



Sacramento Muni Util Dist/E6300
Rancho Seco
Decommissioning

Rad Material Package Summary

Prepared By: _____ Date: _____
Reviewed By: _____ Date: _____

Item No. RS-RVI-029	DOT Class LSA-II	Type 8-120PL	Volume 124.60 ft³(3.53E+06 cc)		Decayed to Date 05/02/2005		
Pkg Weight 11182 lbs (5072 kg)		Chemical form METAL OXIDES	Physical Form SOLID		DOT Label Yellow-III		
Radionuclide Content		Radionuclide	Activity(mCi)	Radionuclide	Activity(mCi)	Radionuclide	Activity(mCi)
		Co-60	4.33E+05	Ni-63	3.75E+05	Fe-55	8.92E+04
		Am-241	1.39E+00	C-14	8.18E+02	Pu-238	2.67E-01
		Pu-239	2.32E-01	Pu-241	7.57E+00	Cm-244	1.76E-01
		Nb-94	5.58E+00	Sr-90	1.06E+00	Mn-54	6.43E-01
		Cs-137	2.69E-01	Cm-242	3.81E-04	Tc-99	4.79E-03
		Zn-65	8.86E-04	Ni-59	3.51E+03	Total	9.02E+05
Ident.Num UN3321	Proper Shipping Name per 49CFR172.101 Radioactive material, low specific activity (LSA-II), fissile-excepted					Hazard Class 7	

Number of Components Found : 5

Component Listing

Item #	Description	DK Date	mR/hr	Vol(ft ³)	Wgt(#)	Act.(mCi)	DispCl
ALIGS2-3	RVI INTERNAL COMPONENTS	05/02/2005	NA	2.69E+00	1.34E+03	1.45E+05	C
ALIGS7-3	RVI INTERNAL COMPONENTS	05/02/2005	NA	4.71E+00	2.34E+03	2.54E+05	C
ALIGS7-1	RVI INTERNAL COMPONENTS	05/02/2005	NA	2.41E+00	1.20E+03	1.30E+05	C
ALIGS1-3	RVI INTERNAL COMPONENTS	05/02/2005	NA	3.40E+00	1.69E+03	1.84E+05	C
ALIGS1-1	RVI INTERNAL COMPONENTS	05/02/2005	NA	3.49E+00	1.74E+03	1.89E+05	C



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Shipping Type Summary

Prepared By: _____ Date: _____
Reviewed By: _____ Date: _____

Item No. RS-RVI-029	DOT Class LSA-II	Type 8-120PL	Volume 124.60 ft³(3.53E+06 cc)		Reference Date 05/02/2005		
Pkg Weight 11182 lbs (5072 kg)		Chemical form METAL OXIDES	Physical Form SOLID		DOT Label Yellow-III		
Dose Rate - Contact 3160.00 mR/hr		Dose Rate- 1m (TI) 497.90 mR/hr	Dose Rate -3m 104.37 mR/hr		LSA Comparison Value 1.08E-05 A2/g		
Non-Fixed Cont. Beta/Gamma <1000.00		Non-Fixed Cont. Alpha <20.00	Decay Heat 6.71E+00 watts				
Shipping Type Summary		Nuclide	Act.(mCi)	A2 Value(TBq)	A2 Fract.	RQ (Ci)	RQ Fract.
		Co-60	4.33E+05	4.0E-01	4.00E+01	10.0	4.33E+01
		Ni-63	3.75E+05	3.0E+01	4.63E-01	100.0	3.75E+00
		Fe-55	8.92E+04	4.0E+01	8.25E-02	100.0	8.92E-01
		Am-241	1.39E+00	1.0E-03	5.15E-02	0.0100	1.39E-01
		C-14	8.18E+02	3.0E+00	1.01E-02	10.0	8.18E-02
		Pu-238	2.67E-01	1.0E-03	9.90E-03	0.0100	2.67E-02
		Pu-239	2.32E-01	1.0E-03	8.58E-03	0.0100	2.32E-02
		Pu-241	7.57E+00	6.0E-02	4.67E-03	1.0	7.57E-03
		Cm-244	1.76E-01	2.0E-03	3.26E-03	0.0100	1.76E-02
		Nb-94	5.58E+00	7.0E-01	2.95E-04	10.0	5.58E-04
		Sr-90	1.06E+00	3.0E-01	1.31E-04	0.1	1.06E-02
		Mn-54	6.43E-01	1.0E+00	2.38E-05	10.0	6.43E-05
		Cs-137	2.69E-01	6.0E-01	1.66E-05	1.0	2.69E-04
		Cm-242	3.81E-04	1.0E-02	1.41E-06	1.0	3.81E-07
		Tc-99	4.79E-03	9.0E-01	1.97E-07	10.0	4.79E-07
Zn-65	8.86E-04	2.0E+00	1.64E-08	10.0	8.86E-08		
Ni-59	3.51E+03	NA	0.0	100.0	3.51E-02		
TOTALS		9.02E+05		4.07E+01	4.83E+01		
Ident.Num UN3321	Proper Shipping Name per 49CFR172.101 Radioactive material, low specific activity (LSA-II), fissile-excepted					Hazard Class 7	



Sacramento Muni Util Dist/E6300
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**Radioactive Component Record: (ALIGS2-3)
RVI INTERNAL COMPONENTS (ACTRVI)**

