| Design # EP-Rx 111 Revision # Original Page 1 of 3 Survey Unit #(s) Rx 111 Rx 111 Rx 111 I) Embedded Pipe (EP) Survey Unit Rx 111 meets the definition of embedd pipe for Plum Brook Reactor Facility (PBRF). 2) EP Rx 111 is a Class 1, Group 2 survey unit as per the PBRF Final Status Survey Plan (FSSP) and Technical Basis Document (TBD)-06-004. 3) Surveys in EP Rx 111 were performed using a scintillation detector optimized to measure gamma energies representative of Co-60. Sample #EP 2 from Survey Request (SR)-13 was referenced for this decision. 4) Survey Instructions for this survey unit are incorporated (BSI)/LVS-00 Work Execution Package (WEP) 05-006. Survey instructions described in the acquisition of survey measurements. 5) Instrument efficiency determinations are developed in accordance with th BSI/LVS-002, WEP 05-006, these determinations are appropriate for the typ of radiation involved and the media being surveyed. Date: FSS/Characterization Engineer Dat ArmArt 11-24-07 11-24-07 FSS/Characterization Engineer) FL Case MACM 11-24-07 | | Surve | y Unit Release R | ecord | |
|---|---------------------|--|---|--|---|
| I) Embedded Pipe (EP) Survey Unit Rx 111 meets the definition of embedd pipe for Plum Brook Reactor Facility (PBRF). 2) EP Rx 111 is a Class 1, Group 2 survey unit as per the PBRF Final Status Survey Plan (FSSP) and Technical Basis Document (TBD)-06-004. 3) Surveys in EP Rx 111 were performed using a scintillation detector optimized to measure gamma energies representative of Co-60. Sample #EP 2 from Survey Request (SR)-13 was referenced for this decision. 4) Survey Instructions for this survey unit are incorporated into and perform in accordance with (IAW) the Babcock Services Incorporated (BSI)/LVS-00 Work Execution Package (WEP) 05-006. Survey instructions described in the acquisition of survey measurements. 5) Instrument efficiency determinations are developed in accordance with the BSI/LVS-002, WEP 05-006, these determinations are appropriate for the typ of radiation involved and the media being surveyed. Approval Signatures Date: FSS/Characterization Engineer Dal MarMath II-22-07 Technical Reviewer FSS/Characterization Engineer Dal MarMath II-27-07 Technical Reviewer | Design # | EP-Rx 111 | Revision # | Original | Page 1 of 3 |
| pipe for Plum Brook Reactor Facility (PBRF). 2) EP Rx 111 is a Class 1, Group 2 survey unit as per the PBRF Final Status Survey Plan (FSSP) and Technical Basis Document (TBD)-06-004. 3) Surveys in EP Rx 111 were performed using a scintillation detector optimized to measure gamma energies representative of Co-60. Sample #EP 2 from Survey Request (SR)-13 was referenced for this decision. 4) Survey Instructions for this survey unit are incorporated into and perform in accordance with (IAW) the Babcock Services Incorporated (BSI)/LVS-00 Work Execution Package (WEP) 05-006. Survey instructions described in the acquisition of survey measurements. 5) Instrument efficiency determinations are developed in accordance with the BSI/LVS-002, WEP 05-006, these determinations are appropriate for the typ of radiation involved and the media being surveyed. Approval Signatures Date: FSS/Characterization Engineer Dat Mandal (1-26-07) Technical Reviewer (J-27-07) FSS/Characterization Engineer) Dat Mandal (1-27-07) | Survey Unit #(s) | | | Rx 111 | Andria Address Constant Marphyred Ba |
| FSS/Characterization Engineer Dal Newlork II-26-07 Technical Reviewer III-27-07 (FSS/Characterization Engineer) III-27-07 | Description | pipe for Plum B 2) EP Rx 111 is Survey Plan (FS 3) Surveys in EH optimized to me 2 from Survey F 4) Survey Instruin accordance w Work Execution document constinacquisition of su 5) Instrument ef BSI/LVS-002, W | a Class 1, Group 2 SP) and Technical 1 P Rx 111 were performance asure gamma energ Request (SR)-13 was actions for this surve with (IAW) the Babe on Package (WEP) 05 itute "Special Methourvey measurements ficiency determinat WEP 05-006, these of | ty (PBRF). survey unit as pe Basis Document ormed using a sec ies representativ s referenced for t ey unit are incorp ock Services Inc 5-006. Survey ins ods" and the surves. | er the PBRF Final Status (TBD)-06-004. intillation detector e of Co-60. Sample #EP this decision. corated into and performe orporated (BSI)/LVS-00. structions described in the vey design used in the ed in accordance with the re appropriate for the typ |
| Technical Reviewer (FSS/Characterization Engineer) | | Approval Sig | natures | - Mi | Date: |
| | | - (| Dal Mars | laft | 11-26-07 |
| FSS/Characterization Manager R. Case Mark 11/29/07 | | | Alago | é , | 11-27-07 |
| | FSS/Characterizatio | n Manager | R. Case | COR | 11/29/07 |

