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ACRONYMS

Am	americium
As	arsenic
Ba	barium
Be	beryllium
Ca	calcium
Cd	cadmium
Cr	chromium
Cu	copper
Fe	iron
FY	Fiscal Year
HCl	hydrochloric acid
HF	hydrofluoric acid
Hg	mercury
HNO_3	nitric acid
HPGe	high-purity germanium
HRR	Historical Release Report
IA	Industrial Area
IASAP	Industrial Area Sampling and Analysis Plan
IHSS	Individual Hazardous Substance Site
K	potassium
Li	lithium
Mg	magnesium
Mn	manganese
Mo	molyblendum
Na	sodium
Ni	nickel
OPWL	Original Process Waste Lines
PAC	Potential Area of Concern
Pb	lead
PCB	polychlorinated biphenyl
PCOC	Potential Contaminant of Concern
Pu	plutonium
Ra	radium
SAP	Sampling and Analysis Plan
Sr	strontium
SVOC	semivolatile organic compound
Ti	titanium
U	uranium
UBC	Under Building Contamination
VOC	volatile organic compound
Zn	zinc

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1.0 INTRODUCTION

This Industrial Area (IA) Sampling and Analysis Plan (SAP) (IASAP) (DOE 2001a) Addendum includes IA Group-specific information, sampling locations, and potential contaminants of concern (PCOCs) for Individual Hazardous Substance Sites (IHSSs), Potential Areas of Concern (PACs), and Under Building Contamination (UBC) Sites proposed for characterization during Fiscal Year (FY) 02. This IASAP Addendum is a supplement to the IASAP (DOE 2001a). The location of the IA Groups and IHSSs, PACs, and UBC Sites proposed for FY02 are shown on Figure 1.

The FY02 IASAP Addendum includes data and proposed sampling locations for the IA Groups and associated IHSSs, PACs, and UBC sites listed in Table 1.

Table 1
FY02 IA Groups

IA Group	IHSS/PAC/UBC Site
100-4	100-611 – Building 123 Scrubber Solution Spill
100-5	100-609 – Building 121 Security Incinerator
300-1	300-128 – Oil Burn Pit #1
	300-134(N) – Lithium (Li) Metal Site
	300-171 – Solvent Burning Grounds
300-6	300-702 – Pesticide Shed
400-10	400-807 – Sandblasting Area
	120.2 – Fiberglass Area West of Building 664
	600-160 – Radioactive Site West of Building 664
500-6	500-906 – Asphalt Surface Near Building 559
500-7	500-907 – Tanker Truck Release of Hazardous Waste from Tank 231B
600-1	600-1001 – Temporary Waste Storage Building 663
600-6	600-1005 – Former Pesticide Storage Area
700-12	700-1106 – Process Waste Spill – Portal 1
800-6	UBC 889 – Decontamination and Waste Reduction
	800-164.3 – Radioactive Site 800 Area Site #2 Building 889 Storage Pad
	000-121 – Original Process Waste Lines (OPWL) Tank 28 - Two 1,000-Gallon Concrete Sumps
	000-121 – OPWL Tank 40 - Two 400-Gallon Underground Concrete Tanks
900-4&5	900-175 – S & W Building 980 Contractor Storage Facility

2.0 EXISTING CHARACTERIZATION INFORMATION

Existing data for the IHSSs, PACs, and UBC Sites are available in Appendix C to the IASAP. Existing values above background mean plus two standard deviations or method detection limits are shown on maps in Section 5, where available. Table 2 presents the PCOCs by IA Group and IHSS, PAC, and UBC Site.

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3.0 SAMPLING

The proposed sampling specifications (number and type of samples) for each IHSS, PAC, and UBC Site are listed in Table 3. Proposed new sampling locations are the starting point for IA Group characterization. After characterization starts, the number and type of samples may change based on sampling results. Changes to sampling specifications will be considered in consultation with the regulatory agencies.

Three types of sampling strategies are used to determine sampling locations - biased, statistical, and geostatistical. Statistical grids have computer generated random start points and orientations. Additionally, the grids have been extended outside the IHSS, PAC, or UBC Site to provide additional sampling locations if needed. Biased samples are based on existing data and geostatistical analysis was used where possible.

Where the new sampling location overlaps or is adjacent to an existing sample location, the existing sampling location data will be used during evaluation.

4.0 MAPS

Maps in this section are organized by IA Group and IHSS. All existing sampling locations and existing data, where available, are presented followed by the proposed new sampling locations. Geostatistical analysis data, where available, are included with the maps.

5.0 REFERENCES

DOE, 1992 - 2000, Historical Release Report for the Rocky Flats Plant, Golden, Colorado.

DOE, 2000, Rocky Flats Environmental Technology Site Industrial Area Data Summary Report, Golden, Colorado, September.

DOE, 2001a, Industrial Area Sampling and Analysis Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, June.

DOE, 2001b, Final Data Summary Report for the Characterization of UBC's 123 and 886, Rocky Flats Environmental Technology Site, Golden, Colorado, August.