Prepared By: _____ Date: _____

Reviewed By: _____ Date: _____

Sample # ACTRVILITOP		Sample Stream ACTRVI - RVI - Internals Components				Sample Date 04/01/2003	
Wgt(g) or Vol(cc) 1.0000		Sample Units uCi/gm					
Measurements	Nuclide	Concentration	Nuclide	Concentration	Nuclide	Concentration	
	C-14	2.17E-01	Mn-54	9.24E-04	Fe-55	4.04E+01	
	Co-60	1.51E+02	Ni-59	9.32E-01	Ni-63	1.01E+02	
	Zn-65	2.04E-06	Sr-90	2.97E-04	Nb-94	1.48E-03	
	Tc-99	1.27E-06	Cs-137	7.48E-05	Pu-238	7.21E-05	
	Pu-239	6.15E-05	Pu-241	2.22E-03	Am-241	3.63E-04	
	Cm-242	2.57E-06	Cm-244	5.06E-05			
Method Sample Scaleup							
Origination Date 04/01/2003		Reference Date (as shown) 05/02/2005		Package Number RS-RVI-029			
Reference ALIGS2-3		Volume 2.690(7.62E+04cc)		Weight 1338.000(606906.59g)		Total Activity 1.45E+05(5.37E+06MBq)	
Activity Summary mCi	Nuclide	Activity	Nuclide	Activity	Nuclide	Activity	
	C-14	1.32E+02	Mn-54	1.04E-01	Fe-55	1.44E+04	
	Co-60	6.97E+04	Ni-59	5.66E+02	Ni-63	6.04E+04	
	Zn-65	1.43E-04	Sr-90	1.71E-01	Nb-94	8.98E-01	
	Tc-99	7.71E-04	Cs-137	4.33E-02	Pu-238	4.31E-02	
	Pu-239	3.73E-02	Pu-241	1.22E+00	Am-241	2.24E-01	
	Cm-242	6.13E-05	Cm-244	2.84E-02			



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Radioactive Component Record: (ALIGS7-3)
RVI INTERNAL COMPONENTS (ACTRVI)

Prepared By: _____

Date: _____

Reviewed By: _____

Date: _____

Sample # ACTRVILITOP		Sample Stream ACTRVI - RVI - Internals Components				Sample Date 04/01/2003	
Wgt(g) or Vol(cc) 1.0000		Sample Units uCi/gm					
Measurements	Nuclide	Concentration	Nuclide	Concentration	Nuclide	Concentration	
	C-14	2.17E-01	Mn-54	9.24E-04	Fe-55	4.04E+01	
	Co-60	1.51E+02	Ni-59	9.32E-01	Ni-63	1.01E+02	
	Zn-65	2.04E-06	Sr-90	2.97E-04	Nb-94	1.48E-03	
	Tc-99	1.27E-06	Cs-137	7.48E-05	Pu-238	7.21E-05	
	Pu-239	6.15E-05	Pu-241	2.22E-03	Am-241	3.63E-04	
	Cm-242	2.57E-06	Cm-244	5.06E-05			
Method Sample Scaleup							
Origination Date 04/01/2003		Reference Date (as shown) 05/02/2005		Package Number RS-RVI-029			
Reference ALIGS7-3		Volume 4.710(1.33E+05cc)		Weight 2344.000(1063220.52g)		Total Activity 2.54E+05(9.41E+06MBq)	
Activity Summary mCi	Nuclide	Activity	Nuclide	Activity	Nuclide	Activity	
	C-14	2.31E+02	Mn-54	1.81E-01	Fe-55	2.51E+04	
	Co-60	1.22E+05	Ni-59	9.91E+02	Ni-63	1.06E+05	
	Zn-65	2.50E-04	Sr-90	3.00E-01	Nb-94	1.57E+00	
	Tc-99	1.35E-03	Cs-137	7.58E-02	Pu-238	7.54E-02	
	Pu-239	6.54E-02	Pu-241	2.13E+00	Am-241	3.92E-01	
	Cm-242	1.07E-04	Cm-244	4.97E-02			



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**Radioactive Component Record: (ALIGS7-1)
RVI INTERNAL COMPONENTS (ACTRVI)**

Prepared By: _____ Date: _____

Reviewed By: _____ Date: _____

Sample # ACTRVILITOP		Sample Stream ACTRVI - RVI - Internals Components				Sample Date 04/01/2003	
Wgt(g) or Vol(cc) 1.0000		Sample Units uCi/gm					
Measurements	Nuclide	Concentration	Nuclide	Concentration	Nuclide	Concentration	
	C-14	2.17E-01	Mn-54	9.24E-04	Fe-55	4.04E+01	
	Co-60	1.51E+02	Ni-59	9.32E-01	Ni-63	1.01E+02	
	Zn-65	2.04E-06	Sr-90	2.97E-04	Nb-94	1.48E-03	
	Tc-99	1.27E-06	Cs-137	7.48E-05	Pu-238	7.21E-05	
	Pu-239	6.15E-05	Pu-241	2.22E-03	Am-241	3.63E-04	
	Cm-242	2.57E-06	Cm-244	5.06E-05			
Method Sample Scaleup							
Origination Date 04/01/2003		Reference Date (as shown) 05/02/2005		Package Number RS-RVI-029			
Reference ALIGS7-1		Volume 2.410(6.82E+04cc)		Weight 1200.000(544310.84g)		Total Activity 1.30E+05(4.82E+06MBq)	
Activity Summary mCi	Nuclide	Activity	Nuclide	Activity	Nuclide	Activity	
	C-14	1.18E+02	Mn-54	9.29E-02	Fe-55	1.29E+04	
	Co-60	6.25E+04	Ni-59	5.07E+02	Ni-63	5.42E+04	
	Zn-65	1.28E-04	Sr-90	1.54E-01	Nb-94	8.06E-01	
	Tc-99	6.91E-04	Cs-137	3.88E-02	Pu-238	3.86E-02	
	Pu-239	3.35E-02	Pu-241	1.09E+00	Am-241	2.01E-01	
	Cm-242	5.50E-05	Cm-244	2.54E-02			



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**Radioactive Component Record: (ALIGS1-3)
 RVI INTERNAL COMPONENTS (ACTRVI)**

