85,830)	(0,155)	N/A
Spot	277	1	(990,670)	(0,165)	N/A
Spot	277	1	(990,520)	(0,15)	N/A
Spot	277	1	(990,645)	(0,140)	N/A
Spot	277	65	(5,390)	(0,60)	N/A
Spot	277	65	(5,455)	(0,125)	N/A
Spot	277	58	(15,525)	(0,15)	N/A
Spot	277	49	(75,760)	(0,70)	N/A
Spot	277	49	(75,780)	(0,90)	N/A
Spot	277	74	(90,270)	(5,120)	N/A
Spot	277	77	(115,225)	(0,75)	N/A
Spot	277	82	(150,90)	(0,5)	N/A
Spot	277	41	(155,920)	(10,0)	N/A
Spot	277	81	(240,75)	(90,0)	N/A
Spot	277	92	(350,40)	(25,5)	N/A
Spot	277	33	(385,990)	(60,0)	N/A
Spot	277	33	(400,990)	(75,0)	N/A
Spot	277	93	(440,45)	(115,0)	N/A
Spot	277	33	(465,990)	(140,0)	N/A
Spot	277	26	(530,980)	(25,0)	N/A
Spot	277	95	(590,10)	(85,0)	N/A
Spot	277	26	(600,980)	(95,0)	N/A
Spot	277	18	(685,915)	(5,0)	N/A
Spot	277	103	(695,65)	(10,0)	N/A
Spot	277	103	(785,65)	(100,0)	N/A
Spot	277	18	(785,915)	(105,0)	N/A
Spot	277		(825,60)	(820,55)	N/A
Spot	277	10	(920,750)	(0,65)	N/A
Spot	277	10	(920,800)	(0,115)	N/A
Spot	277	10	(920,830)	(0,145)	N/A
Spot	277	10	(925,770)	(5,85)	N/A
Spot	277	9	(930,725)	(0,40)	N/A
Spot	277	112	(940,275)	(0,130)	N/A
Spot	277	112	(940,295)	(0,150)	N/A
Spot	277	111	(955,210)	(0,65)	N/A

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Spot	277	111	(955,235)	(0,90)	N/A
Spot	277	57	(10,510)	(5,0)	N/A
Spot	277	57	(10,655)	(5,145)	N/A
Spot	277	58	(15,670)	(0,160)	N/A
Spot	277	43	(205,905)	(60,5)	N/A
Spot	277	43	(260,905)	(115,5)	N/A
Spot	277	26	(550,980)	(45,0)	N/A
Spot	274	34	(480,985)	(155,5)	N/A
Spot	272	50	(85,725)	(0,50)	N/A
Spot	272	82	(285,85)	(135,0)	N/A
Spot	271	89	(450,10)	(125,5)	N/A
Spot	271	89	(485,10)	(160,5)	N/A
Spot	271	90	(500,15)	(175,0)	N/A
Spot	271	34	(340,980)	(15,0)	N/A
Spot	269	89	(385,10)	(60,5)	N/A
Spot	268	25	(630,990)	(125,0)	N/A
Spot	263	81	(170,80)	(20,5)	N/A
Spot	263	81	(300,80)	(150,5)	N/A
Grid	110	N/A	N/A	N/A	(1,2)
Grid	94	N/A	N/A	N/A	(1,3)
Grid	91	N/A	N/A	N/A	(1,8)
Grid	81	N/A	N/A	N/A	(2,1)
Grid	85	N/A	N/A	N/A	(2,10)
Grid	87	N/A	N/A	N/A	(4,1)
Grid	79	N/A	N/A	N/A	(5,1)
Grid	79	N/A	N/A	N/A	(8,1)
Grid	135	N/A	N/A	N/A	(9,1)
Grid	83	N/A	N/A	N/A	(10,8)

This table details the location of values that exceed criteria. In the case to 100 cm^2 (spot) alarms both the SCM strip number and the location relative to the south west corner of the survey. In the case of square meter (Average) alarms the meter grid coordinates are given.

Survey Report

Survey Location:	~~IFOT~~ SU-8
Survey File Name:	FAT0104B
Survey Date:	August 20, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON/ROWE

Criteria

Any 100 cm^2 Measurement:	15,000 net dpm/100 cm^2
Average Over Any 1 m^2:	5,000 net dpm/100 cm^2
Investigation Level 100cm^2:	11,250 net dpm/100 cm^2
Investigation Level m^2:	3,750 net dpm/100 cm^2

System Information

Background:	C-180: 392 cpm
Efficiency (100 cm^2):	C-180: 22.3%
m^2 Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a

Survey Results

Maximum 100 cm^2:	5,413 dpm/100 cm^2
Maximum m^2 Average:	2,469 dpm/100 cm^2
Survey Location Code:	B0000B0000FZ0001F01C001HE0012250FAT0104B

NOTE: Bold Text Denotes Values Exceeding Criteria.

New Clarifier Rim Floor and Ledge, Beta Corner Mode
Positional Glitch

Cal Due Date 06-01-06

David Kelley

9-21-05

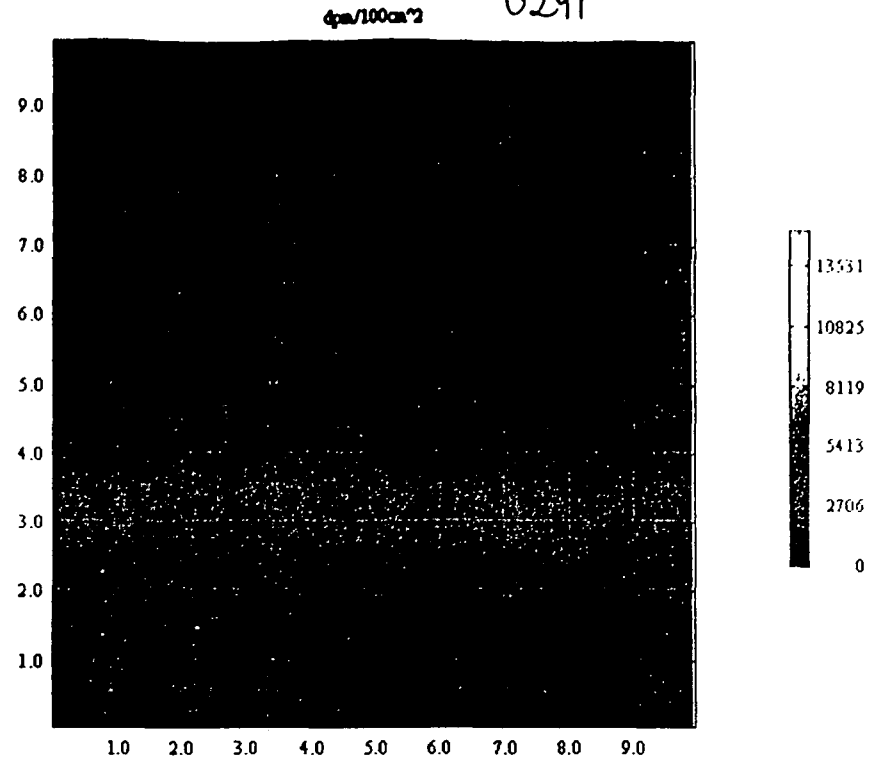


Figure 1: Meter Grid overlaid onto image plot of 100cm² areas. The color scale is in dpm per 100cm².

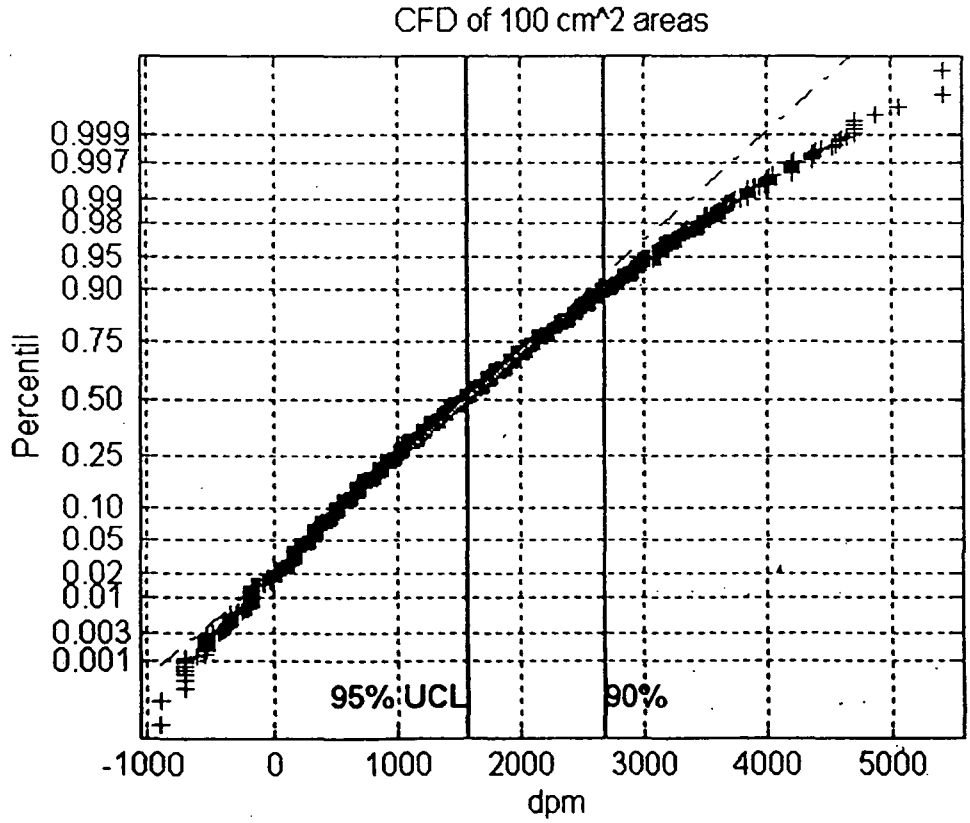


Figure 2: CFD of surface activity in 100cm² areas. The horizontal scale is in dpm per 100cm².

Meter Grid Summary Table

X	Y	Mean dpm/100cm²	Max dpm/100cm²	Min dpm/100cm²	Std dpm/100cm²	100cm² Areas
1	1	N/A	N/A	N/A	N/A	0
1	2	1,557	3,839	-184	915	21
1	3	2,230	5,413	-9	1,006	30
1	4	1,552	4,188	-359	780	73
1	5	1,569	3,999	166	790	80
1	6	1,652	3,739	-534	862	80
1	7	1,751	5,413	-534	1,027	58
1	8	1,466	3,839	-883	958	30
1	9	2,469	4,188	1,215	823	12
1	10	N/A	N/A	N/A	N/A	0
2	1	1,810	3,665	341	944	20
2	2	1,406	3,139	-359	777	50
2	3	1,500	3,500	-9	727	50
2	4	N/A	N/A	N/A	N/A	0
2	5	N/A	N/A	N/A	N/A	0
2	6	N/A	N/A	N/A	N/A	0
2	7	1,386	3,673	268	899	15
2	8	1,376	3,489	-359	710	50
2	9	1,469	3,845	-9	642	45
2	10	1,758	4,399	1,040	836	10
3	1	1,692	4,363	-9	792	40
3	2	1,297	3,314	-9	695	30
3	3	N/A	N/A	N/A	N/A	0
3	4	N/A	N/A	N/A	N/A	0
3	5	N/A	N/A	N/A	N/A	0
3	6	N/A	N/A	N/A	N/A	0
3	7	N/A	N/A	N/A	N/A	0
3	8	N/A	N/A	N/A	N/A	0
3	9	1,638	4,013	166	752	50
3	10	1,762	4,437	341	1,148	20
4	1	1,878	4,888	-184	971	56
4	2	1,274	3,489	341	697	6
4	3	N/A	N/A	N/A	N/A	0
4	4	N/A	N/A	N/A	N/A	0
4	5	N/A	N/A	N/A	N/A	0
4	6	N/A	N/A	N/A	N/A	0

SIMS Report Generator V5.3k Date: 09-20-2005 Time: 09:57:13 FAT0104B-3

4	7	N/A	N/A	N/A	N/A	0
4	8	N/A	N/A	N/A	N/A	0
4	9	1,286	3,139	-9	798	10
4	10	1,462	3,489	159	806	53
5	1	1,798	3,728	-552	908	62
5	2	N/A	N/A	N/A	N/A	0
5	3	N/A	N/A	N/A	N/A	0
5	4	N/A	N/A	N/A	N/A	0
5	5	N/A	N/A	N/A	N/A	0
5	6	N/A	N/A	N/A	N/A	0
5	7	N/A	N/A	N/A	N/A	0
5	8	N/A	N/A	N/A	N/A	0
5	9	N/A	N/A	N/A	N/A	0
5	10	1,653	4,013	-533	886	70
6	1	1,578	4,363	-268	812	80
6	2	N/A	N/A	N/A	N/A	0
6	3	N/A	N/A	N/A	N/A	0
6	4	N/A	N/A	N/A	N/A	0
6	5	N/A	N/A	N/A	N/A	0
6	6	N/A	N/A	N/A	N/A	0
6	7	N/A	N/A	N/A	N/A	0
6	8	N/A	N/A	N/A	N/A	0
6	9	N/A	N/A	N/A	N/A	0
6	10	1,550	3,839	-708	877	70
7	1	1,534	4,188	-709	940	73
7	2	866	2,090	-359	671	12
7	3	N/A	N/A	N/A	N/A	0
7	4	N/A	N/A	N/A	N/A	0
7	5	N/A	N/A	N/A	N/A	0
7	6	N/A	N/A	N/A	N/A	0
7	7	N/A	N/A	N/A	N/A	0
7	8	N/A	N/A	N/A	N/A	0
7	9	1,350	3,139	-184	685	15
7	10	1,617	4,713	-9	822	62
8	1	1,736	4,607	91	867	50
8	2	1,460	3,489	-9	761	30
8	3	N/A	N/A	N/A	N/A	0
8	4	N/A	N/A	N/A	N/A	0

8	5	N/A	N/A	N/A	N/A	0
8	6	N/A	N/A	N/A	N/A	0
8	7	N/A	N/A	N/A	N/A	0
8	8	N/A	N/A	N/A	N/A	0
8	9	1,186	4,188	-709	780	50
8	10	1,448	3,589	88	979	20
9	1	1,388	2,974	-148	822	20
9	2	1,373	4,041	-184	779	61
9	3	1,468	3,851	-184	703	70
9	4	1,343	2,744	665	730	7
9	5	N/A	N/A	N/A	N/A	0
9	6	N/A	N/A	N/A	N/A	0
9	7	1,390	2,614	341	569	15
9	8	1,474	3,489	-9	767	50
9	9	1,285	3,686	-359	823	50
9	10	2,075	3,499	666	808	10
10	1	N/A	N/A	N/A	N/A	0
10	2	1,977	4,595	1,593	1,133	7
10	3	2,003	4,376	1,273	1,054	10
10	4	1,684	2,045	2,045	0	1
10	5	964	2,789	341	607	7
10	6	1,717	4,713	88	864	70
10	7	1,484	3,839	-534	790	55
10	8	1,728	3,576	691	799	20
10	9	1,739	4,652	691	855	10
10	10	N/A	N/A	N/A	N/A	0

The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm^2. Meters with no recorded data are not displayed.