Survey Unit: Rx 111

1.0 History/Description

- 1.1 The subject pipe system is a 12" drain line located in the Room 22 trench on the -27' el. of the Rx building.
- 1.2 EP Rx 111 consists of 12" diameter piping that is approximately 1 foot in length.
- 2.0 Survey Design Information
 - 2.1 EP Rx 111 was surveyed IAW Procedure #BSI/LVS-002.
 - 2.2 100% of the 12" ID pipe was accessible for survey. The accessible 12" ID pipe was surveyed by static measurement at one foot increments. Since the piping section was approximately one foot in length, only one measurement was performed.
 - 2.3 Surface area for the 12" ID piping is 2,919 cm² (0.3 m²) for the entire length of (approximately 1') of 12" piping.
- **3.0** Survey Unit Measurement Locations/Data
 - 3.1 Pipe interior radiological survey forms are provided in Attachment 2 of this release record.
- **4.0** Survey Unit Investigations/Results
 - 4.1 None
- **5.0** Data Assessment Results
 - 5.1 Data assessment results are provided in the EP/Buried Pipe (BP) Survey Report provided in Attachment 1.
 - 5.2 All measurement results are less than the Derived Concentration Guideline Level (DCGL) for radionuclide specific EP that corresponds to the 1 mrem/yr dose goal established in Table 3-3 of the FSSP.
 - 5.3 When implementing the Unity Rule, provided in Section 3.6.3 of the FSSP, and applying the Nuclide Fraction (NF), provided in TBD-06-004, the survey unit that is constituted by EP Rx 111 passes FSS.
 - 5.4 Background was not subtracted from the survey measurements and the Elevated Measurement Comparison (EMC) was not employed for this survey unit.
 - 5.5 At the request of the FSS/Characterization Manager, additional characterization data were collected and analyzed. These results support the conclusion that the any remaining residual activity is well below the release limits. A summary of these results are included as Attachment 4.

Survey Unit: Rx 111

5.6 Statistical Summary Table

| | 12" |
|--|--------|
| Statistical Parameter | Pipe |
| Total Number of Survey Measurements | 1 |
| Number of Measurements >MDC | 1 |
| Number of Measurements Above 50% of DCGL | 0 |
| Number of Measurements Above DCGL | 0 |
| Mean | 0.0556 |
| Median | 0.0556 |
| Standard Deviation | N/A |
| Maximum | 0.0556 |
| Minimum | 0.0556 |

- **6.0** Documentation of evaluations pertaining to compliance with the unrestricted use limit of 25 mrem/yr and dose contributions from Embedded Pipe and radionuclides contributing 10% in aggregate of the total dose for both structural scenarios and soils.
 - 6.1 A review of the survey results has shown that the dose contribution for EP Rx 111 to be less than 1 mrem/yr. The dose contribution is estimated to be 0.056 mrem/yr based on the average of the actual gross counts measured.

7.0 Attachments

Attachment 1 – BSI EP/BP Survey Report

Attachment 2 – Pipe Interior Radiological Survey Form

Attachment 3 – DQA Worksheet

Attachment 4 – Additional Characterization radiological data summary

Attachment 5 – Disc containing RR for EP Rx 111 & Spreadsheet

SECTION 7 ATTACHMENT 1 _____ PAGE(S)

| Pipe ID | EP Rx 111 | Survey Location | Rm. 22 Trench el27 |
|-------------------------------|--|--|--------------------|
| Survey Date | 06-Mar-07 | 2350-1 # | 189094 |
| Survey Time | 08:37 | Detector-Sled # | G3 #B566A/108 |
| Pipe Size | 12" | Detector Efficiency | 0.0041 |
| CGL (dpm/100cm2) | 2.41E+05 | Pipe Area Incorporated by Detector Efficiency (in cm2) | 2,919 |
| Survey Data (m ²) | 0.3 | Field BKG (cpm) | 77.8 |
| outine Survey | X | Field MDCR (cpm) | 33.4 |
| QA Survey | | Nominal MDC (dpm/100cm2) | 340 |
| | | Survey Measurement Results | |
| | Total Number of Su | | 1 |
| | Number of Meas | | 1 |
| N | lumber of Measureme | ents Above 50% DCGL | 0 |
| | Number of Measure | ments Above DCGL | 0 |
| | Me | an | 0.0556 |
| | Med | lian | 0.0556 |
| | Standard | Deviation | N/A |
| | Maxi | mum | 0.0556 |
| | Minii | num | 0.0556 |
| | | | |
| | Survey Unit (| | 1 |
| | the second s | Piping Group | 2 |
| | | Distribution Sample | EP 2-2 |
| | Measure | | Co-60 |
| | Area Factor | /EMC Used | No |
| | Pass/F | ail FSS | Pass |
| | MREM/YR | Contribution | <1 |
| MMENTS: TIVITY VALUES | NOT BACKGROUND | CORRECTED | |