Prepared By: _____ Date: _____

Reviewed By: _____ Date: _____

Sample # ACTRVILITOP		Sample Stream ACTRVI - RVI - Internals Components				Sample Date 04/01/2003	
Wgt(g) or Vol(cc) 1.0000		Sample Units uCi/gm					
Measurements	Nuclide	Concentration	Nuclide	Concentration	Nuclide	Concentration	
	C-14	2.17E-01	Mn-54	9.24E-04	Fe-55	4.04E+01	
	Co-60	1.51E+02	Ni-59	9.32E-01	Ni-63	1.01E+02	
	Zn-65	2.04E-06	Sr-90	2.97E-04	Nb-94	1.48E-03	
	Tc-99	1.27E-06	Cs-137	7.48E-05	Pu-238	7.21E-05	
	Pu-239	6.15E-05	Pu-241	2.22E-03	Am-241	3.63E-04	
	Cm-242	2.57E-06	Cm-244	5.06E-05			
Method Sample Scaleup							
Origination Date 04/01/2003		Reference Date (as shown) 05/02/2005		Package Number RS-RVI-029			
Reference ALIGS1-3		Volume 3.400(9.63E+04cc)		Weight 1692.000(767478.29g)		Total Activity 1.84E+05(6.79E+06MBq)	
Activity Summary mCi	Nuclide	Activity	Nuclide	Activity	Nuclide	Activity	
	C-14	1.67E+02	Mn-54	1.31E-01	Fe-55	1.81E+04	
	Co-60	8.81E+04	Ni-59	7.15E+02	Ni-63	7.64E+04	
	Zn-65	1.80E-04	Sr-90	2.17E-01	Nb-94	1.14E+00	
	Tc-99	9.75E-04	Cs-137	5.47E-02	Pu-238	5.44E-02	
	Pu-239	4.72E-02	Pu-241	1.54E+00	Am-241	2.83E-01	
	Cm-242	7.75E-05	Cm-244	3.59E-02			



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**Radioactive Component Record: (ALIGS1-1)
RVI INTERNAL COMPONENTS (ACTRVI)**

Prepared By: _____ Date: _____

Reviewed By: _____ Date: _____

Sample # ACTRVILITOP	Sample Stream ACTRVI - RVI - Internals Components				Sample Date 04/01/2003	
Wgt(g) or Vol(cc) 1.0000	Sample Units uCi/gm					
Measurements	Nuclide	Concentration	Nuclide	Concentration	Nuclide	Concentration
	C-14	2.17E-01	Mn-54	9.24E-04	Fe-55	4.04E+01
	Co-60	1.51E+02	Ni-59	9.32E-01	Ni-63	1.01E+02
	Zn-65	2.04E-06	Sr-90	2.97E-04	Nb-94	1.48E-03
	Tc-99	1.27E-06	Cs-137	7.48E-05	Pu-238	7.21E-05
	Pu-239	6.15E-05	Pu-241	2.22E-03	Am-241	3.63E-04
	Cm-242	2.57E-06	Cm-244	5.06E-05		
Method Sample Scaleup						
Origination Date 04/01/2003	Reference Date (as shown) 05/02/2005		Package Number RS-RVI-029			
Reference ALIGS1-1	Volume 3.490(9.88E+04cc)		Weight 1738.000(788343.54g)		Total Activity 1.89E+05(6.97E+06MBq)	
Activity Summary mCi	Nuclide	Activity	Nuclide	Activity	Nuclide	Activity
	C-14	1.71E+02	Mn-54	1.35E-01	Fe-55	1.86E+04
	Co-60	9.05E+04	Ni-59	7.35E+02	Ni-63	7.85E+04
	Zn-65	1.85E-04	Sr-90	2.23E-01	Nb-94	1.17E+00
	Tc-99	1.00E-03	Cs-137	5.62E-02	Pu-238	5.59E-02
	Pu-239	4.85E-02	Pu-241	1.58E+00	Am-241	2.91E-01
	Cm-242	7.96E-05	Cm-244	3.68E-02		

RVI-029 PACKING REPORT

Package ID: RS-RVI-029

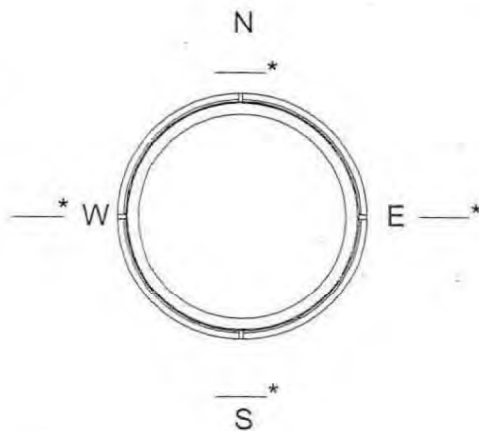
SECTION I: PACKAGE INVENTORY

ID No./Weight	Date	ID No./Weight	Date	ID No./Weight	Date	ID No./Weight	Date
LIMS-1-3/311		LIMS-2-2/2168		LIMS-3-3/1425		LIMS-4-3/1735	
LIMS-5-1/2028							
LIGS-7-3	4/17/06	LIGS-1-1	4/17/06	LIGS-1-3	4/17/06	LIGS-2-3	4/18/06
2050 lbs		1520 lbs		1480 lbs		1170 lbs	
LIGS-7-1	1050 lbs 4/18/06						
						6 FCC Filter holder	4/18/06
						70 lbs	
1- 3/4" TAP 1 lb.							
17 5/15/06							

Total Estimated Payload: 7667 pounds

SECTION II: LINER SURVEY

Instrument Make/Model: N/A Instrument Serial Number: N/A
 Calibration Date: _____ Surveyor Remarks: SEE ATTACHED SURVEY NO 52006 - 01315



- * Contact to outside of transfer shield
- ** Contact at top of liner in cask (Before cask lid is put in place)
- *** Contact at bottom of liner

IOS Crane wt 11,730
Rx Building wt 11,900

SECTION III: FINAL DISPOSITION:

Final Package ID: RS-RVI-029 Surveyor Name: SEE
 Actual Weight: 11,900 lbs Surveyor Signature: ATTACHED SURVEY
 MOTA Project Manager Review: [Signature] Date: 5/15/06
 SMUD APPROVAL: [Signature] DATE: 5/17/06