Survey Report

Survey Location:	IT-01
Survey File Name:	FAT0113A
Survey Date:	August 18, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON/ROWE

Criteria

Any 100 cm² Measurement:	300 net dpm/100 cm²
Average Over Any 1 m²:	100 net dpm/100 cm²
Investigation Level 100cm²:	225 net dpm/100 cm²
Investigation Level m²:	75 net dpm/100 cm²

System Information

Background:	Background not Subtracted
Efficiency (100 cm²):	C-180: 28.2%
m² Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a

Survey Results

Maximum 100 cm²:	**346 dpm/100 cm²**
Maximum m² Average:	48 dpm/100 cm²
Survey Location Code:	B0000B0000FZ0001F01D101HE0012650FAT0113A

NOTE: Bold Text Denotes Values Exceeding Criteria.

New Clarifier Lower Walls, Alpha Corner Mode

Cal Due Date 06-01-06

David Kelley

11-1-05

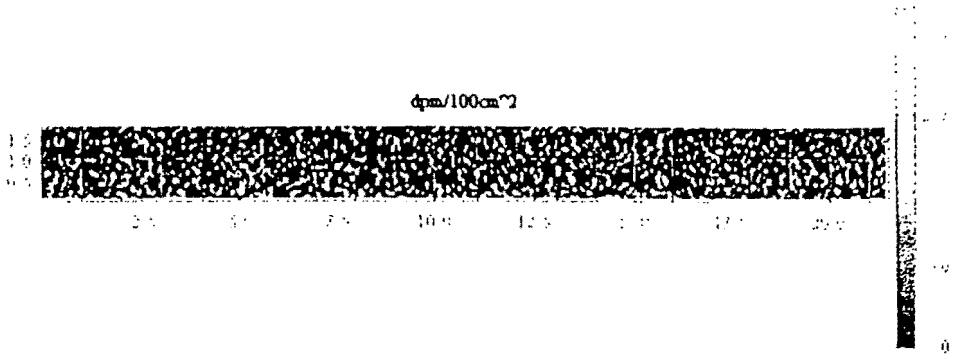


Figure 1: Meter Grid overlaid onto image plot of 100cm^2 areas. The color scale is in dpm per 100cm^2.

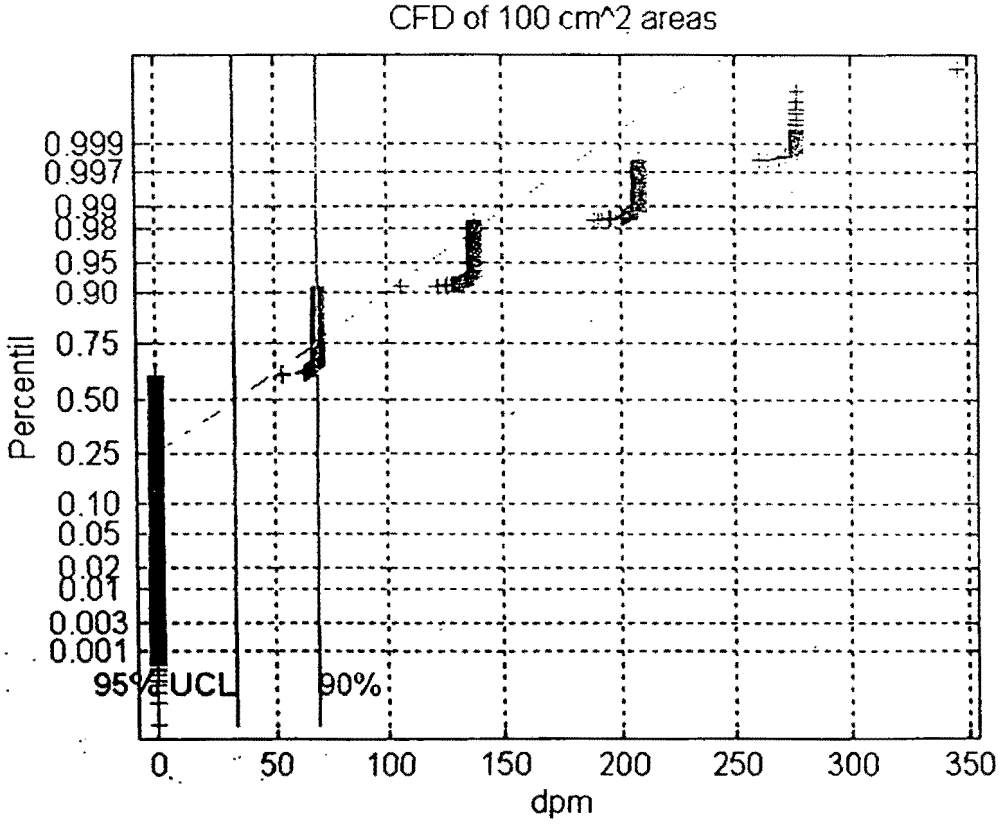


Figure 2: CFD of surface activity in 100cm^2 areas. The horizontal scale is in dpm per 100cm^2.

Meter Grid Summary Table

X	Y	Mean dpm/100cm²	Max dpm/100cm²	Min dpm/100cm²	Std dpm/100cm²	100cm² Areas
1	1	44	277	0	50	100
1	2	40	261	0	55	80
2	1	36	277	0	54	100
2	2	28	207	0	45	80
3	1	40	269	0	52	100
3	2	34	207	0	45	80
4	1	35	207	0	50	100
4	2	30	277	0	50	80
5	1	32	277	0	42	100
5	2	26	138	0	37	80
6	1	48	277	0	58	100
6	2	28	277	0	43	80
7	1	28	277	0	48	100
7	2	34	277	0	54	80
8	1	45	277	0	57	100
8	2	34	207	0	49	80
9	1	35	207	0	51	100
9	2	25	207	0	40	80
10	1	24	138	0	38	100
10	2	23	207	0	44	80
11	1	38	207	0	55	100
11	2	32	207	0	45	80
12	1	39	207	0	57	100
12	2	37	207	0	53	80
13	1	27	195	0	41	100
13	2	35	277	0	57	80
14	1	43	277	0	57	100
14	2	42	277	0	57	80
15	1	31	138	0	42	100
15	2	34	207	0	47	80
16	1	35	277	0	53	100
16	2	32	207	0	44	80
17	1	25	207	0	42	100
17	2	25	207	0	47	80
18	1	32	274	0	51	100
18	2	35	271	0	52	80

19	**1**	**30**	**277**	**0**	**45**	**100**
19	2	27	207	0	44	80
20	1	38	272	0	50	100
20	2	34	207	0	45	80
21	**1**	**34**	**346**	**0**	**58**	**100**
21	2	45	207	0	57	80
22	1	34	207	0	49	50
22	2	38	207	0	47	40

The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm^2. Meters with no recorded data are not displayed.

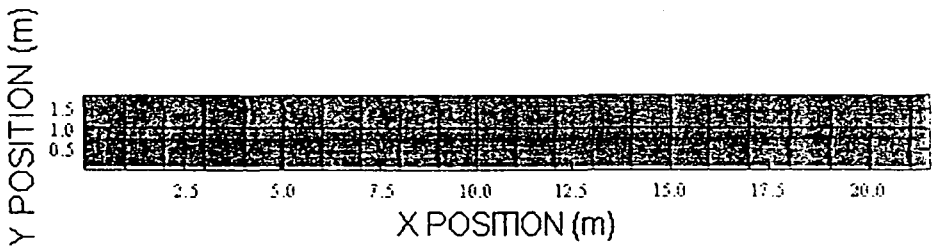


Figure 3: Yellow denotes meter grids that exceed criteria , while red corresponds to 100cm^2 areas exceeding criteria.

Investigation Table

Type	Value	Strip	Location From SW of Survey (X,Y)cm	Location From SW of Strip (X,Y)cm	Grid (X,Y)	Inv (Counts)	Count Time
Spot	346	202	(2015,5)	(0,0)	N/A		
Spot	277	1	(10,60)	(5,55)	N/A		
Spot	277	12	(115,5)	(0,0)	N/A		
Spot	277	38	(375,175)	(0,170)	N/A		
Spot	277	47	(465,100)	(0,95)	N/A		
Spot	277	52	(520,150)	(5,145)	N/A		
Spot	277	58	(580,5)	(5,0)	N/A		
Spot	277	64	(640,15)	(5,10)	N/A		
Spot	277	67	(665,105)	(0,100)	N/A		
Spot	277	76	(755,80)	(0,75)	N/A		
Spot	277	124	(1235,175)	(0,170)	N/A		
Spot	277	133	(1330,120)	(5,115)	N/A		
Spot	277	136	(1360,125)	(5,120)	N/A		
Spot	277	140	(1395,5)	(0,0)	N/A		
Spot	277	159	(1590,10)	(5,5)	N/A		
Spot	277	181	(1810,35)	(5,30)	N/A		
Spot	274	175	(1745,5)	(0,0)	N/A		
Spot	272	199	(1985,60)	(0,55)	N/A		
Spot	271	173	(1725,120)	(0,115)	N/A		
Spot	269	23	(230,5)	(5,0)	N/A		
Spot	264	20	(200,20)	(5,15)	N/A		
Spot	261	6	(55,135)	(0,130)	N/A		

This table details the location of values that exceed criteria. In the case to 100 cm^2 (spot) alarms both the SCM strip number and the location relative to the south west corner of the survey. In the case of square meter (Average) alarms the meter grid coordinates are given.

Survey Report

Survey Location:	IT-01
Survey File Name:	FAT0114A
Survey Date:	August 17, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON/ROWE

Criteria

Any 100 cm^2 Measurement:	15,000 net dpm/100 cm^2
Average Over Any 1 m^2:	5,000 net dpm/100 cm^2
Investigation Level 100cm^2:	11,250 net dpm/100 cm^2
Investigation Level m^2:	3,750 net dpm/100 cm^2

System Information

Background:	C-180: 392 cpm
Efficiency (100 cm^2):	C-180: 22.3%
m^2 Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a

Survey Results

Maximum 100 cm^2:	4,188 dpm/100 cm^2
Maximum m^2 Average:	1,144 dpm/100 cm^2
Survey Location Code:	B0000B0000FZ0001F01D001HE012450FAT0114A

NOTE: Bold Text Denotes Values Exceeding Criteria.

New Clarifier Lower Walls, Beta Corner Mode

Cal Due Date 06-01-06

David Kelley

11-1-05

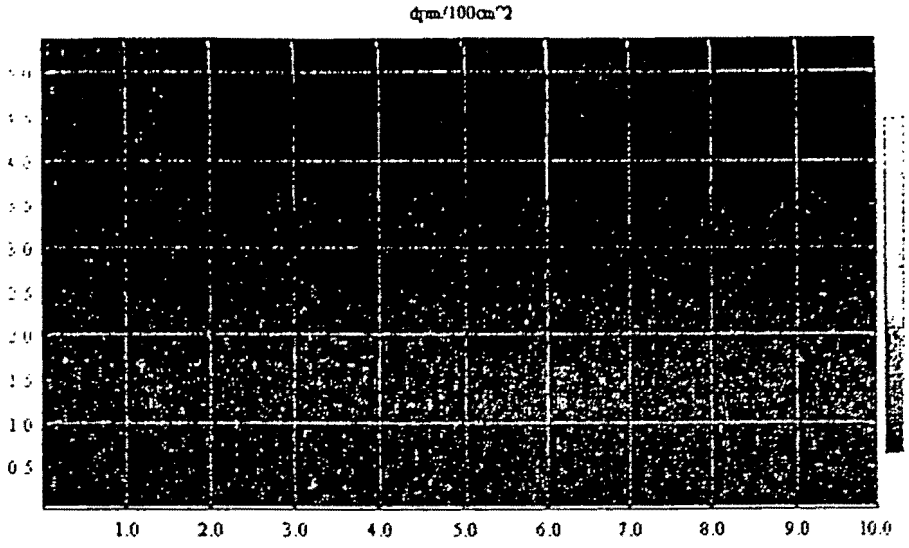


Figure 1: Meter Grid overlaid onto image plot of 100cm^2 areas. The color scale is in dpm per 100cm^2.

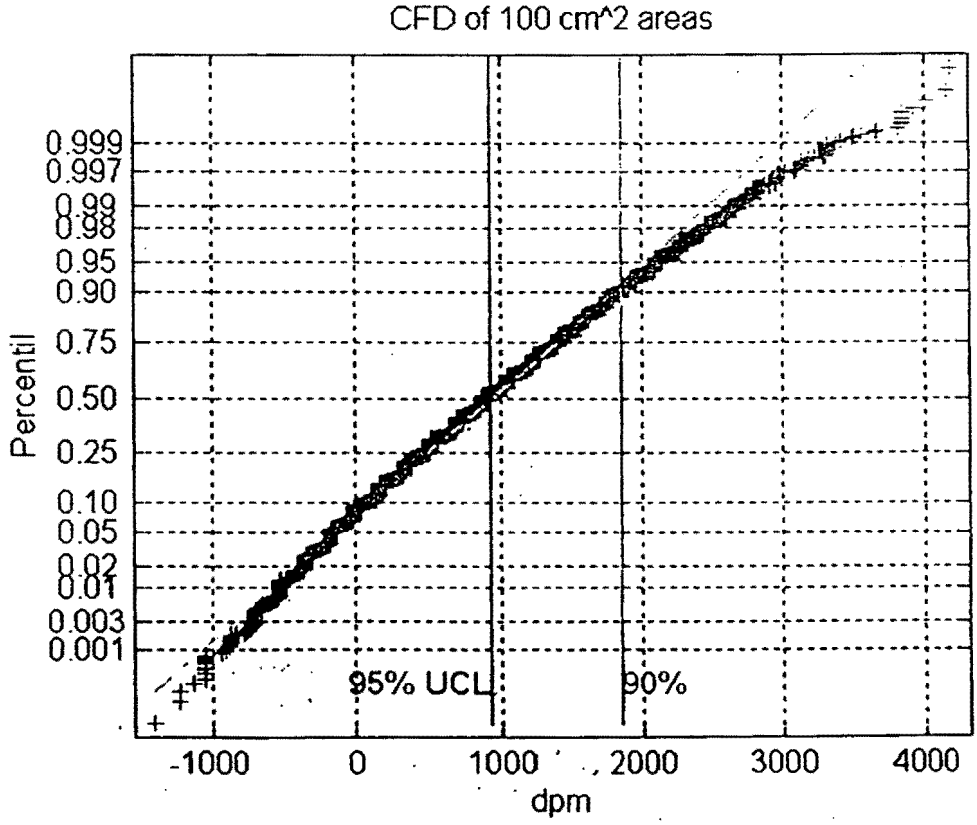


Figure 2: CFD of surface activity in 100cm^2 areas. The horizontal scale is in dpm per 100cm^2.