EP Rx 111 12" Pipe TBD 06-004 Group 2

| Measurement # | gcpm | ncpm | Co-60 activity (total dpm) | Co-60 activity (dpm/100cm2) | Cs-137 activity (dpm/100cm2) | Eu-152 activity (dpm/100cm2) | Eu-154 activity (dpm/100cm2) | Nb-94 activity (dpm/100cm2) | Ag-108m activity (dpm/100cm2) | Unity |
|---------------|------|------|-------------------------------|--------------------------------|---------------------------------|---------------------------------|---------------------------------|--------------------------------|----------------------------------|-------|
| 1 | 1534 | 1534 | 374,146 | 12,819 | 6,647 | 106 | 75 | 6 | 369 | 0.056 |
| | | | | | | | | | | |
| | | | | | | | | | MEAN | 0.056 |
| | | | | | | | | | MEDIAN | 0.056 |
| | | | | | | | | | STD DEV | N/A |
| | | | | | | | | | MAX | 0.056 |
| | | | | | | | | | MIN | 0.056 |

SECTION 7 ATTACHMENT 2 PAGE(S)

BSI/LVSPipeCrawler-002 Revision 4

Pipe Interior Radiological Survey Form

| Date: $3/6/07$ Time: 0837 Pipe ID#: R_{\star} 111Pipe Diameter: $12''$ Access Point Area: $R_{m}22$ $TRENEH$ Building: R_{\star} Elevation: $-27'$ System: R_{T} DRN TO $SOMP$ |
|---|
| Type of Survey Investigation Characterization Final Survey Coher Gross Co60 Cs Cs Detector ID# / Sled ID# C3 B 566A 108 |
| Detector Cal Date: $1/1/07$ Detector Cal Due Date: $1/1/08$ |
| Instrument: $2350-1$ Instrument ID #: $189094-$ Instrument Cal Date: $1/11/07$ Instrument Cal Due Date: $1/11/08$ |
| From the Daily Pipe Survey Detector Control Form for the Selected Detector |
| Background Value 77.8 cpm |
| MDCR _{static} 33.4 cpm |
| Efficiency Factor for Pipe Diameter 0.0041 (from detector efficiency determination) |
| $MDC_{static} 34D dpm/ 100 cm^2$ |
| Is the MDC _{static} acceptable? (Yes) No (if no, adjust sample count time and recalculate MDCR _{static}) |
| Comments: CA-05 40295 SURVEY COMPLETE 100% OF 14T |
| NO MAP PAILABLE - AM Technician Signature MAC |

Pipe Interior Radiological Survey

| Position # | Feet into Pipe from Opening | Count Time (min) | Gross Counts | Gross cpm | Net cpm | dpm/100cm ² |
|---------------|--------------------------------|---------------------|--------------|--------------|------------|------------------------|
| 1 | (| 1 | 1534 | 1534 | na | na |
| 2 | 2 | | | | 1 | l q |
| 3 | 3 | | 11 | | | |
| 4 | 4 | | N | | | |
| 5 | 5 | | A | | | |
| 6 | 6 | | 11 | | | |
| 7 | 7 | / | | | | |
| 8 | nla | nla | nla | nla | | |
| 9 | 1 |) |) | 1 | | |
| 10 | 4 | Ţ | + | 4 | 1 | X |