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Table 2
Potential Contaminants of Concern

IA Group	IHSS/PAC/UBC Site	PCOCs	Media	Data Source	Sampling Location Method
100-4	100-611 – Building 123 Scrubber Solution Spill	Hydrochloric acid (HCl) Hydrofluoric acid (HF) Nitric acid (HNO_3)	Surface Soil	Historical Release Report (HRR) (DOE 1992- 2000) Data Summary Report for the Characterization of UBC's 123 and 886 (DOE 2001b)	Biased – Area too small for grid sampling. Follows IASAP sampling methodology.
100-5	100-609 – Building 121 Security Incinerator	Polychlorinated biphenyls (PCBs) Dioxins Furans	Surface Soil	HRR	Biased – Area too small for grid sampling. Three samples in each of two concrete pads.
300-1	300-128 – Oil Burn Pit #1	Uranium (U)-238 Depleted U Volatile Organic Compounds (VOCs)	Surface Soil beneath Asphalt	HRR	Statistical Grid
	300-134(N) – Lithium Metal Site	Radionuclides Li Magnesium (Mg) VOCs	Surface and Subsurface Soil	HRR	Statistical Grid
	300-171 – Solvent Burning Grounds	Mg Semivolatile Organic Compound (SVOCs) VOCs	Surface and Subsurface Soil	HRR	Statistical Grid
300-6	300-702 – Pesticide Shed	Pesticides Herbicides	Surface Soil	HRR	Biased – Area too small for grid sampling. Follows IASAP sampling methodology.
400-10	PAC 400-807 – Sandblasting Area	Aluminum	Surface Soil	HRR	Statistical Grid
	IHSS 120.2 – Fiberglass Area West of Building 664	Radionuclides (plutonium (Pu)-239/240, U-235, U-238) Metals (Be, Cd, Cr, Cu, Zn)	Surface Soil	HRR IA Data Summary Report (DOE 2000)	Statistical Grid
	IHSS 600-161 – Radioactive Site West of Building 664	Radionuclides (Pu, U) Metals (As, Be) VOCs (acetone, carbon disulfide, methylene chloride, toluene, 4-methyl-2-pentanone)	Surface Soil Subsurface Soil	HRR IA Data Summary Report	Statistical grid Statistical grid

IA Group	IHSS/PAC/UBC Site	PCOCs	Media	Data Source	Sampling Location Method
500-6	500-906 – Asphalt Surface Near UBC 559 – Building 559	VOCs (carbon tetrachloride trichloroethene, 1,1-dichloroethene)	Surface Soil	HRR	Biased because of small spill area. Because the spill was only one gallon, one sample will be taken in the middle of the IHSS and an additional sample will be taken in a randomly chosen location.
500-7	500-907 – Tanker Truck Release of Hazardous Waste from Tank 231B	Radionuclides Metals VOCs SVOCs PCBs pH	Surface Soil	HRR	Biased because of small spill area. Follows IASAP sampling methodology.
600-1	600-1001 – Temporary Waste Storage - Building 663	Radionuclides VOCs (monoaromatic hydrocarbons, chlorinated solvents, methylene chloride, acetone) SVOCs	Surface and Subsurface Soil Subsurface Soil Surface and Subsurface Soil	HRR IA Data Summary Report	Statistical grid
600-6	600-1005 – Former Pesticide Storage Area	Pesticides	Surface Soil	HRR	Biased – area too small for grid sampling. Because the spill area is small, one sample will be taken in the middle of the IHSS and an additional sample will be taken in a randomly chosen location.
700-12	700-1106 – Process Waste Spill – Portal 1	Radionuclides (U-238)	Surface Soil	HRR	Biased – area too small for grid sampling. Because the spill area is small, one sample will be taken in the middle of the IHSS and an additional sample will be taken in a randomly chosen location.