Meter Grid Summary Table

X	Y	Mean dpm/100cm²	Max dpm/100cm²	Min dpm/100cm²	Std dpm/100cm²	100cm² Areas
1	1	950	3,139	-534	696	100
1	2	938	3,314	-534	691	100
1	3	831	3,301	-534	696	100
1	4	952	3,080	-279	650	100
1	5	899	2,687	-534	652	100
1	6	1,037	3,129	-37	639	40
2	1	720	2,614	-1,058	675	100
2	2	876	3,844	-709	655	100
2	3	1,013	3,314	-883	681	100
2	4	858	2,614	-650	708	80
2	5	931	2,439	-254	591	50
2	6	944	2,684	-347	663	20
3	1	857	2,789	-1,058	709	100
3	2	907	3,645	-729	676	100
3	3	1,062	3,138	-534	620	100
3	4	1,117	3,139	-534	705	60
3	5	N/A	N/A	N/A	N/A	0
3	6	N/A	N/A	N/A	N/A	0
4	1	974	3,558	-1,058	697	100
4	2	951	3,383	-402	669	100
4	3	771	2,789	-725	756	100
4	4	858	2,439	-359	558	60
4	5	N/A	N/A	N/A	N/A	0
4	6	N/A	N/A	N/A	N/A	0
5	1	964	3,314	-709	692	100
5	2	985	3,918	-708	589	100
5	3	920	3,315	-708	665	100
5	4	963	2,546	-359	593	60
5	5	N/A	N/A	N/A	N/A	0
5	6	N/A	N/A	N/A	N/A	0
6	1	1,144	3,008	-359	610	100
6	2	1,010	2,967	-396	659	100
6	3	1,072	4,013	-566	737	100
6	4	974	3,314	-184	665	60
6	5	N/A	N/A	N/A	N/A	0
6	6	N/A	N/A	N/A	N/A	0

7	1	971	2,614	-709	653	100
7	2	1,016	3,839	-534	708	100
7	3	983	4,188	-709	748	100
7	4	865	2,614	-184	601	60
7	5	N/A	N/A	N/A	N/A	0
7	6	N/A	N/A	N/A	N/A	0
8	1	948	2,614	-1,058	665	100
8	2	898	2,789	-776	768	100
8	3	887	3,497	-589	664	100
8	4	930	2,659	-283	639	60
8	5	N/A	N/A	N/A	N/A	0
8	6	N/A	N/A	N/A	N/A	0
9	1	1,046	3,840	-454	694	100
9	2	922	2,983	-533	590	100
9	3	847	3,230	-709	697	100
9	4	971	2,789	-226	702	60
9	5	N/A	N/A	N/A	N/A	0
9	6	N/A	N/A	N/A	N/A	0
10	1	828	2,943	-709	620	100
10	2	995	4,169	-268	700	100
10	3	889	3,314	-709	717	100
10	4	778	2,516	-194	576	60
10	5	N/A	N/A	N/A	N/A	0
10	6	N/A	N/A	N/A	N/A	0

The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm^2. Meters with no recorded data are not displayed.

Survey Report

Survey Location:	IT-01
Survey File Name:	FAT0113B
Survey Date:	August 19, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON/ROWE

Criteria

Any 100 cm^2 Measurement:	300 net dpm/100 cm^2
Average Over Any 1 m^2:	100 net dpm/100 cm^2
Investigation Level 100cm^2:	225 net dpm/100 cm^2
Investigation Level m^2:	75 net dpm/100 cm^2

System Information

Background:	Background not Subtracted
Efficiency (100 cm^2):	C-180: 28.2%
m^2 Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a

Survey Results

Maximum 100 cm^2:	**346 dpm/100 cm^2**
Maximum m^2 Average:	37 dpm/100 cm^2
Survey Location Code:	B0000B0000FZ0001F01D101HE0012650FAT0113B

NOTE: Bold Text Denotes Values Exceeding Criteria.

New Clarifier Upper Walls, Alpha Corner Made

Cal Due Date 06-01-06

David Kelley

11-1-05

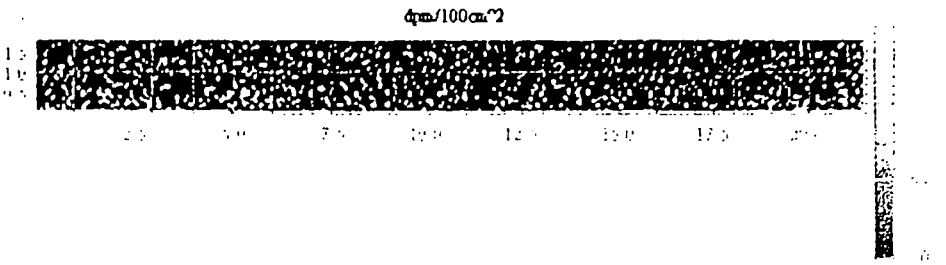


Figure 1: Meter Grid overlaid onto image plot of 100cm^2 areas. The color scale is in dpm per 100cm^2.

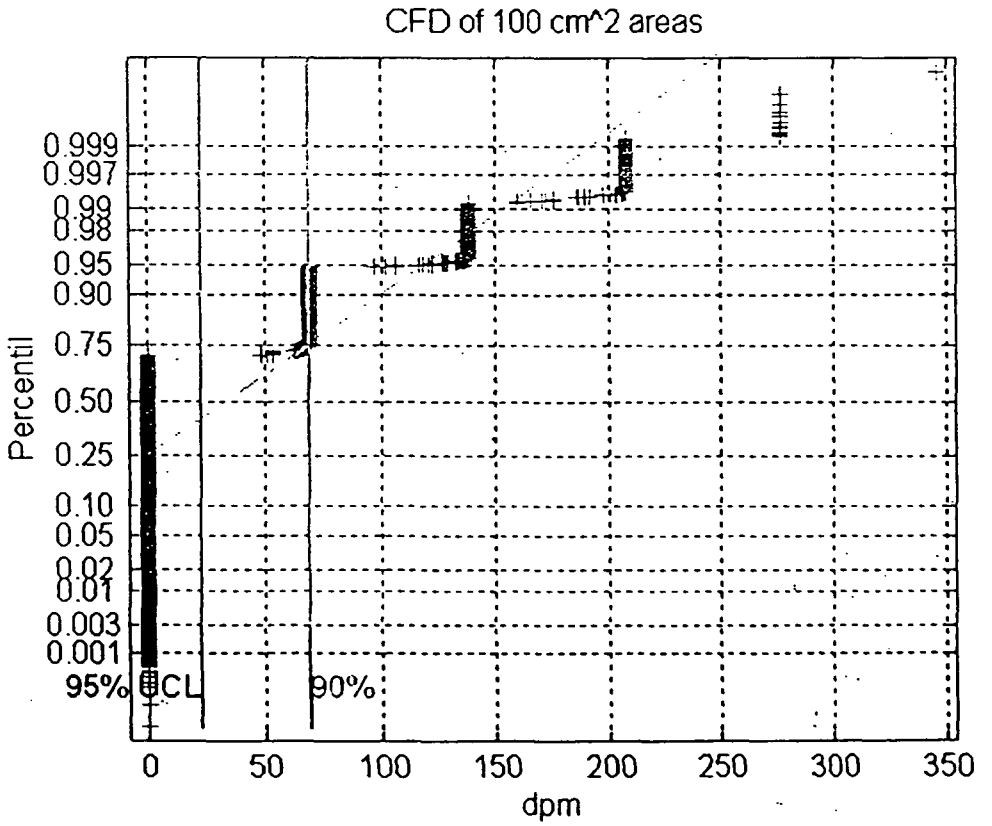


Figure 2: CFD of surface activity in 100cm^2 areas. The horizontal scale is in dpm per 100cm^2.

Meter Grid Summary Table

X	Y	Mean dpm/100cm²	Max dpm/100cm²	Min dpm/100cm²	Std dpm/100cm²	100cm² Areas
1	1	37	277	0	51	100
1	2	26	207	0	40	80
2	1	30	207	0	51	100
2	2	24	138	0	36	80
3	1	30	277	0	47	100
3	2	17	138	0	32	80
4	1	25	207	0	43	100
4	2	21	207	0	35	80
5	1	23	277	0	46	100
5	2	24	207	0	36	80
6	1	33	346	0	45	100
6	2	21	207	0	43	80
7	1	25	138	0	36	100
7	2	24	138	0	36	80
8	1	22	207	0	39	100
8	2	15	191	0	33	80
9	1	25	207	0	39	100
9	2	33	186	0	47	80
10	1	24	138	0	38	100
10	2	21	201	0	35	80
11	1	23	207	0	40	100
11	2	22	207	0	34	80
12	1	20	207	0	36	100
12	2	18	138	0	33	80
13	1	27	277	0	46	100
13	2	17	207	0	38	80
14	1	23	207	0	44	100
14	2	12	138	0	27	80
15	1	28	207	0	40	100
15	2	20	207	0	37	80
16	1	27	277	0	51	100
16	2	17	138	0	33	80
17	1	29	277	0	45	100
17	2	22	203	0	42	80
18	1	21	207	0	40	100
18	2	20	191	0	39	80

19	1	31	207	0	48	100
19	2	24	207	0	44	80
20	1	32	207	0	43	100
20	2	25	207	0	43	80
21	1	26	207	0	44	100
21	2	17	207	0	35	80
22	**1**	**28**	**277**	**0**	**58**	**50**
22	2	18	138	0	38	40

The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm^2. Meters with no recorded data are not displayed.

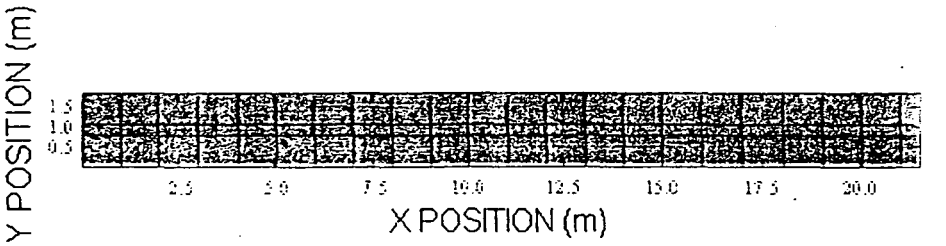


Figure 3: Yellow denotes meter grids that exceed criteria , while red corresponds to 100cm^2 areas exceeding criteria.

Investigation Table

Type	Value	Strip	Location From SW of Survey (X,Y)cm	Location From SW of Strip (X,Y)cm	Grid (X,Y)	Inv (Counts)	Count Time
Spot	346	53	(530,50)	(5,45)	N/A		
Spot	277	7	(70,15)	(5,10)	N/A		
Spot	277	30	(295,25)	(0,20)	N/A		
Spot	277	50	(495,45)	(0,40)	N/A		
Spot	277	128	(1280,5)	(5,0)	N/A		
Spot	277	159	(1585,45)	(0,40)	N/A		
Spot	277	163	(1630,55)	(5,50)	N/A		
Spot	277	212	(2120,35)	(5,30)	N/A		
Spot	277	213	(2125,85)	(0,80)	N/A		

This table details the location of values that exceed criteria. In the case to 100 cm^2 (spot) alarms both the SCM strip number and the location relative to the south west corner of the survey. In the case of square meter (Average) alarms the meter grid coordinates are given.

Survey Report

Survey Location:	1T-01
Survey File Name:	FAT0114B
Survey Date:	August 19, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON/ROWE

Criteria

Any 100 cm^2 Measurement:	15,000 net dpm/100 cm^2
Average Over Any 1 m^2:	5,000 net dpm/100 cm^2
Investigation Level 100cm^2:	11,250 net dpm/100 cm^2
Investigation Level m^2:	3,750 net dpm/100 cm^2

System Information

Background:	C-180: 392 cpm
Efficiency (100 cm^2):	C-180: 22.3%
m^2 Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a

Survey Results

Maximum 100 cm^2:	3,839 dpm/100 cm^2
Maximum m^2 Average:	944 dpm/100 cm^2
Survey Location Code:	B0000B0000FZ0001F01D001HE0012450FAT0114B

NOTE: Bold Text Denotes Values Exceeding Criteria.

New Clarifier Upper Walls, Beta Corner Mode

Cal Due Date 06-01-06

David Kelley

11-1-05

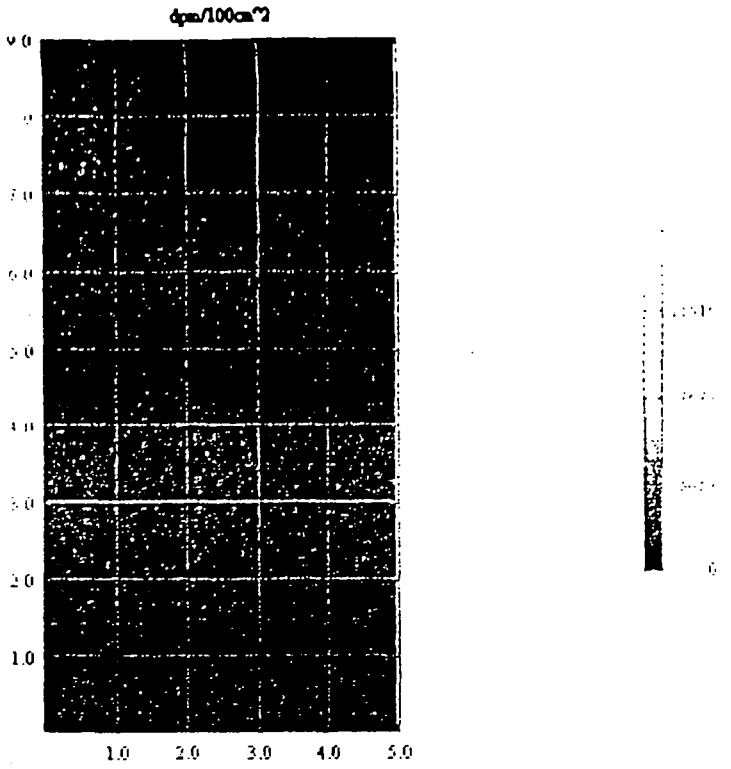


Figure 1: Meter Grid overlaid onto image plot of 100cm² areas. The color scale is in dpm per 100cm².