Package Page 1 of

Attachment 3, Page 1

SECTION 7 ATTACHMENT 3 ____ PAGE(S)

| Su- | P. State and | | | DQA Check | Sneet | | | SILVI- |
|-------|----------------------------------|--|--------------------------|-----------------------------|---|-----------------|------|--------|
| | Design # | Rx 111 | Revision # | Original | | | | |
| S | urvey Unit# | | | | Rx 111 | | | |
| 101 | | | Pre | eliminary Data | a Review` | | | |
| L COL | Answers to f | he following qu | estions shou Release | | cumented in the Survey Unit | Yes | No | N/A |
| 1. | Have surveys b | een performed in | accordance with | survey instructi | ions in the Survey Design? | Х | | |
| 2. | | s the instrumentation MDC for structure static measurements below the DCGL _W for Class 1 and 2 survey units, or below 0.5 DCGL _W for Class 3 survey units? | | | | | | x |
| 3. | Is the instrume | ntation MDC for er | nbedded/buried | piping static me | asurements below the DCGLw? | X | | |
| 4. | embedded/buri | | asurements belo | ow the DCGLw | soil scan measurements, and or, if not, was the need for additional sign? | | | x |
| 5. | Was the instrur | mentation MDC for | volumetric mea | surements and | smear analysis < 10% DCGL _W ? | | | X |
| 6. | Were the MDC used to perform | | used to develo | p them appropri | ate for the instruments and techniques | x | | |
| 7. | Were the surve media being su | | o collect data pro | per for the type | s of radiation involved and for the | x | | |
| Β. | Were "Special | Methods" for data | collection proper | rly applied for th | e survey unit under review? | x | | |
| 9. | | comprised of quali accurately reflects | | | ted in accordance with the survey ility? | x | | |
| | | and the second second | G | raphical Data | Review | | | |
| 1. | Has a posting p | olot been created? | | | | | | X |
| 2. | Has a histogram | m (or other frequer | ncy plot) been cr | eated? | | | | X |
| 3. | Have other gra | phical data tools b | een created to a | ssist in analyzin | ig the data? | | | X |
| | | | | Data Analy | rsis | | | |
| 1. | Are all sample | measurements be | ow the DCGL _W | (Class 1 & 2), or | r 0.5 DCGL _W (Class 3)? | X | | |
| 2. | Is the mean of | the sample data < | DCGL _w ? | | | X | | |
| 3. | | | | | is the average activity in each 5 DCGL _W (Class 3)? | | | X |
| 4. | Is the result of | the Elevated Meas | urements Test « | < 1.0? | | | | X |
| 5. | Is the result of | the statistical test (| S+ for Sign Tes | t or W _r for WRS | Test) ≥ the critical value? | Service Service | | X |
| F | | tion Engineer (prin | | all Randa | 1 Dal Radall | Date | 11-2 | 6-07 |
| F | 55/ Characteriza | tion Manager (prir | ivsign) | R. Case | 11Ach | Date | 11/2 | 910 |

SECTION 7 ATTACHMENT 4 ______ PAGE(S)

| Pipe ID | EP Rx 111 | Survey Location | Rm. 22 Trench el27 |
|------------------------------------|---|--|------------------------|
| Survey Date | 15-Nov-07 | 2350-1 # | 201186 |
| Survey Time | 10:00 | Detector-Sled # | 44-116 197312/ no slea |
| Pipe Size | 12" | Detector Efficiency | 0.15 |
| DCGL (dpm/100cm2) | 3.79E+06 | Pipe Area Incorporated by Detector Efficiency (in cm2) | 100 |
| ipe Area Incorporated by | 0.0 | Field BKG (cpm) | 200 |
| Survey Data (m²) Routine Survey | X | Field MDCR (cpm) | N/A |
| QA Survey | | Nominal MDC (dpm/100cm2) | 340 |
| | | Survey Measurement Results | |
| | Total Number of Su | irvey Measurements | 1 |
| | | surements >MDC | 2 |
| N | umber of Measurem | ents Above 50% DCGL | 0 |
| | Number of Measure | ements Above DCGL | 0 |
| | Me | ean | 0.0725 |
| | Me | dian | 0.0174 |
| | Standard | Deviation | 0.1183 |
| | Max | imum | 0.2492 |
| | Mini | mum | 0.0000 |
| Survey Te | chnician(s) | J. SORG | |
| | | | |
| | | Classification | 1 |
| | and the second se | Piping Group | 2 |
| | | Distribution Sample | EP 2-2 |
| | | d Nuclide | Cs-137 |
| | | r/EMC Used | No |
| | | | Pass |
| | Pass/F | Fail FSS | The Sec. A |
| | Pass/F | ail FSS Contribution | <1 |
| | Pass/F | | <1 |