IA Group	IHSS/PAC/UBC Site	PCOCs	Media	Data Source	Sampling Location Method
800-6	UBC 889 – Decontamination and Waste Reduction	Radionuclides (Am-241, Pu-239/240, U) Metals (Arsenic [As], Barium [Ba], Beryllium [Be], Calcium [Ca], Copper [Cu], Cobalt [Co], Iron [Fe], Mercury [Hg], Potassium [K], Li, Mg, Manganese [Mn], Molybdenum [Mo], Sodium [Na], Ni, Strontium [Sr], Titanium [Ti], Zn) SVOC (bis, 2-ethlhexl phthalate) VOCs (1,2 dichloropropane, 1-2- dichloroethene, acetone, carbon tetrachloride, toluene, vinyl chloride)	Subsurface Soil Surface and Subsurface Soil Subsurface Soil	IA Data Summary Report	Statistical Grid
	800-164.3 – Radioactive Site 800 Area Site #2 Building 889 Storage Pad	Radionuclides (Am-241, Pu-239/240, U) Metals (As, Ba, Be, Ca, Co, Fe, Hg, K, Li, Mg, Mn, Mo, Na, Ni, Sr, Ti, Zn) SVOC (bis, 2-ethlhexl phthalate) VOCs (1,2 dichloropropane, 1-2- dichloroethene, acetone, carbon tetrachloride, toluene, vinyl chloride)	Subsurface Soil Surface and Subsurface Soil Subsurface Soil Subsurface Soil	IA Data Summary Report	Statistical Grid (metals, SVOCs, VOCs) Biased locations along OPWL and NPWL (actinides, metals, VOCs, and SVOCs)
	000-121 – OPWL Tank 28 - Two 1,000-Gallon Concrete Sumps	Radionuclides (U and Ra-226) Metals (As, Ba, Be, Ca, Co, Fe, Hg, K, Li, Mg, Mn, Mo, Na, Ni, Sr, Ti, Zn) SVOC (bis, 2-ethlhexl phthalate) VOCs (1,2 dichloropropane, 1-2- dichloroethene, acetone, carbon tetrachloride, toluene, vinyl chloride)	Subsurface Soil	HRR IA Data Summary Report	Biased locations below and near tank.

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IA Group	IHSS/PAC/UBC Site	PCOCs	Media	Data Source	Sampling Location Method
	000-121 – OPWL Tank 40 - Two 400-Gallon Underground Concrete Tanks	Radionuclides (U and Ra-226) Metals (As, Ba, Be, Ca, Co, Fe, Hg, K, Li, Mg, Mn, Mo, Na, Ni, Sr, Ti, Zn) SVOCs VOCs (1,2 dichloropropane, 1-2- dichloroethene, acetone, carbon tetrachloride, toluene, vinyl chloride)	Subsurface Soil	HRR IA Data Summary Report	Biased location near tank.
900-4&5	900-175 – S & W Building 980 Contractor Storage Facility	Metals (As, Be, Cadmium [Cd], Cr, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Sr, V, Zn) Inorganics (NO_3, NO_2) SVOCs	Surface Soil	HRR IA Data Summary Report	Geostatistics

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Table 3
Sampling Specifications

IA Group	IHSS/PAC/UBC Site	No of Samples	Media	Depth Interval	Analyte	Method	Duplicates	Rinsates	Field Blanks (VOCs only)	Trip Blanks (VOCs only)
100-4	100-611 - Building 123 Scrubber Solution Spill	5	Surface Soil	0-.5'	Acids (HCl, HNO_3, HF)	pH				
100-5	100-609 – Building 121 Security Incinerator	6	Surface Soil	0-.5'	PCBs	8082	≥ 5%	≥ 5%		
		6	Surface Soil	0-.5'	Dioxins	8270C	≥ 5%	≥ 5%		
		6	Surface Soil	0-.5'	Furans	8270C	≥ 5%	≥ 5%		
300-1	300-128 - Oil Burn Pit #1	3	Surface Soil	0-.5'	Radionuclides	High Purity Germanium (HPGe)	≥ 5%	≥ 5%		
		3	Surface Soil	0-.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
	300-134(N) - Lithium Metal Site	6	Surface Soil	0-.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		6	Surface Soil	0-.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		6	Surface Soil	0-.5'	Metals	6010A	≥ 5%	≥ 5%		
	300-171 - Solvent Burning Grounds	11	Surface Soil	0-.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		11	Surface Soil	0-.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		11	Surface Soil	0-.5'	Metals	6010A	≥ 5%	≥ 5%		
		11	Subsurface Soil	.5'-2.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		11	Subsurface Soil	.5'-2.5'	Metals	6010A	≥ 5%	≥ 5%		
		11	Subsurface Soil	4.5'-6.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		11	Subsurface Soil	4.5'-6.5'	Metals	6010A	≥ 5%	≥ 5%		
		11	Subsurface Soil	6.5'-8.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		11	Subsurface Soil	6.5'-8.5'	Metals	6010A	≥ 5%	≥ 5%		
		11	Subsurface Soil	8.5'-10'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		11	Subsurface	8.5'-10'	Metals	6010A	≥ 5%	≥ 5%		
300-6	300-702 – Pesticide Shed	5	Surface Soil	0-.5'	Pesticides/Herbicides	8081A	≥ 5%	≥ 5%		
400-10	PAC 400-807 – Sandblasting Area	10	Surface Soil	0-6"	Aluminum	6020	≥ 5%	≥ 5%		
	IHSS 120.2 – Fiberglass Area West of Building 664	8	Surface Soil	0-6"	Radionuclides	HPGe	≥ 5%	≥ 5%		
		8	Surface Soil	0-6"	Metals	6020	≥ 5%	≥ 5%		
		8	Subsurface Soil	.5'-2.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		