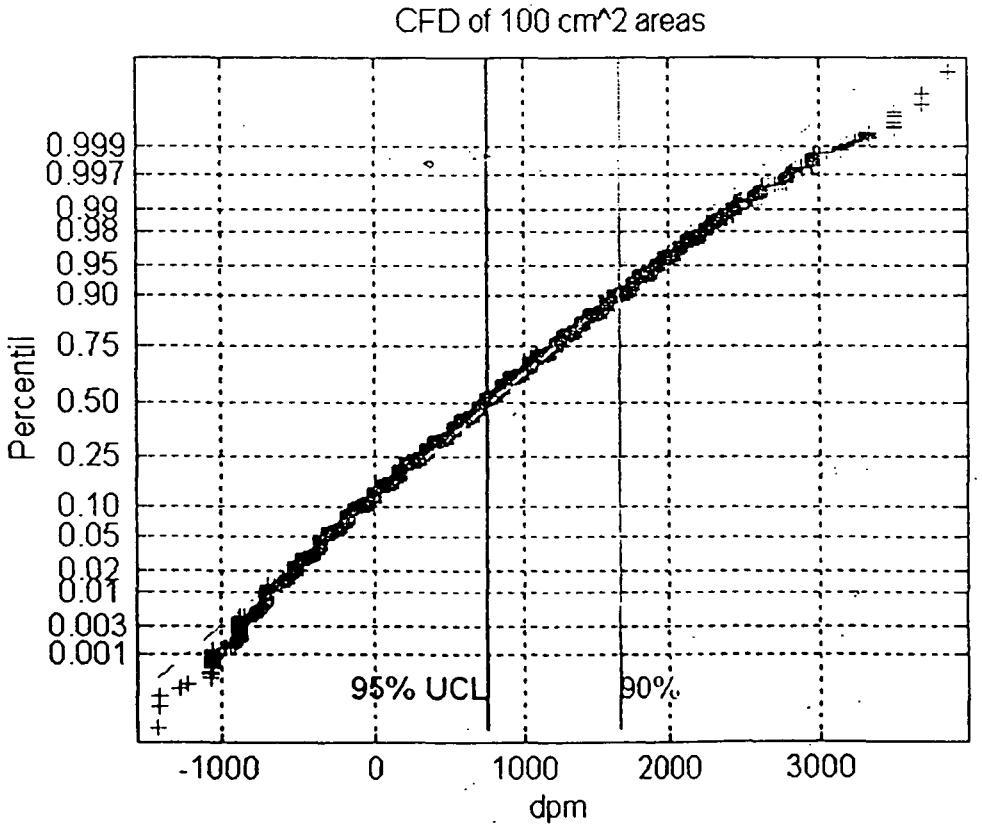


Figure 2: CFD of surface activity in 100cm² areas. The horizontal scale is in dpm per 100cm².

Meter Grid Summary Table

X	Y	Mean dpm/100cm²	Max dpm/100cm²	Min dpm/100cm²	Std dpm/100cm²	100cm² Areas
1	1	803	2,762	-534	629	100
1	2	739	2,789	-771	702	100
1	3	726	3,139	-359	615	100
1	4	638	2,844	-883	656	100
1	5	619	2,439	-883	677	100
1	6	927	3,257	-1,058	755	100
1	7	784	2,637	-534	640	100
1	8	935	3,839	-709	697	100
1	9	813	2,789	-883	681	100
2	1	738	3,489	-1,058	708	100
2	2	841	2,789	-1,058	717	100
2	3	616	2,789	-1,408	695	100
2	4	692	2,789	-1,417	722	100
2	5	773	3,489	-708	739	100
2	6	859	2,803	-883	718	100
2	7	944	3,139	-296	642	100
2	8	724	2,964	-534	534	60
2	9	906	2,614	-359	677	50
3	1	757	3,489	-473	646	100
3	2	728	2,614	-625	706	100
3	3	656	3,139	-709	614	100
3	4	717	2,422	-709	594	100
3	5	665	2,789	-1,058	711	100
3	6	817	2,439	-617	670	100
3	7	752	2,790	-709	664	100
3	8	494	1,915	-663	776	20
3	9	N/A	N/A	N/A	N/A	0
4	1	870	2,534	-883	630	100
4	2	675	2,891	-883	686	100
4	3	629	2,614	-1,079	671	100
4	4	654	2,538	-883	605	100
4	5	699	3,489	-665	650	100
4	6	897	3,664	-534	673	100
4	7	905	3,664	-359	649	100
4	8	752	2,599	-359	616	20
4	9	N/A	N/A	N/A	N/A	0

SIMS Report Generator V5.3k Date: 08-20-2005 Time: 21:19:54 FAT0114B-3

5	1	613	2,765	-709	591	100
5	2	719	3,314	-709	730	100
5	3	682	3,491	-518	612	100
5	4	854	3,314	-534	717	100
5	5	811	3,314	-534	611	100
5	6	740	2,964	-754	680	100
5	7	904	2,789	-727	613	100
5	8	571	2,073	-628	485	20
5	9	N/A	N/A	N/A	N/A	0

The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm^2. Meters with no recorded data are not displayed.

Survey Report

Survey Location:	1T-01
Survey File Name:	FAT0113C
Survey Date:	August 20, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON/ROWE

Criteria	
Any 100 cm^2 Measurement:	300 net dpm/100 cm^2
Average Over Any 1 m^2:	100 net dpm/100 cm^2
Investigation Level 100cm^2:	225 net dpm/100 cm^2
Investigation Level m^2:	75 net dpm/100 cm^2

System Information	
Background:	Background not Subtracted
Efficiency (100 cm^2):	C-180: 28.2%
m^2 Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a

Survey Results	
Maximum 100 cm^2:	**346 dpm/100 cm^2**
Maximum m^2 Average:	74 dpm/100 cm^2
Survey Location Code:	B0000B0000FZ0001F01D101HE0012650FAT0113C

NOTE: Bold Text Denotes Values Exceeding Criteria.

New clarifier rim walls ∝

Cal Due Date: 06-01-06

David Kelley

11-1-05

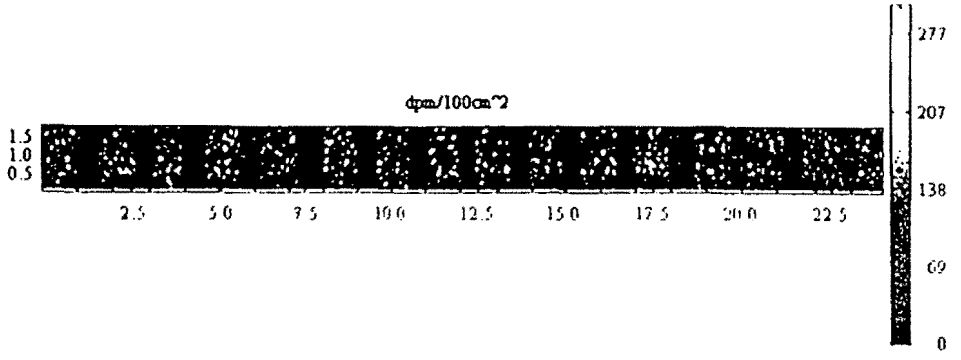


Figure 1: Meter Grid overlaid onto image plot of 100cm² areas. The color scale is in dpm per 100cm².

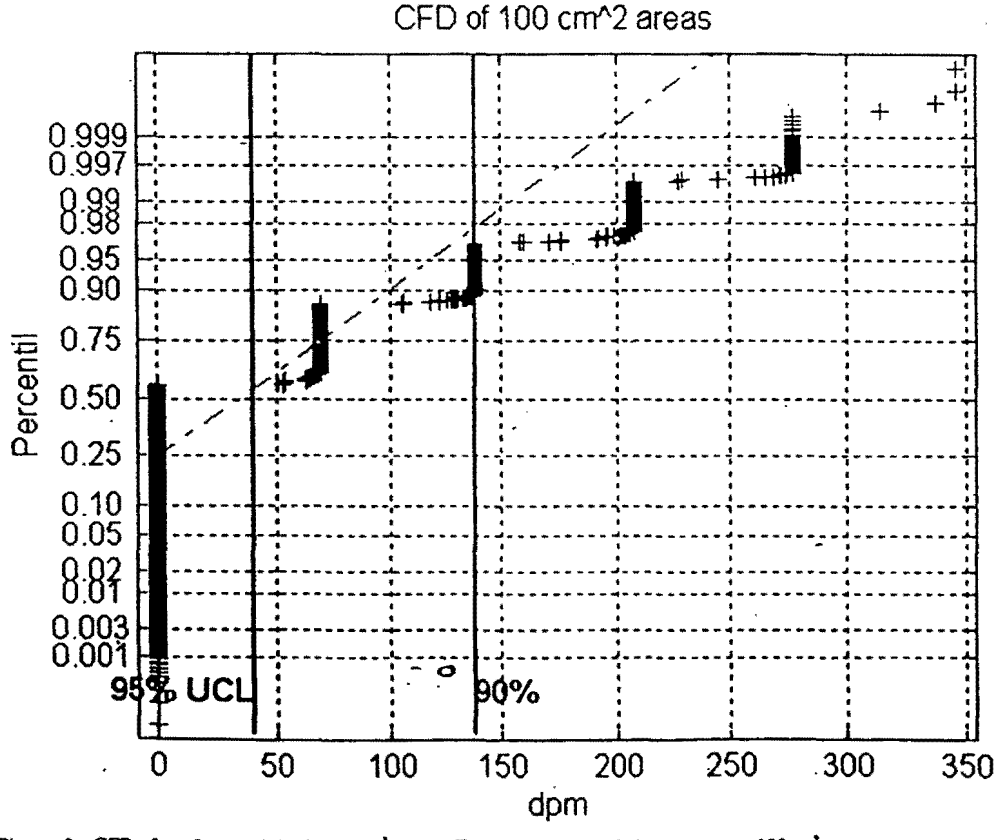


Figure 2: CFD of surface activity in 100cm² areas. The horizontal scale is in dpm per 100cm².

Meter Grid Summary Table

X	Y	Mean dpm/100cm²	Max dpm/100cm²	Min dpm/100cm²	Std dpm/100cm²	100cm² Areas
1	1	31	277	0	51	100
1	2	43	277	0	58	80
2	1	42	207	0	54	50
2	2	46	176	0	44	40
3	1	54	277	0	66	60
3	2	48	277	0	51	48
4	1	49	207	0	61	100
4	2	33	207	0	41	80
5	1	39	207	0	58	40
5	2	37	207	0	58	32
6	1	32	207	0	50	60
6	2	66	277	0	80	48
7	1	29	277	0	51	80
7	2	31	170	0	45	64
8	1	57	207	0	57	20
8	2	74	191	0	69	16
9	1	35	277	0	53	100
9	2	50	273	0	52	80
10	1	40	207	0	47	40
10	2	56	277	0	69	32
11	1	35	207	0	45	60
11	2	38	138	0	45	48
12	1	36	277	0	54	90
12	2	47	207	0	57	72
13	1	37	277	0	62	60
13	2	43	207	0	49	48
14	1	41	271	0	55	50
14	2	41	207	0	44	40
15	1	34	273	0	51	90
15	2	31	207	0	42	72
16	1	34	277	0	51	60
16	2	23	207	0	39	48
17	1	55	277	0	60	50
17	2	50	207	0	56	40
18	1	55	346	0	74	90
18	2	54	277	0	56	72

SIMS Report Generator V5.3k Date: 10-05-2005 Time: 15:36:22 FAT0113C-3

19	1	42	245	0	44	40
19	2	61	207	0	62	32
20	1	28	245	0	45	60
20	2	45	338	0	57	48
21	1	37	277	0	54	90
21	2	40	207	0	56	72
22	1	33	207	0	52	50
22	2	52	272	0	54	40
23	1	30	207	0	40	70
23	2	42	229	0	57	56
24	1	38	346	0	68	80
24	2	51	277	0	60	64

The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm^2. Meters with no recorded data are not displayed.

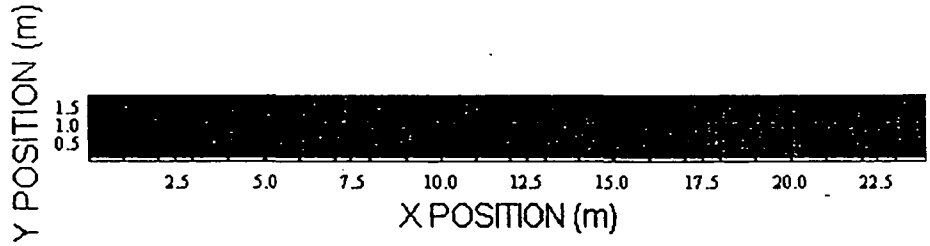


Figure 3: Yellow denotes meter grids that exceed criteria , while red corresponds to 100cm^2 areas exceeding criteria.

Type	Value	Strip	Location From SW of Survey (X,Y)cm	Location From SW of Strip (X,Y)cm	Grid (X,Y)	Inv (Counts)	Count Time
Spot	346	36	(1745,75)	(0,70)	N/A		
Spot	346	79	(2385,55)	(0,50)	N/A		
Spot	338	48	(1940,110)	(5,105)	N/A		
Spot	314	73	(2325,55)	(0,50)	N/A		
Spot	277	153	(1125,85)	(0,80)	N/A		
Spot	277	87	(80,85)	(5,80)	N/A		
Spot	277	6	(1295,100)	(0,95)	N/A		
Spot	277	81	(15,150)	(0,145)	N/A		
Spot	277	89	(95,155)	(0,150)	N/A		
Spot	277	95	(210,150)	(5,145)	N/A		
Spot	277	97	(230,50)	(5,45)	N/A		
Spot	277	116	(520,110)	(5,105)	N/A		
Spot	277	117	(525,135)	(0,130)	N/A		
Spot	277	117	(530,160)	(5,155)	N/A		
Spot	277	119	(550,160)	(5,155)	N/A		
Spot	277	126	(680,95)	(5,90)	N/A		
Spot	277	137	(865,80)	(0,75)	N/A		
Spot	277	143	(985,175)	(0,170)	N/A		
Spot	277	2	(1255,95)	(0,90)	N/A		
Spot	277	26	(1600,95)	(5,90)	N/A		
Spot	277	29	(1630,85)	(5,80)	N/A		
Spot	277	35	(1740,160)	(5,155)	N/A		
Spot	277	38	(1765,70)	(0,65)	N/A		
Spot	277	40	(1785,50)	(0,45)	N/A		
Spot	277	54	(2050,65)	(5,60)	N/A		
Spot	277	58	(2090,50)	(5,45)	N/A		
Spot	277	78	(2375,105)	(0,100)	N/A		
Spot	277	128	(700,65)	(5,60)	N/A		
Spot	277	128	(700,85)	(5,80)	N/A		
Spot	273	132	(820,130)	(5,125)	N/A		
Spot	273	16	(1445,60)	(0,55)	N/A		
Spot	272	61	(2165,170)	(0,165)	N/A		
Spot	271	9	(1325,60)	(0,55)	N/A		
Spot	268	99	(245,50)	(0,45)	N/A		
Spot	265	74	(2335,120)	(0,115)	N/A		
Spot	245	44	(1900,60)	(5,55)	N/A		

Spot	229	70	(2255,115)	(0,110)	N/A

This table details the location of values that exceed criteria. In the case to 100 cm^3 (spot) alarms both the SCM strip number and the location relative to the south west corner of the survey. In the case of square meter (Average) alarms the meter grid coordinates are given.