EP Rx 111 12" Pipe

TBD 06-004 Group 2 Characterization Data (FOR INFOMATION ONLY)

| Measurement # | gcpm | ncpm | Cs-137 activity (total dpm) | Cs-137 activity (dpm/100cm2) | Co-60 activity (dpm/100cm2) | Eu-152 activity (dpm/100cm2) | Eu-154 activity (dpm/100cm2) | Nb-94 activity (dpm/100cm2) | Ag-108m activity (dpm/100cm2) | Unity |
|---------------|------|------|--------------------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|--------------------------------|----------------------------------|-------|
| 1 | 4996 | 4502 | 29,815 | 29,815 | 57,498 | 477 | 337 | 28 | 1,655 | 0.249 |
| 2 | 706 | 499 | 3,305 | 3,305 | 6,373 | 53 | 37 | 3 | 183 | 0.028 |
| 3 | 311 | 107 | 709 | 709 | 1,367 | 11 | 8 | 1 | 39 | 0.006 |
| 4 | 333 | 129 | 854 | 854 | 1,648 | 14 | 10 | 1 | 47 | 0.007 |
| | | | | | | | | | | |
| | | | | | | | | | MEAN | 0.072 |
| | | | | | | | | | MEDIAN | 0.017 |
| | | | | | | | | | STD DEV | 0.118 |
| | | | | | | | | | MAX | 0.249 |
| | | | | | | | | | MIN | 0.000 |