SECTION I: PRELIMINARY INFORMATION

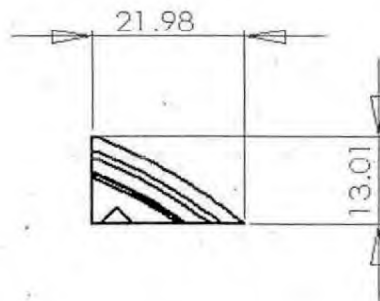
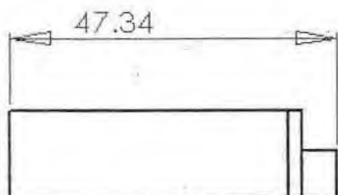
Component ID: LIGS-7-3
Parent Component: LIXX-7-3 Est. Weight: 1070 lbs
Parting Cut No.: 354 Dose Limit: See Note in Figure
Parting Tool: 38i
Planned Package: RS-RVI-024079/NS06065-10

SECTION II: ACTUAL COMPONENT SURVEY RESULTS

Instrument Make/Model: R07 / 513 Instrument Serial no.: 513
Calibration Date: 11-22-06 Surveyor Remarks: _____

SURVEYED UNDER WATER

See Attached Survey #S2006-



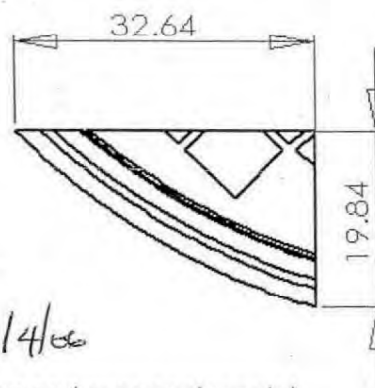
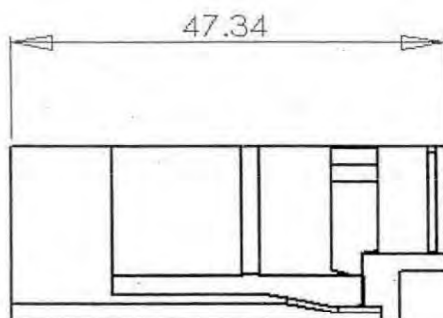
62 JAF 4/14/06
Dose Limit: <30 R/hr at 1' in water averaged over center point
readings from top and bottom of grid

SECTION III: COMPONENT TRACKING

Parting Cut Date: 4/12/06
Location Coordinate 1: E-F 1 Initial: HAM Date: 4/12/06
Location Coordinate 2: RS-RVI-029 Initial: JWR Date: 4/13/06
Location Coordinate 3: _____ Initial: _____ Date: _____

SECTION IV: FINAL DISPOSITION:

Final Package ID: 205 NS06065-10 RS-RVI-029 Surveyor Name: CAROLINE MARTENS
Actual Weight: 2050 lbs Surveyor Signature: C Martens
Date: 4-12-06

SECTION I: PRELIMINARY INFORMATIONComponent ID: LIGS-1-1Parent Component: LIXX-1-1Parting Cut No.: 301Parting Tool: 38iPlanned Package: RS-RVI-022029/NS06065-10Est. Weight: 1911 lbsDose Limit: See Note in Figure**SECTION II: ACTUAL COMPONENT SURVEY RESULTS**Instrument Make/Model: Eberline/R07Instrument Serial no.: 513Calibration Date: 11-22-05Surveyor Remarks: SURVEYED UNDERWATERSEE ATTACHED SURVEY #

62 JAF 4/4/06
Dose Limit: <30 R/hr at 1' in water averaged over center point readings from the top and bottom of the grid

SECTION III: COMPONENT TRACKINGParting Cut Date: 4/17/06Location Coordinate 1: RS-RVI-029

Initial: _____

Date: _____

Location Coordinate 2: _____

Initial: _____

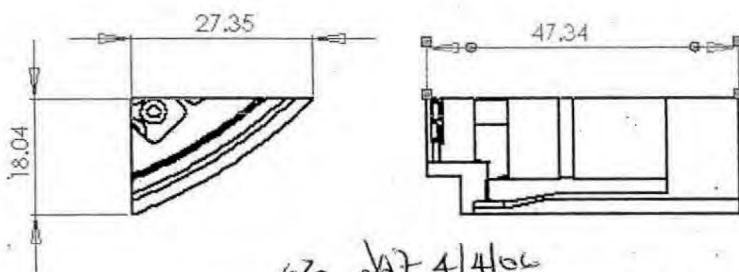
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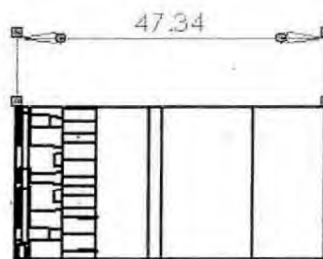
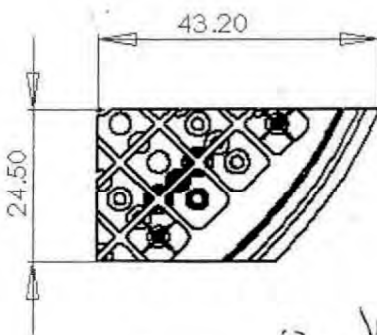
Location Coordinate 3: _____

Initial: _____

Date: _____

SECTION IV: FINAL DISPOSITION:Final Package ID: NS06065-10
RS-RVI-029Surveyor Name: L. WALKERActual Weight: 1520 lbs submergedSurveyor Signature: S. WallerDate: 4.18.06

SECTION I: PRELIMINARY INFORMATIONComponent ID: LIGS-1-3Parent Component: LIXX-1-3Parting Cut No.: 306Parting Tool: 38iPlanned Package: RS-RVI-029/NS06065-10Est. Weight: 1528 lbsDose Limit: See Note in Figure**SECTION II: ACTUAL COMPONENT SURVEY RESULTS**Instrument Make/Model: EBERLINE R07Instrument Serial no.: 513Calibration Date: 11-22-05Surveyor Remarks: SEE ATTACHED SURVEY #2006-01240**SECTION III: COMPONENT TRACKING**Parting Cut Date: 4/17/06Location Coordinate 1: 6-2Initial: SAFDate: 4/17/06Location Coordinate 2: RS-RVI-029Initial: SAFDate: 4/18/06Location Coordinate 3: Initial: Date: **SECTION IV: FINAL DISPOSITION:**Final Package ID: NS06065-10
RS-RVI-029Surveyor Name: Mark StaroActual Weight: 1480 lbs submergedSurveyor Signature: Mark StaroDate: 4/17/06