Survey Report

Survey Location:	~~1T-0T~~ SV-8
Survey File Name:	FAT0114C
Survey Date:	August 20, 2005
Survey Equipment:	SCM53
Detector(s):	C-180
Surveyor(s):	EATON/ROWE
Criteria	
Any 100 cm^2 Measurement:	15,000 net dpm/100 cm^2
Average Over Any 1 m^2:	5,000 net dpm/100 cm^2
Investigation Level 100cm^2:	11,250 net dpm/100 cm^2
Investigation Level m^2:	3,750 net dpm/100 cm^2
System Information	
Background:	C-180: 392 cpm
Efficiency (100 cm^2):	C-180: 22.3%
m^2 Correction Factor:	C-180: 1.0
SIMS Version:	V5.3k
SCM Version:	V3.4a
Survey Results	
Maximum 100 cm^2:	4,365 dpm/100 cm^2
Maximum m^2 Average:	1,410 dpm/100 cm^2
Survey Location Code:	B0000B0000FZ0001F01D001HE0012450FAT0114C

NOTE: Bold Text Denotes Values Exceeding Criteria.

New Clarifier Rim Walls, Beta Corner Mode Positional stitch

Cal Due Date 06-01-06

Jarid Kelley

[signature] 9-21-05

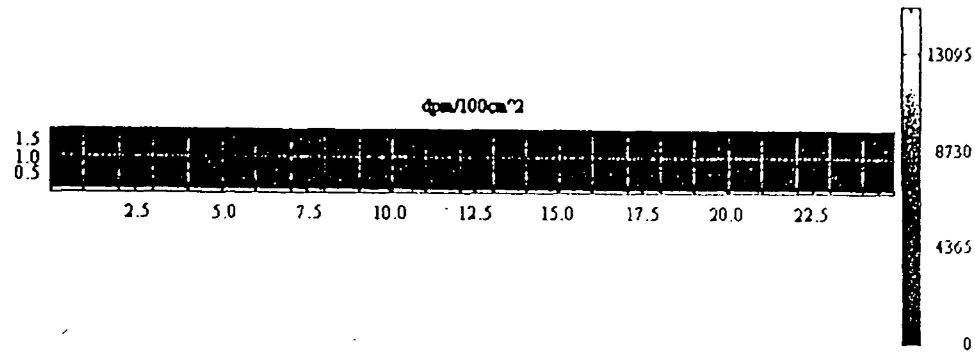


Figure 1: Meter Grid overlaid onto image plot of 100cm^2 areas. The color scale is in dpm per 100cm^2.

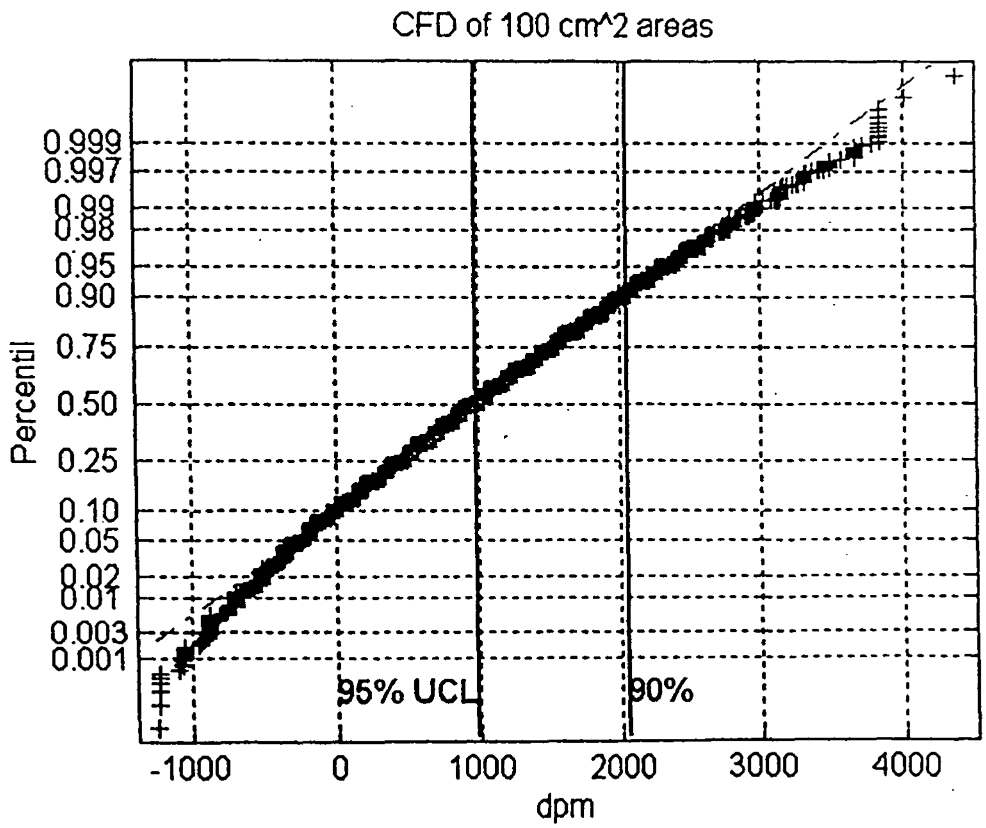


Figure 2: CFD of surface activity in 100cm^2 areas. The horizontal scale is in dpm per 100cm^2.

Meter Grid Summary Table

X	Y	Mean dpm/100cm²	Max dpm/100cm²	Min dpm/100cm²	Std dpm/100cm²	100cm² Areas
1	1	1,318	3,664	-184	713	80
1	2	853	2,789	-708	749	64
2	1	1,290	3,140	50	607	70
2	2	883	2,439	-709	632	56
3	1	1,348	4,365	6	857	50
3	2	836	2,608	-883	735	40
4	1	1,061	3,314	-184	704	50
4	2	804	2,285	-883	748	40
5	1	1,150	3,839	-549	649	80
5	2	871	2,964	-709	749	64
6	1	1,347	3,314	-534	827	70
6	2	809	2,787	-884	799	56
7	1	1,097	2,864	-184	699	50
7	2	761	3,139	-883	833	40
8	1	1,066	3,449	-371	793	70
8	2	664	2,482	-730	693	56
9	1	1,152	3,401	-359	696	80
9	2	860	3,139	-709	816	64
10	1	1,347	3,489	166	656	50
10	2	753	3,489	-534	812	40
11	1	1,216	3,664	-359	731	50
11	2	738	2,790	-1,058	706	40
12	1	1,171	3,840	-359	730	90
12	2	809	3,840	-709	896	72
13	1	1,369	3,839	-91	739	50
13	2	781	2,789	-359	656	40
14	1	1,410	3,369	10	689	50
14	2	742	2,265	-534	724	40
15	1	1,143	3,314	-534	889	60
15	2	634	2,090	-902	636	48
16	1	1,121	3,839	-184	756	80
16	2	683	2,964	-925	798	64
17	1	1,264	3,839	-709	865	60
17	2	704	2,898	-819	790	48
18	1	1,313	3,489	-628	833	50
18	2	874	2,439	-534	711	40

SIMS Report Generator V5.3k Date: 09-20-2005 Time: 09:58:08 FAT0114C-3

19	**1**	**1,302**	**3,314**	**-359**	**702**	**50**
19	**2**	**800**	**2,614**	**-962**	**844**	**40**
20	1	1,262	3,140	-184	760	70
20	2	831	2,867	-1,076	875	56
21	1	1,270	3,314	-359	764	80
21	2	676	2,783	-1,058	767	64
22	1	1,197	3,268	-534	721	50
22	2	621	2,216	-1,058	736	40
23	1	1,021	3,191	-359	661	50
23	2	693	3,139	-574	871	40
24	1	1,293	4,013	-1,058	938	50
24	2	734	2,789	-534	680	40
25	1	1,147	3,489	-184	705	90
25	2	786	3,361	-359	665	72

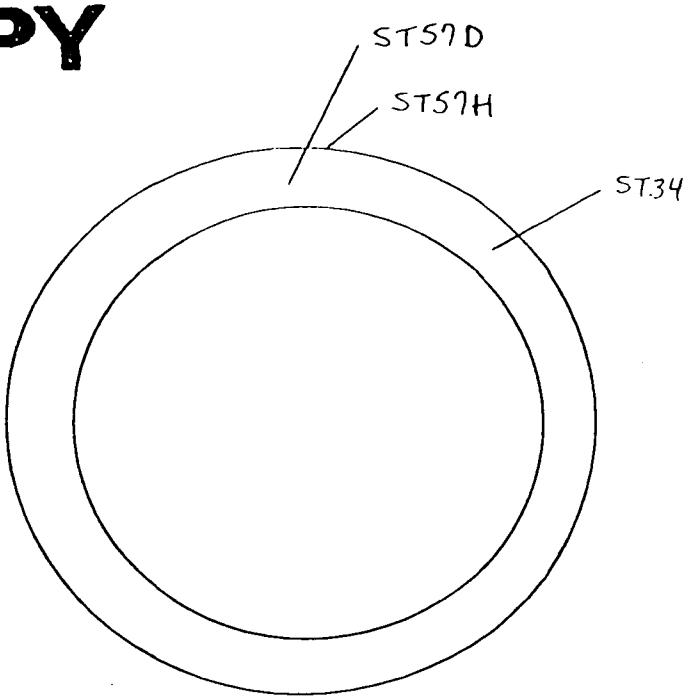
The X and Y columns reference the grids of Figures 1 and 2. Bold text denotes grids which exceed the investigation criteria. When '100' is indicated in the 'Areas' column, the grid is a full square meter. The mean is the average of all measurements in the grid. The standard deviation is calculated from pixels that contain data. All units (i.e. mean, max, and standard deviation) are in dpm per 100cm^2. Meters with no recorded data are not displayed.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION (BLDG /AREA/ROOM)	SURVEY NO
MWWTP	05-TF-0299
PURPOSE	RWP NO
Follow up / verification survey of Clarifier rim	N/A
	DATE 9/13/05
	TIME 15:00

MAP / DRAWING

COPY



BK= 1.2 cpm alpha
151 cpm beta

LEGEND:
- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- —·—·—·· = radiological boundary
- # - mrem/hr neutron
- # - swipe number
- # - air sample number
- #/α or /β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Lud 2350/4368	5922/5926	5/18/06
	NA	

[redacted] HP# 7244 7836 Date 9-14-05
Completed by: (Printed) [redacted]
Counted by: (Signature) N/A HP# Date
Counted by: (Printed Name)
Re[redacted] HP# 7707 Date 9/19/05
Reviewed/Approved by: [redacted]

MWWTP Follow-up survey of Clarifier rim

RSDS# 05-TF0299 RCT: JMC RCT: 110

Alpha	43-68 BKG:	0	EFF:	0.2074	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :
Beta	43-68 BKG:	0	EFF:	0.1747	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # :
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # :

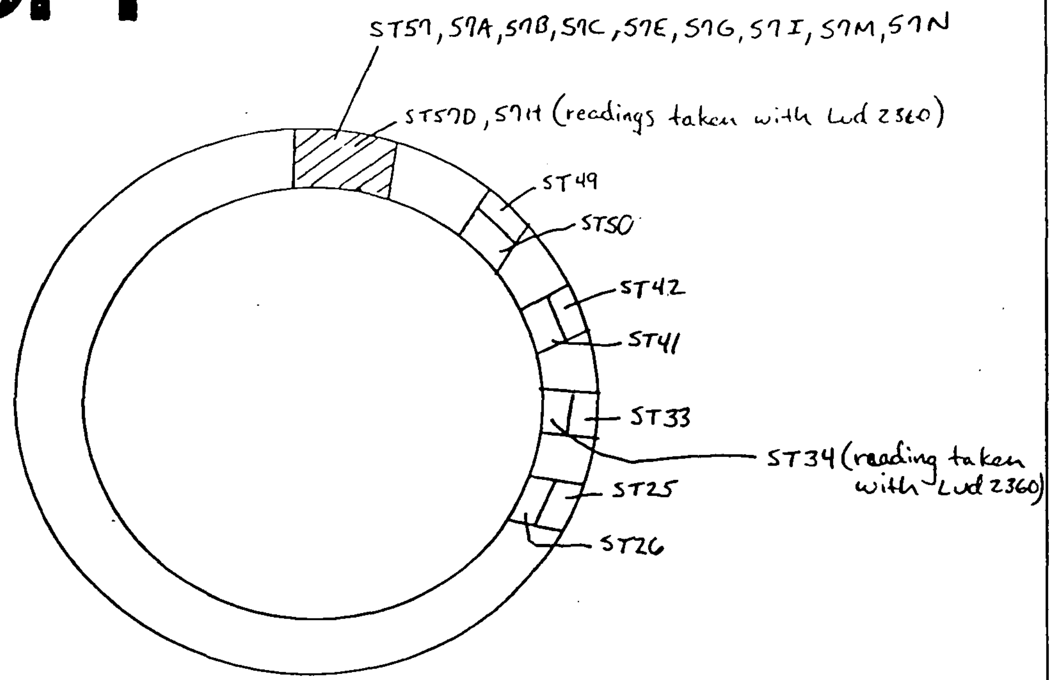
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #		DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	SU-8 ST34	5922	7244	5926	1	1	9/13/05	14:45	38	120	145
ALPHA	SU-8 ST57H	5922	7244	5926	1	2	9/13/05	14:49	9	120	34
ALPHA	SU-8 ST57D	5922	7244	5926	1	3	9/13/05	14:53	68	120	260
BETA	SU-8 ST34	5922	7244	5926	2	4	9/13/05	14:46	310	60	2817
BETA	SU-8 ST57H	5922	7244	5926	2	5	9/13/05	14:50	181	60	1645
BETA	SU-8 ST57D	5922	7244	5926	2	6	9/13/05	14:54	356	60	3235

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM)	SURVEY NO.
MWWTP	05-TF-0300
PURPOSE: Follow up / verification survey of Clarifier rim	RWP NO: N/A
	DATE: 9/14/05
	TIME: 15:00

MAP / DRAWING

COPY



Bkgd.