RADIATION PROTECTION SURVEY FORM

Page 1 of 1

| Instrument(s)DModelS/NCal. DueBkgd / cpmMDA / dpmTi23 50-1201186 $\$ - 31 - 08$ N/A Si23 50-1201186 $\$ - 31 - 08$ N/A Si N/A A A A A A A A A A A A A A A A A N/A A A Reason for Survey: \Box Dose rates in mr/hr unless otherwise notedSiDaily \Box Job Coverage \Box Dose rates in mr/hr unless otherwise notedSi \Box Weekly \boxdot Other: $V_{GLIPLENTOW}$ \boxdot N/ASi V Meekly \blacksquare Other: $V_{GLIPLENTOW}$ \boxdot N/ASi V Meekly \blacksquare Other: $V_{GLIPLENTOW}$ \boxdot N/ASi V Meekly \blacksquare No $her Net Y AND Static Meet Si Scan SiSi Net Si Si Net Si Si Net Si Net Si Si Net Si Si Net $ | Date: <i>ll-</i> , Fime: <i>lo</i> Survey #: SM # SM-1 SM-2 SM-3 SM-4 SM-4 SM-4 SM-1 SM-2 SM-3 SM-3 | 1 | 7-3122 |
|---|---|--|---------------------------|
| Instrument(s)DModelS/NCal. DueBkgd / cpmMDA / dpmT. 23 50-1 201186 $8 - 31 - 08$ N/A Si 23 50-1 201186 $8 - 31 - 08$ N/A Si $V/4 - 1/6$ 197312 $8 - 31 - 08$ 200 N/A N/A N/A N/A N/A A N/A N/A N/A N/A Reason for Survey:Dose rates in mr/hr unless otherwise notedSiDailyDob CoverageDose rates in mr/hr unless otherwise notedSiWeekly M Other: $VGRINGATON$ M/A Si Weekly M Other: $VGRINGATON$ M/A Si Pailo $SIAN SURVEY AND STATIC MEASUREMENTS (SM) TASIDE ofSiPick Form For Scan Survey:\square Dose rates in mr/hr unless otherwise notedSiPick RevealSIAN SURVEY AND STATIC MEASUREMENTS (SM) TASIDE ofSiSinde Scan Survey:\square Dose rates in mr/hr unless otherwise notedSiPick RevealSIAN SURVEY AND STATIC MEASUREMENTS (SM) TASIDE ofSiSinde Scan P to P AND THE - 25' FLOOR. PIPE Rx -111 IS 12"SiSiIN DIAMETER AND 16" LONG.PIPE Rx-111 IS UNDER FSS-TC CONTROLS, RSO PERMISSION WASSiOBTAINED TO MOVE FSS-TC TAK TO PERFORM THIS SURVEY.Si DESiDESi DESiDESiDESiDESiDESi DESiDESiDESiDESiDESi DESiDESiDESiDESiDESi DESiDESiDESiDE$ | Fime: Io Survey #: SM # SM # SM-1 SM-2 SM-3 SM-4 SM# SM-1 SM-2 SM-3 SM-4 SM-4 SM# SM-1 SM-2 SM-3 SM-3 | NASA-0 CP UNS 4996 706 311 333 | 5 Shield 994 207 |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | Survey #: SM # SM-1 SM-2 SM-3 SM-4 SM-4 SM-4 SM-1 SM-2 SM-2 SM-3 | NASA-0 cp UNS 4996 706 311 333 | 5 Shiel 994 207 |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | Survey #: SM # SM-1 SM-2 SM-3 SM-4 SM-4 SM-4 SM-1 SM-2 SM-2 SM-3 | NASA-0 cp UNS 4996 706 311 333 | 0m Shiel 494 207 |
| 44-116 197312 $8-31-08$ 200 $N/$ $N/$ $N/$ $N/$ $N/$ A <td< td=""><td>SM # SM-1 SM-2 SM-3 SM-4 SM-4 SM-1 SM-2 SM-2 SM-3</td><td>cp UNS 4996 706 311 333</td><td>0m Shiel 494 207</td></td<> | SM # SM-1 SM-2 SM-3 SM-4 SM-4 SM-1 SM-2 SM-2 SM-3 | cp UNS 4996 706 311 333 | 0m Shiel 494 207 |
| $ \frac{v}{A} + v$ | SM-2 SM-3 SM-4 SM4 SM-1 SM-2 SM-3 | UNS 4996 706 311 333 | Shiel 494 207 |
| $/A$ $/A$ $/A$ $/A$ $/A$ Reason for Survey: \Box Dose rates in mr/hr unless otherwise notedS \Box Daily \Box Job Coverage \Box Dose rates in mr/hr unless otherwise notedS \Box Weekly \Box Other: UGUINCATON \Box N/AS \Box Reform RoSLAN SURVEY AND STATIC MEASUREMENTS (SM) INSIDE OFS $Dipe H$ RX-111, RX-111 IS LOCATED IN THE WALL THAT SEPERATESS $THE PUMP Room WEST TRENCH FROM THE AREA BETWEENSTHE SUM P TO P AND THE -25' FLOOR. PIPE RX-111 IS 12"SIN DIAMETER AND 16" LONG.PIPE RX-111 IS UNDER FSS-IC CONTROLS. RSO PERMISSION WASO BTAINED TO MOVE FSS-IC TAR TO PERFORM THIS SURVEY.SE i = 30.2\%, E_S = 50\%, E_T = 15.1\%SSIDESm-4 - NORTHSIDESIDESiDESiDESIDESm-2 - SOUTHSIDESIDESm-2 - SOUTHSIDESIDESm-2 - SOUTHSIDE$ | SM-2 SM-3 SM-4 SM4 SM-1 SM-2 SM-3 | 4996 706 311 333 | 494 |