SECTION I: PRELIMINARY INFORMATIONComponent ID: LIGS-2-3Parent Component: LIXX-2-3Parting Cut No.: 314Parting Tool: 38i IIPlanned Package: RS-RVI-021029 JA 4/17/06Est. Weight: 2045 lbsDose Limit: See Note in Figure**SECTION II: ACTUAL COMPONENT SURVEY RESULTS**Instrument Make/Model: R07Instrument Serial no.: 513Calibration Date: 11-22-05Surveyor Remarks: See Attached Survey # S2006-

62 JA 4/4/06
Dose Limit: <30 R/hr at 1' in water averaged over center point
readings from the top and bottom of the grid

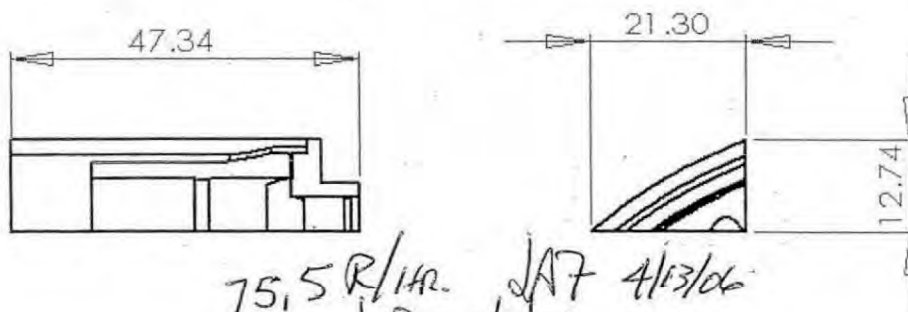
SECTION III: COMPONENT TRACKINGParting Cut Date: 4/3/06Location Coordinate 1: G-1Initial: KRMDate: 4/4/06Location Coordinate 2: F1Initial: KRMDate: 4/5/06Location Coordinate 3: RS-RVI-029Initial: JA For S. FrontDate: 4/19/06**SECTION IV: FINAL DISPOSITION:**Final Package ID: RS-RVI-029
RS06065-10Surveyor Name: CAROLINE MARTENSActual Weight: 1170 lbsSurveyor Signature: CMDate: 4-4-06

SECTION I: PRELIMINARY INFORMATION

Component ID: LIGS-7-1
Parent Component: LIXX-7-1 Est. Weight: 1027 lbs
Parting Cut No.: 349 Dose Limit: See Note in Figure
Parting Tool: 38i
Planned Package: RS-RVI-021029/NS0606S-10

SECTION II: ACTUAL COMPONENT SURVEY RESULTS

Instrument Make/Model: EDU-RV07 Instrument Serial no.: 513
Calibration Date: 11-22-05 Surveyor Remarks: See Attached Survey # S2006-



Dose Limit: <30 R/hr at 1' in water averaged over center point readings from the top and bottom of the grid

SECTION III: COMPONENT TRACKING

Parting Cut Date: 4/12/06
Location Coordinate 1: EF-3 Initial: SAR Date: 4/12/06
Location Coordinate 2: RV-RS#-029 Initial: SWR Date: 4/13/06
Location Coordinate 3: _____ Initial: _____ Date: _____

SECTION IV: FINAL DISPOSITION:

Final Package ID: NS0606S-10
RV-RS#-029 Surveyor Name: Mark Star
Actual Weight: 1050 lbs submerged Surveyor Signature: Mark Star
Date: 4/12/06

SURVEY NO: S2006-01268
RWP: 06-102
REASON: LINER LOADING
DATE: 4-18-06 TIME: 1905

SURVEYOR	
<u>L. WALKER</u>	PRINT
<u>S. Walker</u>	SIGNATURE
	PRINT
	SIGNATURE

CONTAMINATION DATA			
NO.	LOCATION	ACTIVITY $\beta - \gamma$ α	UNITS *
* INDICATE RESULTS IN UNITS OF:			
$^{\circ}\text{D} = \text{DPM}/100\text{G}^2$, $^{\circ}\text{C} = \text{CPM}/\text{FT}^2$, $^{\circ}\text{M} = \text{MEAD}/\text{HR}$			

AIR SAMPLES	
NUMBER	LOCATION

INSTRUMENTS		
TYPE	SERIAL NO.	CAL DUE
R02	1635	4-25-06
R07	512	5-9-06

REMARKS	
KB POSTED: RA, CA, HP2(3) CTRP	
POOL POSTED: HP2(3) CTRP PRIOR TO REMOVING ITEMS FROM POOL	
NO HP2 DETECTED	

RB + 40E1

GTC Filter HOLDER

Placed into RSRV1-029/N5060065-10

Dose rate = $\times 3 \text{ R/hr}$ | 1.5 R/hr @ 30cm

Weight = 70 lbs

$< 2 \text{ mR/hr}$ on tube, During survey

(Item was surveyed under water)

RVI-033

RVI-033 DW JAMES REPORT

Package Contents Summary

Component	Weight (lbs)	Activity (Ci)
ATS1-4	1240	120
ATS1-5	1280	124
ATS1-6	1280	124
ATS1-7	1320	128
ATS1-8	1320	128
ATS1-9	1260	122
ATS2-1	1380	134
ATS2-2	1340	130
TOTAL	10420	1010

Package Activity Summary

Nuclide	Activity (Ci)
Co-60	5.32E+02
Ni-63	3.92E+02
Fe-55	8.19E+01
Am-241	1.55E-03
5.85E-01	5.85E-01
Pu-238	2.97E-04
Pu-239	2.58E-04
Pu-241	8.18E-03
Cm-244	1.92E-04
Nb-94	1.17E-02
Sr-90	1.17E-03
Mn-54	1.05E-03
Cs-137	2.95E-04
Cm-242	1.73E-07
Tc-99	5.33E-06
Zn-65	6.25E-07
Ni-59	4.06E+00
TOTAL	1011