2350/43-68 — 1.2 cpm alpha, 166 cpm beta

2360-89 — 1.4 cpm alpha, 172 cpm beta

D.L. — 1.8 cpm alpha, 20 cpm beta

LEGEND:

- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- —·—·—·· = radiological boundary
- △# - mrem/hr neutron
- ○# - swipe number
- □# - air sample number
- ○#/α or /β - direct contamination measurement in dpm/100cm^2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Lud 2350/4368	5922/5926	5/18/06
	NA	
Lud 2360/4389	5704/5714	10/21/05

[redacted]	HP# 7244 7836	Date 9-14-05
Completed by: (Printed [redacted]		
Counted by: (Signature) N/A	HP#	Date
Counted by: (Printed Name)		
Re[redacted]	HP# 7707	Date 9/19/05
Reviewed/Approved by: (Print[redacted]		

Follow-Up Verification Survey of Clarifier Rim

RSDS# 05-TF-0300 RCT: MD RCT: MIC

Alpha	43-68 BKG:	0	EFF:	0.2074	PROBE AREA:	126	cm^2	Surface Eff:	0.8	Detector # :	1
Beta	43-68 BKG:	0	EFF:	0.1747	PROBE AREA:	126	cm^2	Surface Eff:	0.5	Detector # :	2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:	0.5	Detector # :	3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:	0.5	Detector # :	4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #		DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	SU-8 ST57	5922	7244	5926	1	1	9/14/05	12:55	74	120	283
ALPHA	SU-8 ST57A	5922	7244	5926	1	2	9/14/05	12:59	50	120	191
ALPHA	SU-8 ST57B	5922	7244	5926	1	3	9/14/05	13:06	67	120	256
ALPHA	SU-8 ST57C	5922	7244	5926	1	4	9/14/05	13:10	78	120	298
ALPHA	SU-8 ST57E	5922	7244	5926	1	5	9/14/05	13:14	51	120	195
ALPHA	SU-8 ST57G	5922	7244	5926	1	6	9/14/05	13:17	8	120	31
ALPHA	SU-8 ST57I	5922	7244	5926	1	7	9/14/05	13:21	55	120	210
ALPHA	SU-8 ST57M	5922	7244	5926	1	8	9/14/05	13:25	63	120	241
ALPHA	SU-8 ST57N	5922	7244	5926	1	9	9/14/05	13:31	35	120	134
ALPHA	SU-8 ST49	5922	7244	5926	1	10	9/14/05	13:34	29	120	111
ALPHA	SU-8 ST50	5922	7244	5926	1	11	9/14/05	13:40	47	120	180
ALPHA	SU-8 ST42	5922	7244	5926	1	12	9/14/05	13:44	36	120	138
ALPHA	SU-8 ST41	5922	7244	5926	1	13	9/14/05	13:48	32	120	122
ALPHA	SU-8 ST33	5922	7244	5926	1	14	9/14/05	13:52	41	120	157
ALPHA	SU-8 ST25	5922	7244	5926	1	15	9/14/05	13:55	28	120	107
ALPHA	SU-8 ST26	5922	7244	5926	1	16	9/14/05	13:59	35	120	134
BETA	SU-8 ST57	5922	7244	5926	2	1	9/14/05	12:56	321	60	2917
BETA	SU-8 ST57A	5922	7244	5926	2	2	9/14/05	13:00	316	60	2871
BETA	SU-8 ST57B	5922	7244	5926	2	3	9/14/05	13:07	353	60	3207
BETA	SU-8 ST57C	5922	7244	5926	2	4	9/14/05	13:11	375	60	3407
BETA	SU-8 ST57E	5922	7244	5926	2	5	9/14/05	13:15	318	60	2889
BETA	SU-8 ST57G	5922	7244	5926	2	6	9/14/05	13:19	198	60	1799
BETA	SU-8 ST57I	5922	7244	5926	2	7	9/14/05	13:22	346	60	3144
BETA	SU-8 ST57M	5922	7244	5926	2	8	9/14/05	13:27	337	60	3062
BETA	SU-8 ST57N	5922	7244	5926	2	9	9/14/05	13:32	303	60	2753
BETA	SU-8 ST49	5922	7244	5926	2	10	9/14/05	13:36	320	60	2907
BETA	SU-8 ST50	5922	7244	5926	2	11	9/14/05	13:41	323	60	2935
BETA	SU-8 ST42	5922	7244	5926	2	12	9/14/05	13:46	296	60	2689
BETA	SU-8 ST41	5922	7244	5926	2	13	9/14/05	13:49	339	60	3080
BETA	SU-8 ST33	5922	7244	5926	2	14	9/14/05	13:53	300	60	2726
BETA	SU-8 ST25	5922	7244	5926	2	15	9/14/05	13:56	329	60	2989
BETA	SU-8 ST26	5922	7244	5926	2	16	9/14/05	14:00	262	60	2380

RSDS#: 05-TF-0300 RCT: [illegible] RCT: MO

43-89 ALPHA BKG:	1.4	Factor	8	PROBE AREA:	100	cm2	Surface Eff:	1	ALPHA
43-89 BETA BKG:	172	Factor	4	PROBE AREA:	100	cm2	Surface Eff:	1	BETA

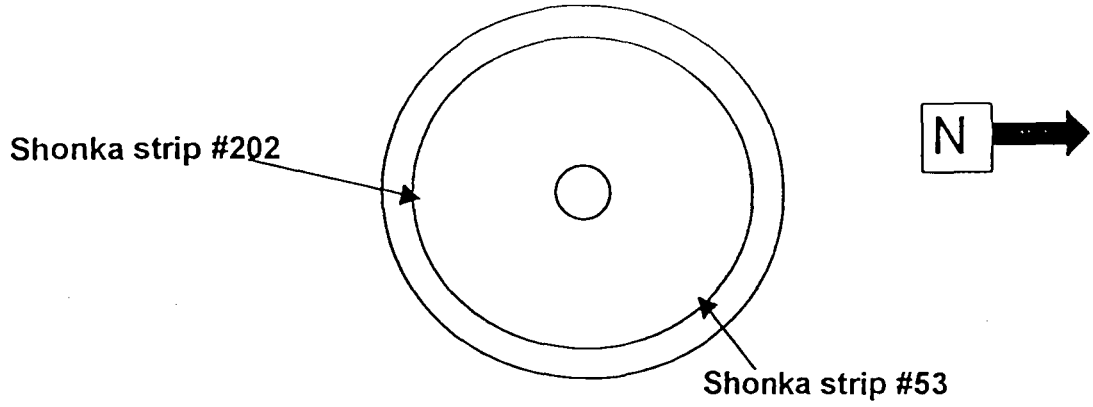
LOCATION	2360#	RCT ID	PROBE	RAD TYPE	ITEM	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
SU-8 ST57-D	5704	7244	5714	ALPHA	17	9/14/05	10:00	78	120	301
SU-8 ST57-H	5704	7244	5714	ALPHA	18	9/14/05	10:00	14	120	45
SU-8 ST34	5704	7244	5714	ALPHA	19	9/14/05	10:00	62	120	237
SU-8 ST57-D	5704	7244	5714	BETA	17	9/14/05	10:00	554	120	420
SU-8 ST57-H	5704	7244	5714	BETA	18	9/14/05	10:00	435	120	182
SU-8 ST34	5704	7244	5714	BETA	19	9/14/05	10:00	527	120	366

RADIOLOGICAL SURVEY DATA SHEET

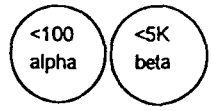
LOCATION (BLDG /AREA/ROOM)	SURVEY NO
MWWTP Clarifier	05-TF-0316
PURPOSE	RWP NO
Verification Survey of Clarifier walls prior to demo	N/A
	DATE: 10/11/05
	TIME: 14:30

MAP / DRAWING

COPY



See attached for integrated counts.



Bkgd. 2.2 cpm alpha
166 cpm beta
D.L. 2.2 cpm alpha
20 cpm beta

LEGEND:
- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- — · — · — · · = radiological boundary
- # - mrem/hr neutron
- # - swipe number
- # - air sample number
- #/α or /β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360-89	5704/5714	10/21/05
	A	
	N	

[redacted] H.P.# 7244/7836 10-12-05

completed by: [redacted]

Counted by: (Signature) see attached HP# Date:

Counted by: (Printed Name)

Reviewed [redacted] HP# 7707 Date: 10/13/05

Reviewed/Approved by: (Print Nam [redacted]

Verification Survey of Clarifier

RSDS#: 05-TF-0316 RCT: 140 RCT: Sync

43-89 ALPHA BKG:	2.2	Factor	8	PROBE AREA:	100	cm2	Surface Eff:	1	ALPHA
43-89 BETA BKG:	166	Factor	4	PROBE AREA:	100	cm2	Surface Eff:	1	BETA

LOCATION	2360#	RCT ID	PROBE	RAD TYPE	ITEM	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
lower wall #53	5704	7836	5714	ALPHA	1	10/11/05	14:30	12	120	30
upper wall#202	5704	7836	5714	ALPHA	2	10/11/05	14:30	9	120	18
lower wall #53	5704	7836	5714	BETA	1	10/11/05	14:30	434	120	204
upper wall#202	5704	7836	5714	BETA	2	10/11/05	14:30	407	120	150

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM)	SURVEY NO.
MWWTP	05-TF-0318
PURPOSE:	RWP NO.
	N/A
S.U. # 8 Clarifier smear survey	DATE
	10/12/05
	TIME
	14:30

MAP / DRAWING

COPY

SEE ATTACHED FOR LOCATIONS AND RESULTS

LEGEND:

- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- — · — · — · · = radiological boundary

△ # - mrem/hr neutron

(#) - swipe number

□ # - air sample number

(#/α) or /β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Lud 2360/4389	5704/5714	10/21/05
	NA	

[redacted] 7244/7836 Date 10/13/05

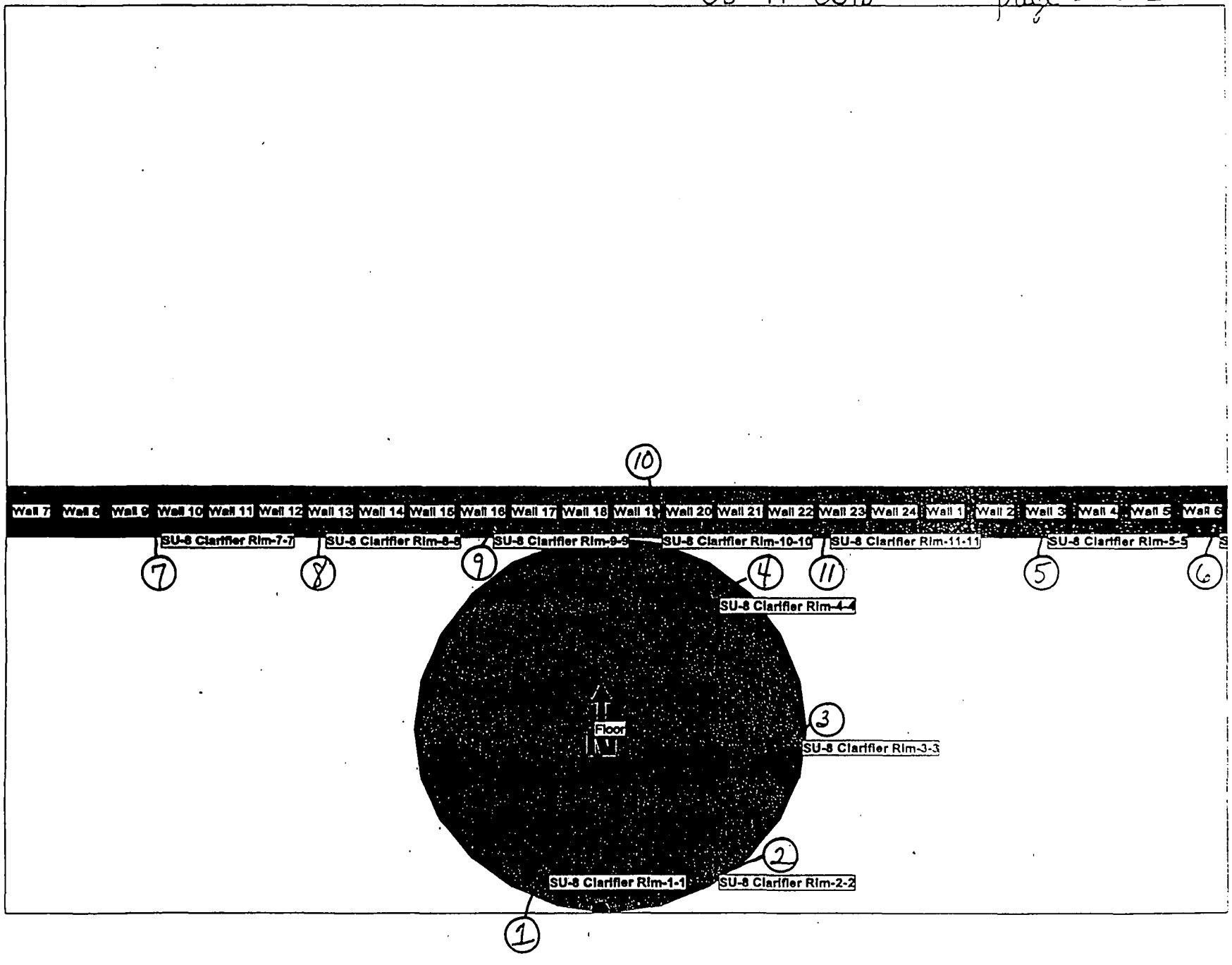
Completed by: (Printed) [redacted]

Counted by: (Signature) See Attached HP# Date

Counted by: (Printed Name)

Reviewed [redacted] HP# 7707 Date 10/13/05

Reviewed/Approved by: (Print Name) [redacted]