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IA Group	IHSS/PAC/UBC Site	No of Samples	Media	Depth Interval	Analyte	Method	Duplicates	Rinsates	Field Blanks (VOCs only)	Trip Blanks (VOCs only)
		8	Subsurface Soil	.5'-2.5'	Metals	6020	≥ 5%	≥ 5%		
		8	Subsurface Soil	.5'-2.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		8	Subsurface Soil	2.5'-4.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		8	Subsurface Soil	2.5'-4.5'	Metals	6020	≥ 5%	≥ 5%		
		8	Subsurface Soil	2.5'-4.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		8	Subsurface Soil	4.5'-6.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		8	Subsurface Soil	4.5'-6.5'	Metals	6020	≥ 5%	≥ 5%		
		8	Subsurface Soil	4.5'-6.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		8	Subsurface Soil	6.5'-8.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		8	Subsurface Soil	6.5'-8.5'	Metals	6020	≥ 5%	≥ 5%		
		8	Subsurface Soil	6.5'-8.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		8	Subsurface Soil	8.5'-10'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		8	Subsurface Soil	8.5'-10'	Metals	6020	≥ 5%	≥ 5%		
		8	Subsurface Soil	8.5 -10'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
	IHSS 600-160 – Radioactive Site West of Building 664	44	Surface Soil	0-6"	Metals	6020	≥ 5%	≥ 5%		
		44	Subsurface Soil	.5'-2.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		44	Subsurface Soil	.5'-2.5'	Metals	6020	≥ 5%	≥ 5%		
		44	Subsurface Soil	.5'-2.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
500-6	500-906 – Asphalt Surface Near Building 559	2	Asphalt	0-.5'	VOCs	8260B	≥ 5%	≥ 5%		1/shipment
500-7	500-907 – Tanker Truck Release of Hazardous Waste from Tank 231B	5	Surface Soil	0-.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		5	Surface Soil	0-.5'	Metals	6010A	≥ 5%	≥ 5%		
		5	Surface Soil	0-.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		5	Surface Soil	0-.5'	SVOCs	8270C	≥ 5%	≥ 5%	≥ 5%	1/shipment
		5	Surface Soil	0-.5'	PCBs	SW8082	≥ 5%	≥ 5%		
		5	Surface Soil	0-.5'	pH		≥ 5%	≥ 5%		
600-1	600-1001 – Temporary Waste Storage - Building 663	39	Surface Soil	0-.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		39	Surface Soil	0-.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		39	Subsurface Soil	.5'-2.5	Radionuclides	HPGe	≥ 5%	≥ 5%		
		39	Subsurface Soil	.5'-2.5	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment

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IA Group	IHSS/PAC/UBC Site	No of Samples	Media	Depth Interval	Analyte	Method	Duplicates	Rinsates	Field Blanks (VOCs only)	Trip Blanks (VOCs only)
		39	Subsurface Soil	.5'-2.5	SVOCs	8270C	≥ 5%	≥ 5%		
		39	Subsurface Soil	2.5'-4.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		39	Subsurface Soil	2.5'-4.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		39	Subsurface Soil	2.5'-4.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		39	Subsurface Soil	4.5'-6.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		39	Subsurface Soil	4.5'-6.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		39	Subsurface Soil	4.5'-6.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		39	Subsurface Soil	6.5'-8.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		39	Subsurface Soil	6.5'-8.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		39	Subsurface Soil	6.5'-8.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		39	Subsurface Soil	8.5'-10.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		39	Subsurface Soil	8.5'-10.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		39	Subsurface Soil	8.5'-10.5'	SVOCs	8270C	≥ 5%	≥ 5%		
600-6	600-1005 – Former Pesticide Storage Area	2	Surface Soil	0-.5'	Pesticides/Herbicides	8081	≥ 5%	≥ 5%		
700-12	700-1106 – Process Waste Spill, Portal 1	2	Surface Soil	0-.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
800-6	889 – Decontamination and Waste Reduction	3	Surface Soil	0-.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		3	Surface Soil	0-.5'	Metals	6010A	≥ 5%	≥ 5%		
		3	Subsurface Soil	.5'-2.5	Radionuclides	HPGe	≥ 5%	≥ 5%		
		3	Subsurface Soil	.5'-2.5	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		3	Subsurface Soil	.5'-2.5	SVOCs	8270C	≥ 5%	≥ 5%		
		3	Subsurface Soil	.5'-2.5	Metals	6010A	≥ 5%	≥ 5%		
		3	Subsurface Soil	2.5'-4.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		3	Subsurface Soil	2.5'-4.5'	VOCs	8270C	≥ 5%	≥ 5%	≥ 5%	1/shipment
		3	Subsurface Soil	2.5'-4.5'	SVOCs	8260B	≥ 5%	≥ 5%		
		3	Subsurface Soil	2.5'-4.5'	Metals	6010A	≥ 5%	≥ 5%		
		3	Subsurface Soil	4.5'-6.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		3	Subsurface Soil	4.5'-6.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		3	Subsurface Soil	4.5'-6.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		3	Subsurface Soil	4.5'-6.5'	Metals	6010A	≥ 5%	≥ 5%		