| Daily Dob Coverage Dose rates in $\mu r/hr$ unless otherwise noted S Weekly \square Other: $\underline{Vg_{RIPLETEN}}$ \square Dose rates in $\mu r/hr$ unless otherwise noted S $\overline{V} N/A$ $\overline{V} $ | SM-2 SM-3 SM-4 SM4 SM-1 SM-2 SM-3 | 706 311 333 | 207 |
| Daily Dob Coverage Dose rates in μ r/hr unless otherwise noted S Weekly Dother: <u>UGRIPLEATON</u> Dose rates in μ r/hr unless otherwise noted S PAREAPS SCAN SURVEY AND STATIC MEASUREMENTS (SM) INSIDE OF S DIPE H Rx-111, Rx-111 IS LOCATED IN THE WALL THAT SEPERATES THE PUMP ROOM WEST TRENCH FROM THE AREA BETWEEN THE SUMP TOP AND THE -25' FLOOR, PIPE Rx-111 IS 12" S IN DIAMETER AND 16" LONG. PIPE Rx-111 IS UNDER FSS-IC CONTROLS, RSO PERMISSION WAS OBTAINED TO MOVE FSS-IC TAK TO PERFORM THIS SURVEY. E [= 30, 2%], Es = 50%, ET = 15, 1% SUMP SIDE SCAN = 300 gCPM SM-3 - TOP SUMP SIDE SCAN = TOP SUMP SIDE SM-2 - SOUTH SIDE SM-2 - SOUTH SIDE SM-2 - SOUTH SIDE | SM-3 SM-4 SM# SM-1 SM-2 SM-3 | 706 311 333 | 207 |
| Weekly Other: URLIPLEATEN $\square N/A$ ERFORM RD SLAN SURVEY AND STATIC MEASUREMENTS (SM) INSIDE OF SIDE H RX-111, RX-111 IS LOCATED IN THE WALL THAT SEPERATES THE PUMP ROOM WEST TRENCH FROM THE AREA BETWEEN THE SUMP TOP AND THE -25' FLOOR, PIPE RX-111 IS 12" SM DIAMETER AND 16" LONG. PIPE RX-111 IS UNDER FSS-IC CONTROLS. RSO PERMISSION WAS OBTAINED TO MOVE FSS-IC TAR TO PERFORM THIS SURVEY. E: 30.2%, Es = 50%, ET = 15.1% SUMP SIDE RENCH SIDE SCAN = SOG gCPM SM-2 - SOUTH SIDE SM-2 - SOUTH SIDE SM-2 - SOUTH SIDE SM-2 - SOUTH SIDE | SM-3 SM-4 SM# SM-1 SM-2 SM-3 | 311 333 | |
| ERFORM RD SCAN SURVEY AND STATIC MEASUREMENTS (SM) INSIDE OF SIDE H RX-111, RX-111 IS LOCATED IN THE WALL THAT SEPERATES THE PUMP ROOM WEST TRENCH FROM THE AREA BETWEEN THE SUMP TOP AND THE -25' FLOOR, PIPE RX-111 IS 12" SIN DIAMETER AND 16"LONG. PIPE RX-111 IS UNDER RSS-IC CONTROLS, RSO PERMISSION WAS OBTAINED TO MOVE FSS-IC TAR TO PERFORM THIS SURVEY. E: 30,2%, Es = 50%, ET = 15,1% RENCH SIDE SCAN = 300 gCPM SIDE SCAN = 300 gCPM SIDE SCAN = 700 gCPM SM-4-NORTH SIDE SCAN = 700 gCPM SM-2-SOUTH SIDE SM-2-SOUTH SIDE SM-2-SOUTH SIDE | SM-4 SM# SM-1 SM-2 SM-3 | 333 | 1004 |
| DIPE H RX-111, RX-111 IS LOCATED IN THE WALL THAT SEPERATES THE PUMP ROOM WEST TRENCH FROM THE AREA BETWEEN THE SUMP TOP AND THE -25' FLOOR, PIPE RX-111 IS 12" S IN DIAMETER AND 16" LONG. PIPE RX-111 IS UNDER ESS-IC CONTROLS. RSO PERMISSION WAS OBTAINED TO MOVE FSS-IC TAR TO PERFORM THIS SURVEY. E: 30.2%, Es = 50%, ET = 15.1% RENCH SIDE NORTH SIDE SM-4-NORTH SIDE SM-2-SOUTH SIDE SM-2-SOUTH SIDE | SM# SM-1 SM-2 SM-3 | | 204 |
| THE PUMP ROOM WEST TRENCH FROM THE AREA BETWEEN THE PUMP ROOM WEST TRENCH FROM THE AREA BETWEEN THE SUMP TOP AND THE -25' FLOOR. PIPE Rx-III IS 12" S S NDIAMETER AND 16" LONG. PIPE RX-III IS UNDER ESS-IC CONTROLS. RSO PERMISSION WAS OBTAINED TO MOVE FSS-IC TAR TO PERFORM THIS SURVEY. E: 30.7%, Es: 50%, ET = 15.1% SCAN = 300 gCPM SIDE SCAN = SIDE SCAN = SIDE SCAN = TOP SOUTH SIDE SM-2 - SOUTH SIDE SM-2 - SOUTH SIDE | SM-1 SM-2 SM-3 | | 1 |