Wall 7
Wall 8
Wall 9
Wall 10
Wall 11
Wall 12
Wall 13
Wall 14
Wall 15
Wall 16
Wall 17
Wall 18
Wall 19
Wall 20
Wall 21
Wall 22
Wall 23
Wall 24
Wall 1
Wall 2
Wall 3
Wall 4
Wall 5
Wall 6
SU-8 Clarifier Rim-7-7
SU-8 Clarifier Rim-8-8
SU-8 Clarifier Rim-9-9
SU-8 Clarifier Rim-10-10
SU-8 Clarifier Rim-11-11
SU-8 Clarifier Rim-5-5
SU-8 Clarifier Rim-4-4
SU-8 Clarifier Rim-3-3
SU-8 Clarifier Rim-1-1
SU-8 Clarifier Rim-2-2
Floor
10
7
8
9
4
11
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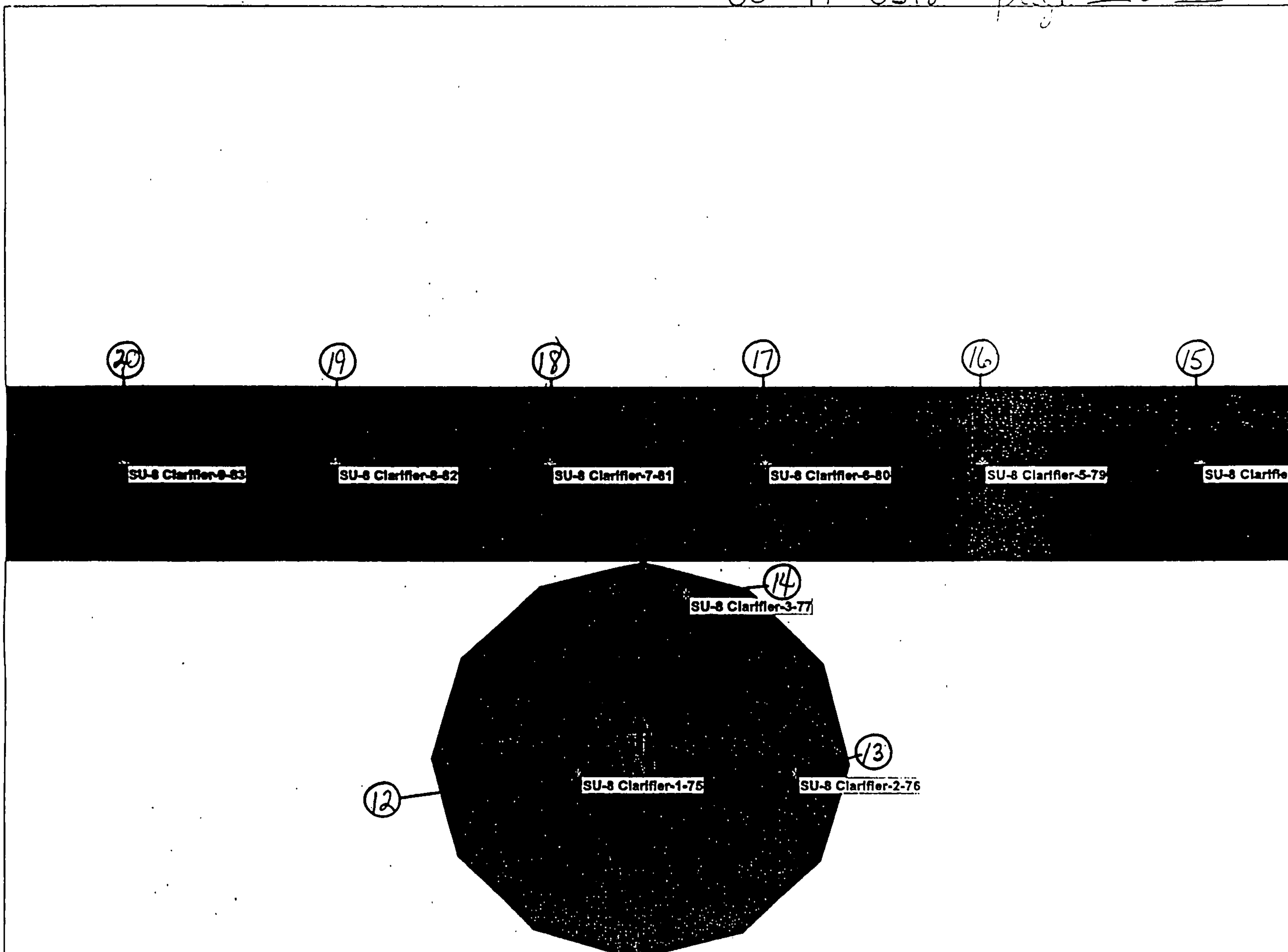
6
3
2
1


20
19
18
17
16
15
SU-8 Clarifier-9-83
SU-8 Clarifier-8-82
SU-8 Clarifier-7-81
SU-8 Clarifier-6-80
SU-8 Clarifier-5-79
SU-8 Clarifier-
14
SU-8 Clarifier-3-77
13
12
SU-8 Clarifier-1-75
SU-8 Clarifier-2-76

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RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE ATTACHED RESULTS			floor
2				
3				
4				
5				upper rim
6				
7				
8				
9				
10				
11				
12				lower wall
13				
14				
15				
16				
17				
18				
19				
20				
		A		
		N		

Removable Contamination				
Swipes (dpm/100cm^2)				
Sample #	β/γ	Alpha	Tritium	Comments
		A		
		N		

Comments: All smears field checked with 2360 prior to submiting to count lab.

NOTES:

1. See MD-80036 10002 for calculations of WEB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR010
Batch Ended: 10/12/05 15:08

Crosstalk correction performed.

Recalibration Date: 11/03/05
Serial Number: 26966-1

Batch ID: 05-TF-0318 [20] J. COLLINS 10-12-05 RLH

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	0.00	2.19		0.96	2.22	
A2	2	0.00	2.21		0.54	1.81	
A3	3	0.00	2.20		1.70	2.15	
A4	4	0.00	2.05		1.15	2.16	
B1	5	0.00	1.94		0.00	1.98	
B2	6	0.00	2.05		0.00	1.72	
B3	7	0.00	1.96		1.32	2.50	
B4	8	0.00	1.92		1.56	2.30	
C1	9	1.84	2.33		0.00	1.46	
C2	10	0.00	2.15		0.00	1.44	
C3	11	0.00	2.11		0.22	2.31	
C4	12	1.51	2.07		0.00	2.24	
D1	13	0.00	2.24		4.57	3.53	
D2	14	0.00	2.27		2.50	2.52	
D3	15	3.55	2.74		0.00	1.49	
D4	16	0.00	2.16		0.63	2.39	
C1	17	0.00	2.37		0.50	2.73	
C2	18	0.00	2.15		0.00	1.44	
C3	19	0.00	2.16		5.42	3.48	
C4	20	1.51	2.09		1.07	2.57	

J.C

JC

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12 Oct 2005 14:50 ALPHA/BETA - 1.09 Page #1
Protocol #: 1 PW HJ 405828 User : 5662

Time: 2.00
Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
Background Subtract: 1st Vial

	LL	UL	LCR	2SI	BKG
Region A:	0.5	18.6	0	0.0	6.37
Region B:	2.0	18.6	0	0.0	6.17
Region C:	40.0	2000	0	0.0	9.20

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
05-TF-0318 (20) J. COLLINS 10-12-05 RLH
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\PROT1.DAT
Count Data Filename: c:\data\SDATA1.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	6.37	6.17	2	B	632.54		0.00	9.20
0	2.00	464.00	436.17	0		572.23	911.81	91.90	2.80
1	2.00	0.78	0.00	0		617.92	1.47	7.76	0.00
2	2.00	2.13	2.04	0		608.18	4.06	8.43	0.00
3	2.00	1.13	1.33	0		628.16	2.11	7.86	0.00
4	2.00	0.13	0.33	0		638.86	0.25	7.33	0.00
5	2.00	3.06	2.76	0		634.76	5.71	8.64	1.30
6	2.00	0.00	0.00	0		614.26	0.00	0.00	0.00
7	2.00	3.13	3.33	0		618.35	5.91	8.79	0.15
8	2.00	0.00	0.00	0		597.16	0.00	0.00	0.00
9	2.00	0.00	0.00	0		625.93	0.00	0.00	0.00
10	2.00	1.23	0.43	0		615.19	2.34	7.99	0.00
11	2.00	2.13	2.04	0		606.65	4.06	8.44	0.00
12	2.00	1.01	0.55	0		631.55	1.89	7.78	0.80
13	2.00	0.13	0.00	0		584.42	0.25	7.67	1.80
14	2.00	4.13	3.05	5		602.54	7.90	9.31	0.00
15	2.00	1.13	0.00	7		567.85	2.22	8.26	0.00
16	2.00	1.47	0.00	13		510.03	3.05	8.87	0.30
17	2.00	1.35	0.50	0		600.65	2.58	8.14	3.80
18	2.00	0.72	0.92	0		614.63	1.37	7.76	0.00
19	2.00	0.63	0.83	0		588.25	1.22	7.89	0.00
20	2.00	0.00	0.00	0		572.21	0.00	0.00	2.30

J.C

RADIOLOGICAL SURVEY DATA SHEET

 9/19/05

LOCATION (BLDG./AREA/ROOM)	SURVEY NO
MWWTP	05-TF-0303
PURPOSE	**RWP NO.**
Judgemental survey of open pipes and trenches	N/A
	DATE
	9/19/05
	TIME
	11:00

MAP / DRAWING

COPY

SEE ATTACHED FOR LOCATIONS AND RESULTS

Bk = 2 cpm alpha
169 cpm beta
DL = 1.8 cpm alpha
20 cpm beta

<100 alpha

<5K beta

LEGEND:
- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- —·—·—·— = radiological boundary

△ # - mrem/hr neutron

(#) - swipe number

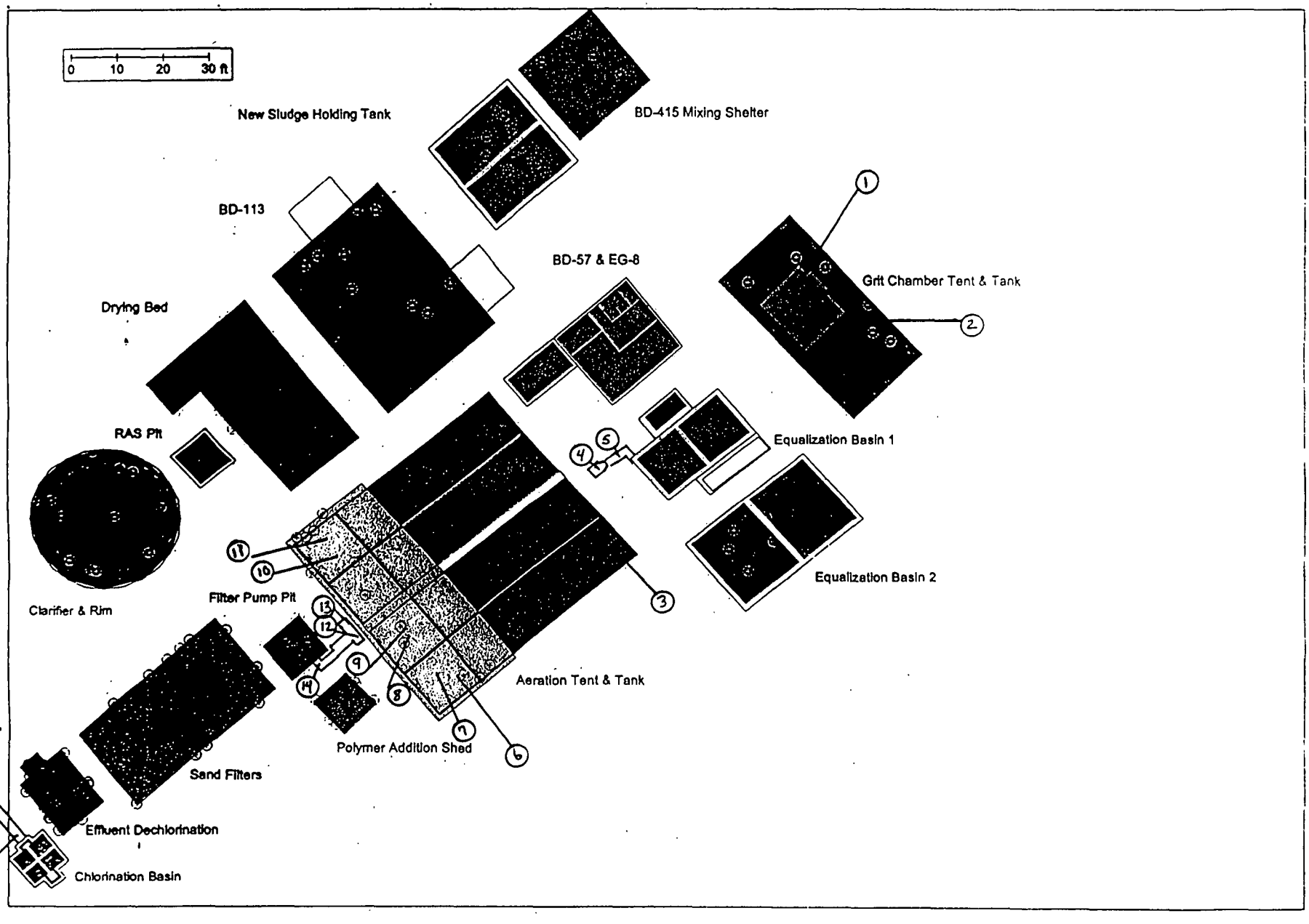
[#] - air sample number

(#/α) or /β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Lud 2360/4389	5704/5714	10/21/05
	NA	

Completed [redacted]	HP# 7836	Date 9-20-05	
Completed by: (Printed [redacted]			
Counted by: (Signature) See Attached	HP#	Date	
Counted by: (Printed Name)			
Reviewed/A [redacted]	HP# 7707	Date 10/4/05	
Reviewed/Approved by: (Print Nam [redacted]			



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05-TF-0303

Survey No.
05-TF-0303

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Ludlum 2360 Integrated Measurement Results

		Alpha			Beta		
		BKGD	2	cpm	BKGD	169	cpm
		DL	1.8	Net cpm	DL	20	Net cpm
No.	Item/Location Description	Gross (cpm)	CF	Results (dpm/100cm2 or Sample)	Gross (cpm)	CF	Results (dpm/100cm2 or Sample)
1	pipe	1	8	0	150	4	0
2	pipe	3	8	8	173	4	16
3	pipe	3	8	8	143	4	0
4	trench	6	8	32	175	4	0
5	trench	1	8	0	217	4	192
6	pipe	1	8	0	117	4	0
7	pipe	1	8	0	113	4	0
8	pipe	3	8	0	118	4	0
9	pipe	4	8	16	132	4	0
10	pipe	4	8	16	110	4	0
11	pipe	1	8	0	112	4	0
12	trench	2	8	0	171	4	8
13	trench	3	8	8	162	4	0
14	trench	14	8	96	207	4	152
15	trench	4	8	16	209	4	160
16	trench	3	8	8	189	4	80
				A			
			N				

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ML-9620C

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR036
Batch Ended: 9/19/05 13:39
Cal. Due Date: 11/17/05
Serial Number: 26966-3

Batch ID: 05-TF-0303 OFFNER [16] GWD

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.20		0.00	1.86	
A2	2	0.00	2.00		0.00	1.18	
A3	3	0.00	2.27		0.00	1.27	
A4	4	0.00	2.13		1.53	2.10	
B1	5	0.77	1.88		0.00	1.21	
B2	6	0.00	1.89		1.02	1.94	
B3	7	0.00	2.20		0.31	1.88	
B4	8	0.00	2.01		1.36	2.08	
C1	9	0.00	2.06		0.26	1.74	
C2	10	0.00	1.92		0.47	1.59	
C3	11	0.00	2.07		0.27	1.72	
C4	12	0.00	1.95		0.00	1.13	
D1	13	0.00	2.08		2.79	2.50	
D2	14	0.00	2.15		0.00	1.19	
D3	15	0.00	2.10		0.18	1.75	
D4	16	0.00	2.09		3.71	2.63	

MO MO

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~~Page 1 of 1~~ MO
9/20/05

TGT 5

18 Sep 2005 13:25 ALPHA/BETA - 1.08 Page #1-140
Protocol #: 1 Pw H3 #403728 User : 5801

Time: 2.00
Data Mode: DPM Nuclide: SMGL02 Quench Set: SMGL02
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	18.6	0	0.0	9.50
Region B:	2.0	18.6	0	0.0	9.02
Region C:	40.0	2000	0	0.0	10.31