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IA Group	IHSS/PAC/UBC Site	No of Samples	Media	Depth Interval	Analyte	Method	Duplicates	Rinsates	Field Blanks (VOCs only)	Trip Blanks (VOCs only)
		3	Subsurface Soil	6.5'-8.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		3	Subsurface Soil	6.5'-8.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		3	Subsurface Soil	6.5'-8.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		3	Subsurface Soil	6.5'-8.5'	Metals	6010A	≥ 5%	≥ 5%		
		3	Subsurface Soil	8.5'-10.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		3	Subsurface Soil	8.5'-10.5'	VOCs	8270C	≥ 5%	≥ 5%	≥ 5%	1/shipment
		3	Subsurface Soil	8.5'-10.5'	SVOCs	8260B	≥ 5%	≥ 5%		
		3	Subsurface Soil	8.5'-10.5'	Metals	6010A	≥ 5%	≥ 5%		
	800-164.3 – Radioactive Site 800 Area Site #2 Building 889 Storage Pad	26	Surface Soil	0-.5'	Metals	6010A	≥ 5%	≥ 5%		
		26	Subsurface Soil	.5'-2.5	Radionuclides	HPGe	≥ 5%	≥ 5%		
		26	Subsurface Soil	.5'-2.5	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		26	Subsurface Soil	.5'-2.5	SVOCs	8270C	≥ 5%	≥ 5%		
		26	Subsurface Soil	.5'-2.5	Metals	6010A	≥ 5%	≥ 5%		
		26	Subsurface Soil	2.5'-4.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		26	Subsurface Soil	2.5'-4.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		26	Subsurface Soil	2.5'-4.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		26	Subsurface Soil	2.5'-4.5'	Metals	6010A	≥ 5%	≥ 5%		
		26	Subsurface Soil	4.5'-6.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		26	Subsurface Soil	4.5'-6.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		26	Subsurface Soil	4.5'-6.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		26	Subsurface Soil	4.5'-6.5'	Metals	6010A	≥ 5%	≥ 5%		
		26	Subsurface Soil	6.5'-8.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		26	Subsurface Soil	6.5'-8.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		26	Subsurface Soil	6.5'-8.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		26	Subsurface Soil	6.5'-8.5'	Metals	6010A	≥ 5%	≥ 5%		
		26	Subsurface Soil	8.5'-10.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		26	Subsurface Soil	8.5'-10.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		26	Subsurface Soil	8.5'-10.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		26	Subsurface Soil	8.5'-10.5'	Metals	6010A	≥ 5%	≥ 5%		
	000-121 – OPWL Tank 28 - Two 1,000-Gallon Concrete Sumps	4	Subsurface Soil	.5'-2.5	Radionuclides	HPGe	≥ 5%	≥ 5%		

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IA Group	IHSS/PAC/UBC Site	No of Samples	Media	Depth Interval	Analyte	Method	Duplicates	Rinsates	Field Blanks (VOCs only)	Trip Blanks (VOCs only)
		4	Subsurface Soil	.5'-2.5	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		4	Subsurface Soil	.5'-2.5	SVOCs	8270C	≥ 5%	≥ 5%		
		4	Subsurface Soil	.5'-2.5	Metals	6010A	≥ 5%	≥ 5%		
		4	Subsurface Soil	2.5'-4.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		4	Subsurface Soil	2.5'-4.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		4	Subsurface Soil	2.5'-4.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		4	Subsurface Soil	2.5'-4.5'	Metals	6010A	≥ 5%	≥ 5%		
		4	Subsurface Soil	4.5'-6.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		4	Subsurface Soil	4.5'-6.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		4	Subsurface Soil	4.5'-6.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		4	Subsurface Soil	4.5'-6.5'	Metals	6010A	≥ 5%	≥ 5%		
		4	Subsurface Soil	6.5'-8.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		4	Subsurface Soil	6.5'-8.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		4	Subsurface Soil	6.5'-8.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		4	Subsurface Soil	6.5'-8.5'	Metals	6010A	≥ 5%	≥ 5%		
		4	Subsurface Soil	8.5'-10.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		4	Subsurface Soil	8.5'-10.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		4	Subsurface Soil	8.5'-10.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		4	Subsurface Soil	8.5'-10.5'	Metals	6010A	≥ 5%	≥ 5%		
	000-121 – OPWL Tank 40 - Two 400-Gallon Underground Concrete Tanks	1	Subsurface Soil	.5'-2.5	Radionuclides	HPGe	≥ 5%	≥ 5%		
		1	Subsurface Soil	.5'-2.5	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		1	Subsurface Soil	.5'-2.5	SVOCs	8270C	≥ 5%	≥ 5%		
		1	Subsurface Soil	.5'-2.5	Metals	6010A	≥ 5%	≥ 5%		
		1	Subsurface Soil	2.5'-4.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		1	Subsurface Soil	2.5'-4.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		1	Subsurface Soil	2.5'-4.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		1	Subsurface Soil	2.5'-4.5'	Metals	6010A	≥ 5%	≥ 5%		
		1	Subsurface Soil	4.5'-6.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		1	Subsurface Soil	4.5'-6.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		1	Subsurface Soil	4.5'-6.5'	SVOCs	8270C	≥ 5%	≥ 5%		