Sacramento Muni Util Dist/E5300
Rancho Seco
Decommissioning

Rad Material Package Summary

Prepared By: _____ Date: _____

Reviewed By: _____ Date: _____

Item No.	DOT Class	Type	Volume		Decayed to Date		
RS-RVI-033	TYPE B	8-120PL	124.60 ft³(3.53E+06 cc)		11/29/2005		
Pkg Weight		Chemical form	Physical Form		DOT Label		
13274 lbs (6021 kg)		METAL OXIDES	SOLID		Yellow-III		
Radionuclide Content		Radionuclide	Activity(mCi)	Radionuclide	Activity(mCi)	Radionuclide	Activity(mCi)
		Co-60	5.32E+05	Ni-63	3.92E+05	Fe-55	8.19E+04
		Am-241	1.55E+00	Pu-238	2.97E-01	Pu-239	2.58E-01
		C-14	5.85E+02	Pu-241	8.18E+00	Cm-244	1.92E-01
		Nb-94	1.17E+01	Sr-90	1.17E+00	Mn-54	1.05E+00
		Cs-137	2.95E-01	Cm-242	1.73E-04	Tc-99	5.33E-03
		Zn-65	6.25E-04	Ni-59	4.06E+03	Total	1.01E+06
Ident.Num	Proper Shipping Name per 49CFR172.101					Hazard Class	
UN2916	Radioactive material, Type B(U) package, fissile-excepted					7	

Number of Components Found : 8

Component Listing

Item #	Description	DK Date	mR/hr	Vol(ft ³)	Wgt(#)	Act.(mCi)	DispCl
ATS1-4	RVI INTERNAL COMPONENTS	11/29/2005	NA	2.48E+00	1.24E+03	1.20E+05	C
ATS1-5	RVI INTERNAL COMPONENTS	11/29/2005	NA	2.57E+00	1.28E+03	1.24E+05	C
ATS1-6	RVI INTERNAL COMPONENTS	11/29/2005	NA	2.57E+00	1.28E+03	1.24E+05	C
ATS1-7	RVI INTERNAL COMPONENTS	11/29/2005	NA	2.64E+00	1.32E+03	1.28E+05	C
ATS1-8	RVI INTERNAL COMPONENTS	11/29/2005	NA	2.64E+00	1.32E+03	1.28E+05	C
ATS1-9	RVI INTERNAL COMPONENTS	11/29/2005	NA	2.53E+00	1.26E+03	1.22E+05	C
ATS2-1	RVI INTERNAL COMPONENTS	11/29/2005	NA	2.78E+00	1.38E+03	1.34E+05	C
ATS2-2	RVI INTERNAL COMPONENTS	11/29/2005	NA	2.69E+00	1.34E+03	1.30E+05	C



Sacramento Muni Util Dist/E5300
Rancho Seco
Decommissioning

Shipping Type Summary

Prepared By: _____ Date: _____
Reviewed By: _____ Date: _____

Item No. RS-RVI-033	DOT Class TYPE B	Type 8-120PL	Volume 124.60 ft³(3.53E+06 cc)		Reference Date 11/29/2005		
Pkg Weight 13274 lbs (6021 kg)		Chemical form METAL OXIDES	Physical Form SOLID		DOT Label Yellow-III		
Dose Rate - Contact 50000.00 mR/hr		Dose Rate- 1m (TI) 8040.00 mR/hr	Dose Rate -3m 1670.00 mR/hr		LSA Comparison Value 1.06E-05 A2/g		
Non-Fixed Cont. Beta/Gamma <1000.00		Non-Fixed Cont. Alpha <20.00	Decay Heat 8.24E+00 watts				
Shipping Type Summary		Nuclide	Act.(mCi)	A2 Value(TBq)	A2 Fract.	RQ (Ci)	RQ Fract.
		Co-60	5.32E+05	4.0E-01	4.92E+01	10.0	5.32E+01
		Ni-63	3.92E+05	3.0E+01	4.83E-01	100.0	3.92E+00
		Fe-55	8.19E+04	4.0E+01	7.58E-02	100.0	8.19E-01
		Am-241	1.55E+00	1.0E-03	5.75E-02	0.0100	1.55E-01
		Pu-238	2.97E-01	1.0E-03	1.10E-02	0.0100	2.97E-02
		Pu-239	2.58E-01	1.0E-03	9.55E-03	0.0100	2.58E-02
		C-14	5.85E+02	3.0E+00	7.21E-03	10.0	5.85E-02
		Pu-241	8.18E+00	6.0E-02	5.04E-03	1.0	8.18E-03
		Cm-244	1.92E-01	2.0E-03	3.55E-03	0.0100	1.92E-02
		Nb-94	1.17E+01	7.0E-01	6.21E-04	10.0	1.17E-03
		Sr-90	1.17E+00	3.0E-01	1.44E-04	0.1	1.17E-02
		Mn-54	1.05E+00	1.0E+00	3.90E-05	10.0	1.05E-04
		Cs-137	2.95E-01	6.0E-01	1.82E-05	1.0	2.95E-04
		Cm-242	1.73E-04	1.0E-02	6.39E-07	1.0	1.73E-07
		Tc-99	5.33E-03	9.0E-01	2.19E-07	10.0	5.33E-07
		Zn-65	6.25E-04	2.0E+00	1.16E-08	10.0	6.25E-08
		Ni-59	4.06E+03	NA	0.0	100.0	4.06E-02
TOTALS			1.01E+06		4.99E+01		5.83E+01
Ident.Num UN2916	Proper Shipping Name per 49CFR172.101 Radioactive material, Type B(U) package, fissile-excepted						Hazard Class 7