| The POMP ROOM WEST TRENCH FROM THE HREA BELOCEN THE SUMP TOP AND THE -25' FLOOR, PIPE RX-III IS 12" S N DIAMETER AND 16"LONG. PIPE RX-III IS UNDER FSS-IC CONTROLS, RSO PERMISSION WAS OBTAINED TO MOVE FSS-IC TAR TO PERFORM THIS SURVEY. E: 30,2%, Es = 50%, ET = 15.1% TOP SCAN = 300 gcpm RENCH SIDE NORTH SIDE SONTH SIDE SM-Y-NORTH SIDE SM-2 - SOUTH SIDE SM-2 - SOUTH SIDE SM-2 - SOUTH SIDE | SM-2 SM-3 | - | |
| HE SUMPTION AND THE -25' FLOOR. PIPE RX-III IS IZ N DIAMETER AND 16"LONG. PIPE RX-III IS UNDER FSS-IC CONTROLS. RSO PERMISSION WAS OBTAINED TO MOVE FSS-IC TAR TO PERFORM THIS SURVEY. E: 30.2%, Es = 50%, ET = 15.1% RENCH SIDE NORTH SIDE SM-7-NORTH SIDE SM-2-SOUTH SIDE SM-2-SOUTH SIDE SM-2-SOUTH SIDE | SM-3 | 29,8 | |
| IN DIAMETER AND 16" LONG. PIPE RX-III IS UNDER FSS-IC CONTROLS. RSO PERMISSION WAS OBTAINED TO MOVE FSS-IC TAR TO PERFORM THIS SURVEY. E: 30.7%, Es = 50%, ET = 15.1% E: 30.7%, Es = 50%, ET = 15.1% RENCH SIDE NORTH SIDE SCAN = SOO gCPM SUMP SIDE SM-4-NORTH SIDE SM-2-SOUTH SIDE SM-2-SOUTH SIDE | | 3,30 | |
| PIPE RX-III IS UNDER ESS-IC CONTROLS. RSO PERMISSION WAS OBTAINED TO MOVE FSS-IC TAK TO PERFORM THIS SURVEY. E: 30.2%, Es = 50%, ET = 15.1% RENCH TOP SCAN = 300 gcpm RENCH SIDE NORTH SIDE SOUTH SIDE | | 70 | |
| $E_{i} = 30.2\%, E_{s} = 50\%, E_{T} = 15.1\%$ $E_{i} = 30.2\%, E_{s} = 50\%, E_{T} = 15.1\%$ $T_{0}P SCAN = 300 gcpm$ $RENCH$ $SIDE$ $SM-3 - T_{0}P$ $SUMP$ $SIDE$ $SWTH$ $SIDE$ $SWTH$ $SIDE$ $SCAN = 300 gcpm$ $SUMP$ $SIDE$ $SUMP$ $SIDE$ $SCAN = 700 gcpm$ $SM-2 - SOUTH$ $SIDE$ $SM-2 - SOUTH$ $SIDE$ $SM-2 - SOUTH$ $SIDE$ $SM-2 - SOUTH$ | SM-4 | 85 | 4 |
| $E_{i} = 30.2\%, E_{s} = 50\%, E_{T} = 15.1\%$ RENCH TOP SCAN = 300 gcpm SIDE NORTH SIDE NORTH SIDE SCAN = GONGCPM SM-2 - SOUTH SIDE SM-2 - SOUTH SIDE SIDE SIDE SIDE SM-2 - SOUTH SIDE | · | | |
| RENCH TOP SCAN = 300 gcpm SIDE NORTH SIDE SOUTH SIDE SIDE SIDE SIDE SIDE SIDE SIDE SIDE | | | 1 |
| TOP SCAN = 300 gCPM SIDE NORTH SIDE SCAN = GOOGCPM SIDE SCAN = GOOGCPM SIDE SM-2 - SOUTH SIDE | 12 | | |
| RENCH SIDE NORTH SIDE SM-3-TOP SOUTH SIDE SIDE SOUTH SIDE SIDE SOUTH SIDE SIDE SOUTH SIDE SIDE SIDE SIDE SIDE SIDE SIDE SIDE SIDE SIDE SIDE | | | / |
| RENCH SIDE NORTH SIDE SM-3-TOP SOUTH SIDE SIDE SOUTH SIDE SOUTH SIDE SOUTH SIDE SOUTH SIDE SOUTH SIDE SIDE SIDE SIDE SIDE SIDE SIDE | | | X |
| RENCH SIDE NORTH SIDE SM-3-TOP SOUTH SIDE SIDE SOUTH SIDE SOUTH SIDE SOUTH SIDE SOUTH SIDE SOUTH SIDE SIDE SIDE SIDE SIDE SIDE SIDE | | N / | |
| SIDE | | | A |
| NORTH SIDE SCAN= 400g.cpm SM-2-SOUTH SIDE SCAN= SIDE SM-2-SOUTH SIDE SIDE SIDE SIDE SIDE SIDE | | | |
| NORTH SIDE SIDE SCAN= 400g cpn SM-2-SOUTH SIDE SOUTH SIDE SOUTH SIDE | | | |
| NORTH SIDE SIDE SCAN= 400g cpn SM-2-SOUTH SIDE SOUTH SIDE SOUTH SIDE | | / | |
| NORTH SIDE SM-4-NORTH SIDE SCAN= 400g cpm SM-2-SOUTH SIDE | / | 1 | |
| NORTH SIDE SM-4-NORTH SIDE SCAN= 400g cpm SM-2-SOUTH SIDE | - / | | |
| SIDE SM-4-NORTH SIDE SCAN= 400g cpm SM-2-SOUTH SIDE XD | | 1 | |
| SCAN = JOE JOOgcpm 400gcpm SM-2 - SOUTH SIDE XX | _/ | 1.0 | - |
| 400gcpm SM-2-SOUTH SIDE | -/ | | - |
| SIDE X | / | | |
| SIDE | <u>/</u> | Legend | |
| | | logical boundar | ry |
| | x-x-x- Contam # - General are | | |
| | *Contact/30cn | | |
| | O - Smear loc | | |
| | LAS - Large a # - Direct frisk | | |
| | A/S - Air sam | and the second design of the s | |
| | | d by: (print) | sign/da |
| BOTTOM SCAN = 500gepm 33 11-15-07 = 5000gepm | J, SORC | pre of | 2 |
| | | 11-15-07 | |
| F | Reviewed | by: (sign/da | |
| | 2.8. | 11-1 | 15Ø |
| | mons | -20N | |

SECTION 7 ATTACHMENT 5 1 DISC