15

IA Group	IHSS/PAC/UBC Site	No of Samples	Media	Depth Interval	Analyte	Method	Duplicates	Rinsates	Field Blanks (VOCs only)	Trip Blanks (VOCs only)
		1	Subsurface Soil	4.5'-6.5'	Metals	6010A	≥ 5%	≥ 5%		
		1	Subsurface Soil	6.5'-8.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		1	Subsurface Soil	6.5'-8.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		1	Subsurface Soil	6.5'-8.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		1	Subsurface Soil	6.5'-8.5'	Metals	6010A	≥ 5%	≥ 5%		
		1	Subsurface Soil	8.5'-10.5'	Radionuclides	(HPGe)	≥ 5%	≥ 5%		
		1	Subsurface Soil	8.5'-10.5'	VOCs	8260B	≥ 5%	≥ 5%	≥ 5%	1/shipment
		1	Subsurface Soil	8.5'-10.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		1	Subsurface Soil	8.5'-10.5'	Metals	6010A	≥ 5%	≥ 5%		
900-4&5	900-175 – S & W Building 980 Contractor Storage Facility	19	Surface Soil	0-.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		19	Surface Soil	0-.5'	Metals	6010A	≥ 5%	≥ 5%		
		19	Surface Soil	0-.5'	NO_2/NO_3	9056	≥ 5%	≥ 5%		

16

IA Group 100-4

Maps

Location of Existing Samples Above Detection Limits or Background Levels Collected at UBC 123 (IA Group 100-4) in November 2000

Location of Existing Samples Above Detection Limits or Background Levels for IA Group 100-4

FY2002 Sampling Locations for IA Group 100-4 (PAC 100-611)

17

IA Group 100-5

Maps

FY2002 Sampling Locations for IA Group 100-5 (PAC 100-609)

21

IA Group 300-1

Maps

Location of Existing Samples Above Detection Limits or Background Levels for IA Group 300-1 (IHSS 300-128, IHSS300-134(N), and IHSS 300-171)

FY2002 Sampling Locations for IA Group 300-1 (IHSS 300-128, IHSS300-134(N), and IHSS 300-171)

23

IA Group 300-6

Maps

FY2002 Sampling Locations for IA Group 300-6 (PAC 300-702)

26

IA Group 400-10

Maps

Location of Existing Samples Above Detection Limits or Background Levels for IA Group 400-10

FY202 Sampling Locations for IA Group 400-10

28

IA Group 500-6

Maps

FY2002 Sampling Locations for IA Group 500-6 (PAC 500-906)

31

IA Group 500-7

Maps

FY2002 Sampling Locations for IA Group 500-7 (PAC 500-907)

33

IA Group 600-1

Maps

Location of Existing Samples Above Detection Limits or Background Levels for IA Group 600-1 (PAC 600-1001)

FY2002 Sampling Locations for IA Group 600-1 (PAC 600-1001)

35

IA Group 600-6

Maps

FY 2002 Sampling Locations for IA Group 600-6 (PAC 600-1005)

38

IA Group 700-12

Maps

FY2002 Sampling Locations for IA Group 700-12 (PAC 700-1106)

40

IA Group 800-6

Maps

Location of Existing Samples Above Detection Limits or Background Levels for IA Group 800-6 (IHSS 800-164.3, UBC 889, and OPWL Tanks 28 and 40)

FY2002 Sampling Locations for IA Group 800-6 (IHSS 800-164.3, UBC 889, and OPWL Tanks 28 and 40)

42

IA Group 900-4&5

Maps

Location of Existing Samples Above Detection Limits or Background Levels for IA Group 900-4&5 (IHSS 900-175 and PAC 900-1308)

FY2002 Sampling Locations for IA Group 900-4&5 (IHSS 900-175 and PAC 900-1308)

Nonradionuclide Indicator Kriging

45

Non Radionuclide Estimates
Interpolation Scheme: Indicator Kriging
IHSS Group 900-4&5

Existing surface soil analytical data from IHSS Group 900-4&5 was used in a geostatistical analysis to determine whether additional sampling was indicated. Input parameters and results are illustrated in the following figures and tables.

The data values, grid specifications, model parameters, variography parameters, and polygon structure are listed below. The kriging results are shown on the Probability Map of Nonradionuclide Sum of Ratios Indicator Kriging Results. The level of probability that a sampling location exceeds the RFCA Tier I SOR is shown on this figure. The map shows that the level of probability exceeding the RFCA Tier I SOR ranges from 0 to 1. (0 is purple, and red is 1). These points, along with proposed sampling locations are shown on the Kriged Values and Proposed Sampling Locations figure. This figure shows the sampling locations that exceed the RFCA Tier I SOR, in red, and the areas that have a 50% probability of being at or greater than the RFCA Tier I SOR in yellow. Proposed sampling locations are marked with an "x". The IHSS boundary is also shown on this figure.