Sacramento Muni Util Dist/E5300
Rancho Seco
Decommissioning

**Radioactive Component Record: (ATS1-4)
RVI INTERNAL COMPONENTS (ACTRVI)**

Prepared By: _____ Date: _____

Reviewed By: _____ Date: _____

Sample # ACTRVITS	Sample Stream ACTRVI - RVI - Internals Components				Sample Date 04/01/2003	
Wgt(g) or Vol(cc) 1.0000	Sample Units uCi/gm					
Measurements	Nuclide	Concentration	Nuclide	Concentration	Nuclide	Concentration
	C-14	1.24E-01	Mn-54	1.93E-03	Fe-55	3.44E+01
	Co-60	1.60E+02	Ni-59	8.60E-01	Ni-63	8.46E+01
	Zn-65	2.09E-06	Sr-90	2.64E-04	Nb-94	2.49E-03
	Tc-99	1.13E-06	Cs-137	6.64E-05	Pu-238	6.42E-05
	Pu-239	5.47E-05	Pu-241	1.97E-03	Am-241	3.23E-04
	Cm-242	2.28E-06	Cm-244	4.50E-05		
Method Sample Scaleup						
Origination Date 04/01/2003	Reference Date (as shown) 11/29/2005		Package Number RS-RVI-033			
Reference ATS1-4	Volume 2.480(7.02E+04cc)		Weight 1235.000(560186.58g)		Total Activity 1.20E+05(4.44E+06MBq)	
Activity Summary mCi	Nuclide	Activity	Nuclide	Activity	Nuclide	Activity
	C-14	6.94E+01	Mn-54	1.25E-01	Fe-55	9.72E+03
	Co-60	6.31E+04	Ni-59	4.82E+02	Ni-63	4.65E+04
	Zn-65	7.41E-05	Sr-90	1.39E-01	Nb-94	1.39E+00
	Tc-99	6.33E-04	Cs-137	3.50E-02	Pu-238	3.52E-02
	Pu-239	3.06E-02	Pu-241	9.71E-01	Am-241	1.85E-01
	Cm-242	2.05E-05	Cm-244	2.28E-02		



Sacramento Muni Util Dist/E5300
Rancho Seco
Decommissioning

**Radioactive Component Record: (ATS1-5)
RVI INTERNAL COMPONENTS (ACTRVI)**

Prepared By: _____ Date: _____

Reviewed By: _____ Date: _____

Sample # ACTRVITS	Sample Stream ACTRVI - RVI - Internals Components				Sample Date 04/01/2003	
Wgt(g) or Vol(cc) 1.0000	Sample Units uCi/gm					
Measurements	Nuclide	Concentration	Nuclide	Concentration	Nuclide	Concentration
	C-14	1.24E-01	Mn-54	1.93E-03	Fe-55	3.44E+01
	Co-60	1.60E+02	Ni-59	8.60E-01	Ni-63	8.46E+01
	Zn-65	2.09E-06	Sr-90	2.64E-04	Nb-94	2.49E-03
	Tc-99	1.13E-06	Cs-137	6.64E-05	Pu-238	6.42E-05
	Pu-239	5.47E-05	Pu-241	1.97E-03	Am-241	3.23E-04
	Cm-242	2.28E-06	Cm-244	4.50E-05		
Method Sample Scaleup						
Origination Date 04/01/2003	Reference Date (as shown) 11/29/2005		Package Number RS-RVI-033			
Reference ATS1-5	Volume 2.570(7.28E+04cc)		Weight 1280.000(580598.23g)		Total Activity 1.24E+05(4.60E+06MBq)	
Activity Summary mCi	Nuclide	Activity	Nuclide	Activity	Nuclide	Activity
	C-14	7.20E+01	Mn-54	1.30E-01	Fe-55	1.01E+04
	Co-60	6.54E+04	Ni-59	4.99E+02	Ni-63	4.82E+04
	Zn-65	7.68E-05	Sr-90	1.44E-01	Nb-94	1.45E+00
	Tc-99	6.56E-04	Cs-137	3.63E-02	Pu-238	3.65E-02
	Pu-239	3.18E-02	Pu-241	1.01E+00	Am-241	1.91E-01
	Cm-242	2.12E-05	Cm-244	2.36E-02		



Sacramento Muni Util Dist/E5300
 Rancho Seco
 Decommissioning

**Radioactive Component Record: (ATS1-6)
 RVI INTERNAL COMPONENTS (ACTRVI)**

Prepared By: _____ Date: _____

Reviewed By: _____ Date: _____

Sample # ACTRVITS	Sample Stream ACTRVI - RVI - Internals Components				Sample Date 04/01/2003	
Wgt(g) or Vol(cc) 1.0000	Sample Units uCi/gm					
Measurements	Nuclide	Concentration	Nuclide	Concentration	Nuclide	Concentration
	C-14	1.24E-01	Mn-54	1.93E-03	Fe-55	3.44E+01
	Co-60	1.60E+02	Ni-59	8.60E-01	Ni-63	8.46E+01
	Zn-65	2.09E-06	Sr-90	2.64E-04	Nb-94	2.49E-03
	Tc-99	1.13E-06	Cs-137	6.64E-05	Pu-238	6.42E-05
	Pu-239	5.47E-05	Pu-241	1.97E-03	Am-241	3.23E-04
	Cm-242	2.28E-06	Cm-244	4.50E-05		
Method Sample Scaleup						
Origination Date 04/01/2003	Reference Date (as shown) 11/29/2005		Package Number RS-RVI-033			
Reference ATS1-6	Volume 2.570(7.28E+04cc)		Weight 1280.000(580598.23g)		Total Activity 1.24E+05(4.60E+06MBq)	
Activity Summary mCi	Nuclide	Activity	Nuclide	Activity	Nuclide	Activity
	C-14	7.20E+01	Mn-54	1.30E-01	Fe-55	1.01E+04
	Co-60	6.54E+04	Ni-59	4.99E+02	Ni-63	4.82E+04
	Zn-65	7.68E-05	Sr-90	1.44E-01	Nb-94	1.45E+00
	Tc-99	6.56E-04	Cs-137	3.63E-02	Pu-238	3.65E-02
	Pu-239	3.18E-02	Pu-241	1.01E+00	Am-241	1.91E-01
	Cm-242	2.12E-05	Cm-244	2.36E-02		



Sacramento Muni Util Dist/E5300
Rancho Seco
Decommissioning

Radioactive Component Record: (ATS1-7)
RVI INTERNAL COMPONENTS (ACTRVI)