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
05-TF-0303 OFFNER [16] GWD
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\prot1.dat
Count Data Filename: c:\data\SDATA1.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	9.50	9.02	2	B	667.62		0.00	10.31
0	2.00	543.56	519.35	0		588.21	1017.82	87.30	0.00
1	2.00	0.00	0.00	0		579.34	0.00	0.00	1.95
2	2.00	0.00	0.00	0		559.78	0.00	0.00	0.00
3	2.00	0.00	0.00	0		651.27	0.00	0.00	0.00
4	2.00	0.00	0.42	0		516.03	0.00	0.00	0.00
5	2.00	0.00	0.48	5		653.86	0.01	8.47	0.00
6	2.00	0.00	0.00	0		613.89	0.00	0.00	0.00
7	2.00	0.00	0.00	0		404.44	0.00	0.00	0.69
8	2.00	0.00	0.00	0		608.96	0.00	0.00	0.00
9	2.00	0.00	0.00	0		631.51	0.00	0.00	0.00
10	2.00	0.00	0.00	0		497.49	0.00	0.00	0.00
11	2.00	0.00	0.00	0		653.45	0.00	0.00	0.00
12	2.00	3.64	2.92	4		612.98	6.67	10.07	0.00
13	2.00	0.00	0.00	0		535.11	0.00	0.00	0.00
14	2.00	0.00	0.00	0		619.56	0.00	0.00	0.00
15	2.00	0.00	0.00	0		596.79	0.00	0.00	0.00
16	2.00	0.00	0.00	7		592.69	0.00	0.00	4.19

MO

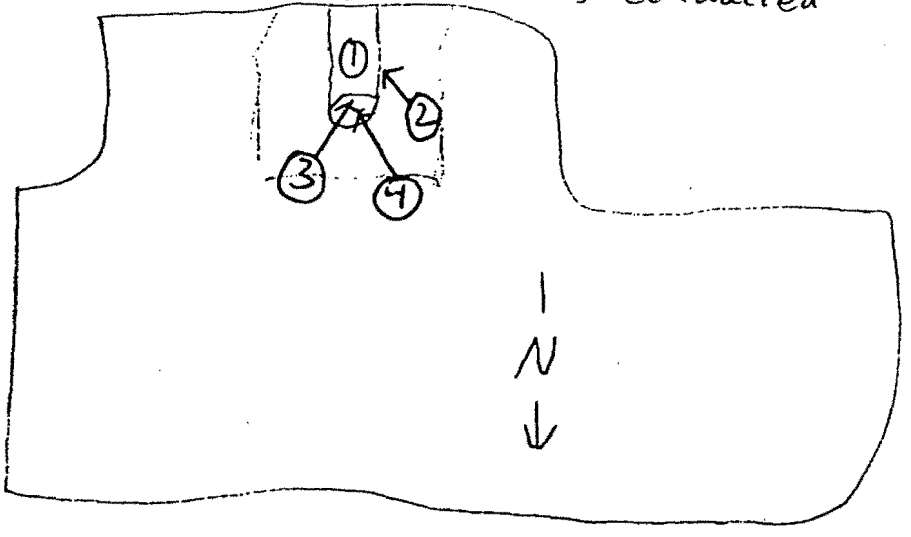
RADIOLOGICAL SURVEY DATA SHEET

LOCATION (BLDG/AREA/ROOM)	SURVEY NO
PRS-41 SOUTH SIDE	06-ER-0200
PURPOSE	EVENT NO
PIPE AS LEFT	N/A
	DATE
	021306
	TIME
	1000

MAP / DRAWING

~~INTERGAT~~ 3-6-06

DIRECT SCAN CONDUCTED ON ALL ACCESSIBLE AREAS. NO AUDIBLE CLICKS DETECTED. NO INTERGRATED COUNTS CONDUCTED



2360 BKSD D.L

α 1.8cpm 1.8cpm

β^- 162 cpm 20cpm

LEGEND:

- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- — · — · — · = radiological boundary

△ # - mrem/hr neutron

○ # - swipe number

□ # - air sample number

○ or β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360	5708/5731	8-31-06
3030	5899	3-9-06
3030	5898	3-14-06

[redacted] ID# 7561 Date 3-6-06

[redacted] ID# 7561 Date 2-13-06

[redacted] ID# 7548 Date 2/16/06

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination — Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	0	0	N/A	outside pipe
2	29	0		
3	122	0		inside of pipe
4	6	2		
			N/A	

Removable Contamination — Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of result are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A

ML-9620A (4-98)

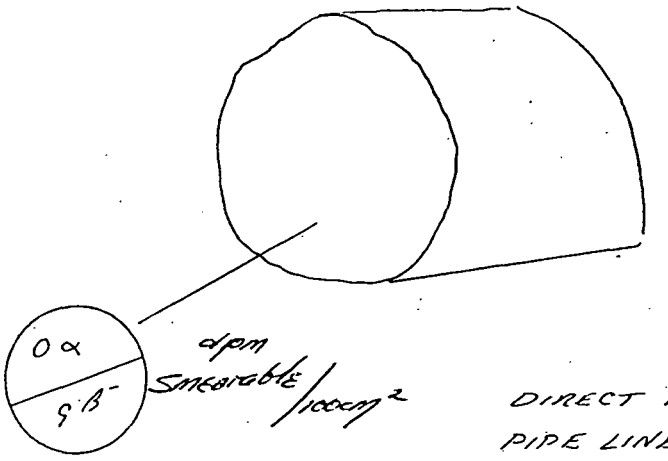
RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM)	SURVEY NO.
SD - BEDS	06-WM-03000
PURPOSE: SMEAR AND DIRECT SURVEY TAKEN ON UNDER GROUND PIPE LINE.	RWP NO. N/A
	DATE: 5-4-06
	TIME: 11:00 hrs

The bicron FIDLER is used as an indicator only

MAP / DRAWING

N/A = not applicable N/D = non detectable



COPY

DIRECT READINGS TAKEN ON PIPE LINE, ASSESSABLE AREAS WERE - <100 DPM/100 cm² ALPHA. <5K DPM/100 cm² BETA.

LEGEND:

- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- —·—·—·— = radiological boundary
- △ # - mrem/hr neutron
- □ # - air sample number
- ○ # - swipe number
- ○ #/α or /β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

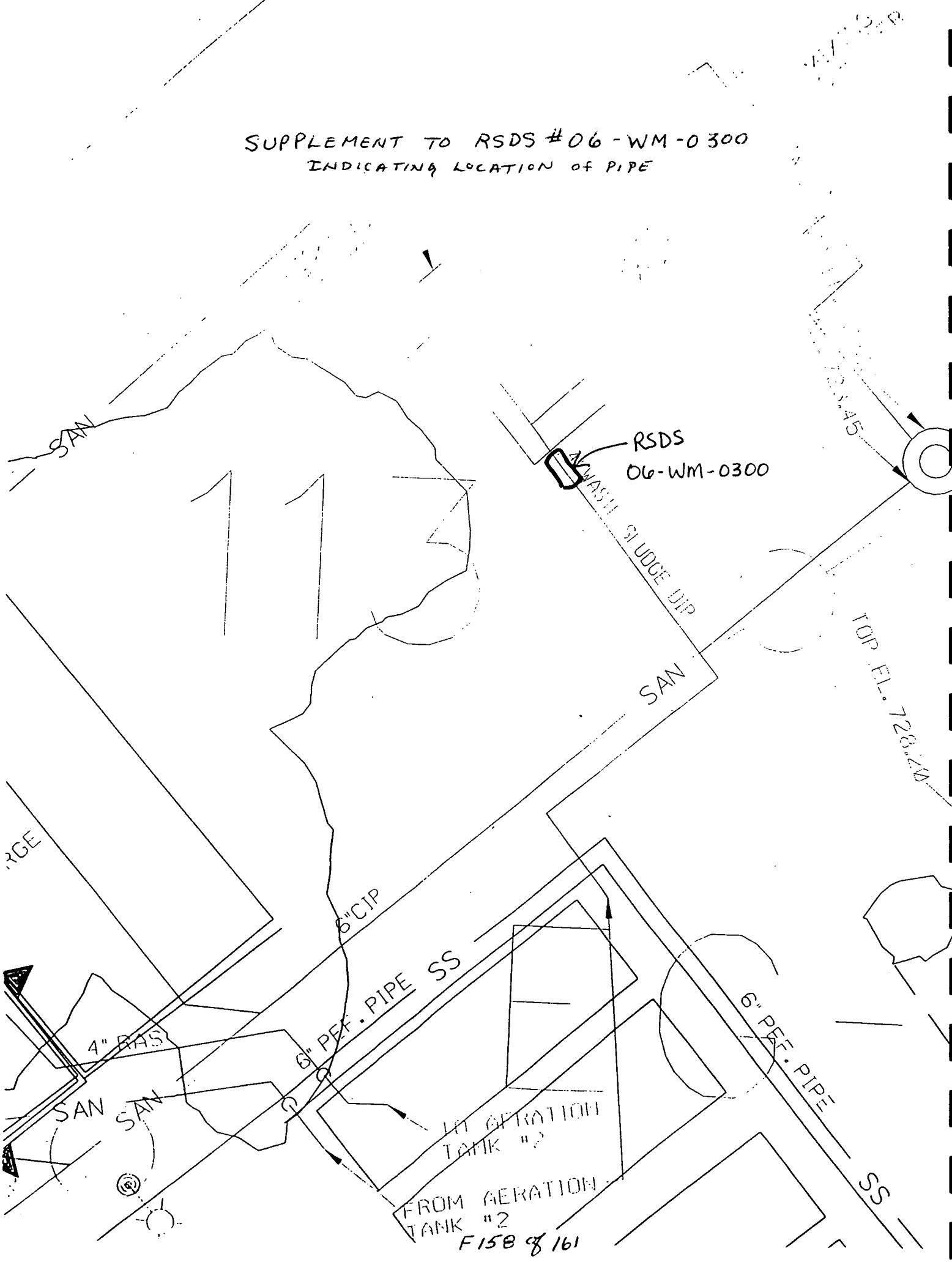
Instrument	Serial Number	Cal. Due Date
3030	5816	8-11-06
2360	5745/5800	4-13-07
A	A	A
N	N	N

[redacted] HP# 5348 Date: 5-4-06

[redacted] HP# 5349 Date: 5-4-06

[redacted] 5416 Date: 5-4-06

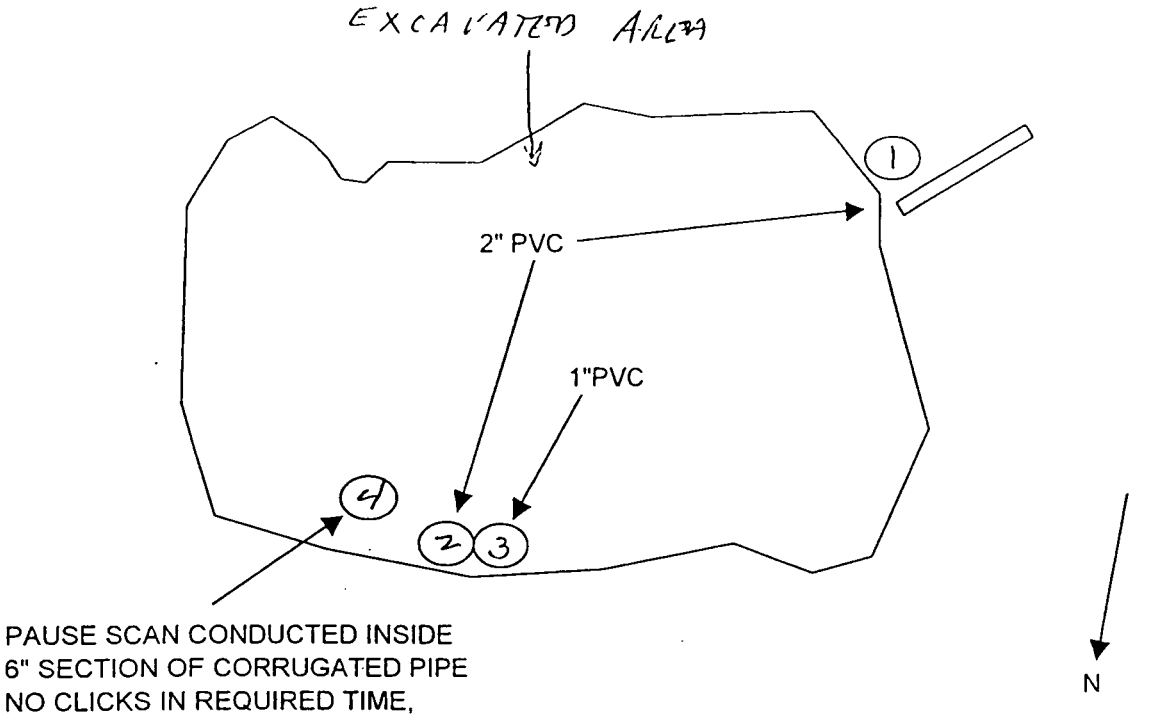
SUPPLEMENT TO RSDS #06-WM-0300
INDICATING LOCATION of PIPE



RADIOLOGICAL SURVEY DATA SHEET

LOCATION (BLDG./AREA/ROOM)	SURVEY NO
PRS 41	06-ER-0307
PURPOSE	RWP NO
SURVEY INSIDE OF EXPOSED PIPE FROM DIRT FALL OFF	NA
	DATE 04/26/2006
	TIME 14:00

MAP / DRAWING



PAUSE SCAN CONDUCTED INSIDE
6" SECTION OF CORRUGATED PIPE
NO CLICKS IN REQUIRED TIME,
INTEGRATED COUNTS NOT REQUIRED

LEGEND:

#	= mrem/hr (γ) whole body
#E	= mrem/hr (β+η+γ) extremity on contact
K	= factor of 1000
— · — · — · ·	= radiological boundary

(#) - mrem/hr neutron

(#) - swipe number

[#] - air sample number

(#/α) or /β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360 / 43-89	5767 / 5798	01/10/2007
3030	5822	07/19/2006
	N/E	

[redacted] RP# 6012 Date: 4/26/06

Completed by: (Print) [redacted]

[redacted] RP# 6012 Date: 4/26/06

[redacted] 5446 Date: 4-26-06

[redacted]

ML-9620 (2-98)

COPY

Survey No.
06-EC-0307

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	2	0	NA	INSIDE 2" PVC SECTION
2	3	2	NA	W/S 2" PVC PIPE EXPOSED
3	3	0	NA	W/S 1" PVC PIPE EXPOSED
4	0	0	NA	W/S 6" CORRUGATED

Removable Contamination Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

COMMENTS: NONE

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

SUPPLEMENT TO RSDS #06-ER-0307