IHSS Group 900-4&5 Input Parameters
DATA Values

Northing	Easting	Value
750059	2084980	1.45082422631705
750093	2085040	1.44598909384167
750088	2084970	1.1919291842242
750046	2084960	1.05453725278611
750101	2085040	0.812183877872892
750073	2084950	0.780818970610405
750100	2085070	0.743348667083102
750103	2084950	0.736117830284491
750125	2084950	0.733052443999768
750066	2084970	0.717183359550099
750094	2084980	0.616334437724411
750088	2084950	0.582704557050573
750108	2085040	0.417775895817396
750131	2085040	0.394713987983036
750111	2085060	0.377052356038592
750112	2085030	0.370973258816369
750085	2085060	0.36726398801547
750064	2085040	0.186931303358647
750087	2085030	4.71113231192195E-02
750056	2084890	1.98

IHSS Group 900-4&5 Grid Specifications

X Size	5
Y Size	5

Model Parameters

Experimental Model Parameters for IK Cutoff = 1 for NON RAD

Nugget = 0

IHSS Group 900-4&5 Model Parameters.

	Spherical
Range(major)	20
Range(minor)	20
XY Angle(Yaw)	90
Contribution	0.15

Variography Parameters

Variography Parameters (IK Cutoff = 1). for Nonradionuclides

Lag Parameters

Number Of Lags = 5

Lag Length = 16

Lag Tolerance = 7

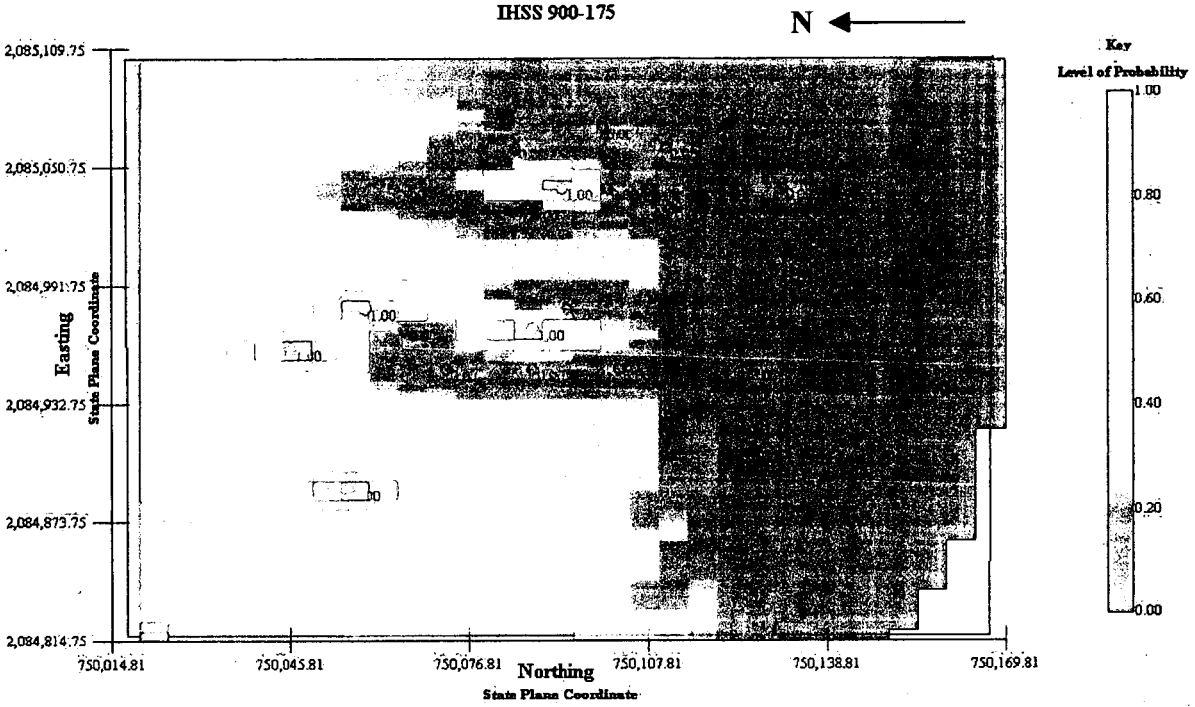
Cone Parameters

Angle	Tol	Band	Name
90	50	1000	OMNI

Polygon Structure

Name = AOC_3
NumberofPolygonalLines: 6
(750167.875,2085105)
(750017.3125,2085105)
(750017.5,2084817.25)
(750167,2084817.25)
(750167.875,2085105.625)
(750167.875,2085105.625)

Probability Map of Non Radionuclides Sum of Ratios
Indicator Kriging Results
IHSS 900-175