Prepared By: _____ Date: _____

Reviewed By: _____ Date: _____

Sample # ACTRVITS	Sample Stream ACTRVI - RVI - Internals Components				Sample Date 04/01/2003	
Wgt(g) or Vol(cc) 1.0000	Sample Units uCi/gm					
Measurements	Nuclide	Concentration	Nuclide	Concentration	Nuclide	Concentration
	C-14	1.24E-01	Mn-54	1.93E-03	Fe-55	3.44E+01
	Co-60	1.60E+02	Ni-59	8.60E-01	Ni-63	8.46E+01
	Zn-65	2.09E-06	Sr-90	2.64E-04	Nb-94	2.49E-03
	Tc-99	1.13E-06	Cs-137	6.64E-05	Pu-238	6.42E-05
	Pu-239	5.47E-05	Pu-241	1.97E-03	Am-241	3.23E-04
	Cm-242	2.28E-06	Cm-244	4.50E-05		
Method Sample Scaleup						
Origination Date 04/01/2003	Reference Date (as shown) 11/29/2005		Package Number RS-RVI-033			
Reference ATS1-7	Volume 2.640(7.48E+04cc)		Weight 1315.000(596473.97g)		Total Activity 1.28E+05(4.73E+06MBq)	
Activity Summary mCi	Nuclide	Activity	Nuclide	Activity	Nuclide	Activity
	C-14	7.39E+01	Mn-54	1.33E-01	Fe-55	1.04E+04
	Co-60	6.72E+04	Ni-59	5.13E+02	Ni-63	4.95E+04
	Zn-65	7.89E-05	Sr-90	1.48E-01	Nb-94	1.49E+00
	Tc-99	6.74E-04	Cs-137	3.73E-02	Pu-238	3.75E-02
	Pu-239	3.26E-02	Pu-241	1.03E+00	Am-241	1.97E-01
	Cm-242	2.18E-05	Cm-244	2.42E-02		



Sacramento Muni Util Dist/E5300
 Rancho Seco
 Decommissioning

**Radioactive Component Record: (ATS1-8)
 RVI INTERNAL COMPONENTS (ACTRVI)**

Prepared By: _____ Date: _____
 Reviewed By: _____ Date: _____

Sample # ACTRVITS	Sample Stream ACTRVI - RVI - Internals Components				Sample Date 04/01/2003	
Wgt(g) or Vol(cc) 1.0000	Sample Units uCi/gm					
Measurements	Nuclide	Concentration	Nuclide	Concentration	Nuclide	Concentration
	C-14	1.24E-01	Mn-54	1.93E-03	Fe-55	3.44E+01
	Co-60	1.60E+02	Ni-59	8.60E-01	Ni-63	8.46E+01
	Zn-65	2.09E-06	Sr-90	2.64E-04	Nb-94	2.49E-03
	Tc-99	1.13E-06	Cs-137	6.64E-05	Pu-238	6.42E-05
	Pu-239	5.47E-05	Pu-241	1.97E-03	Am-241	3.23E-04
	Cm-242	2.28E-06	Cm-244	4.50E-05		
Method Sample Scaleup						
Origination Date 04/01/2003	Reference Date (as shown) 11/29/2005		Package Number RS-RVI-033			
Reference ATS1-8	Volume 2.640(7.48E+04cc)		Weight 1315.000(596473.97g)		Total Activity 1.28E+05(4.73E+06MBq)	
Activity Summary mCi	Nuclide	Activity	Nuclide	Activity	Nuclide	Activity
	C-14	7.39E+01	Mn-54	1.33E-01	Fe-55	1.04E+04
	Co-60	6.72E+04	Ni-59	5.13E+02	Ni-63	4.95E+04
	Zn-65	7.89E-05	Sr-90	1.48E-01	Nb-94	1.49E+00
	Tc-99	6.74E-04	Cs-137	3.73E-02	Pu-238	3.75E-02
	Pu-239	3.26E-02	Pu-241	1.03E+00	Am-241	1.97E-01
	Cm-242	2.18E-05	Cm-244	2.42E-02		



Sacramento Muni Util Dist/E5300
Rancho Seco
Decommissioning

**Radioactive Component Record: (ATS1-9)
RVI INTERNAL COMPONENTS (ACTRVI)**

Prepared By: _____ Date: _____

Reviewed By: _____ Date: _____

Sample # ACTRVITS	Sample Stream ACTRVI - RVI - Internals Components				Sample Date 04/01/2003	
Wgt(g) or Vol(cc) 1.0000	Sample Units uCi/gm					
Measurements	Nuclide	Concentration	Nuclide	Concentration	Nuclide	Concentration
	C-14	1.24E-01	Mn-54	1.93E-03	Fe-55	3.44E+01
	Co-60	1.60E+02	Ni-59	8.60E-01	Ni-63	8.46E+01
	Zn-65	2.09E-06	Sr-90	2.64E-04	Nb-94	2.49E-03
	Tc-99	1.13E-06	Cs-137	6.64E-05	Pu-238	6.42E-05
	Pu-239	5.47E-05	Pu-241	1.97E-03	Am-241	3.23E-04
	Cm-242	2.28E-06	Cm-244	4.50E-05		
Method Sample Scaleup						
Origination Date 04/01/2003	Reference Date (as shown) 11/29/2005		Package Number RS-RVI-033			
Reference ATS1-9	Volume 2.530(7.16E+04cc)		Weight 1258.000(570619.20g)		Total Activity 1.22E+05(4.52E+06MBq)	
Activity Summary mCi	Nuclide	Activity	Nuclide	Activity	Nuclide	Activity
	C-14	7.07E+01	Mn-54	1.27E-01	Fe-55	9.91E+03
	Co-60	6.43E+04	Ni-59	4.91E+02	Ni-63	4.74E+04
	Zn-65	7.55E-05	Sr-90	1.41E-01	Nb-94	1.42E+00
	Tc-99	6.45E-04	Cs-137	3.56E-02	Pu-238	3.59E-02
	Pu-239	3.12E-02	Pu-241	9.89E-01	Am-241	1.88E-01
	Cm-242	2.09E-05	Cm-244	2.32E-02		