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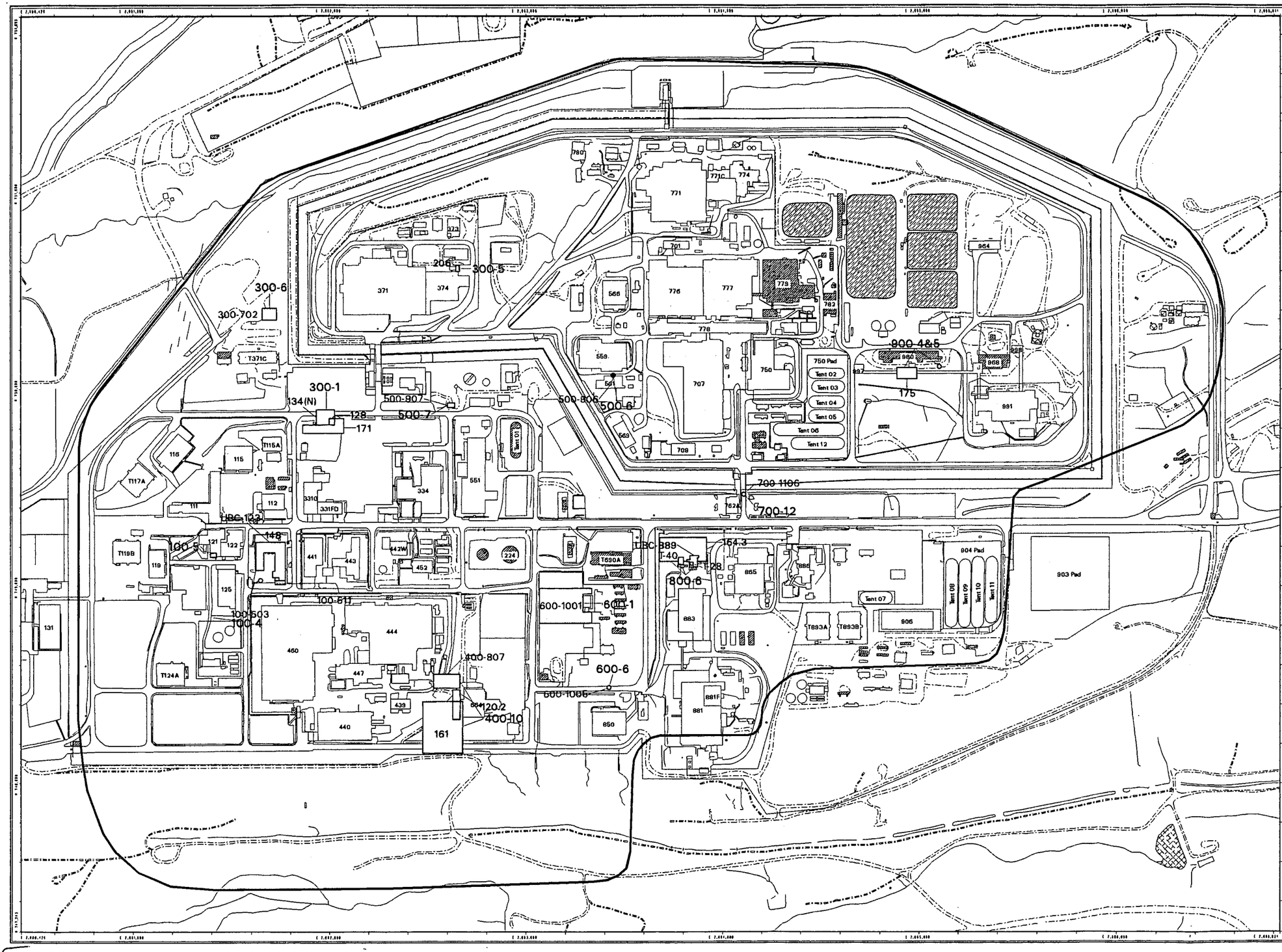

Figure 1

IA Groups Location Map

EXPLANATION

IHSS Groupings

- 100-4
- 100-5
- 300-1
- 300-5
- 300-6
- 400-10
- 500-6
- 500-7
- 600-1
- 600-6
- 700-12
- 800-6
- 900-4&5

Standard Map Features

- Buildings and other structures
- Demolished buildings
- Solar Evaporation Ponds (SEPs)
- Lakes and ponds
- Streams, ditches, or other drainage features
- Fences and other barriers
- Paved roads
- Dirt roads
- Industrial Area Operable Unit Boundary

DATA SOURCE BASE FEATURES:
PACs
Historical Release Report (HRR)
2nd Annual Update
Sept. 30, 1997
Individual Hazardous Substance Sites (IHSS)
DOE, 1992, HRR Report and Subsequent Updates.
Buildings, fences, hydrography, roads and other structures from 1994 aerial fly-over data captured by EG&G RSL, Las Vegas.
Digitized from the orthophotographs. 1/95

Scale = 1 : 5000
1 inch represents 500 feet

150 0 150 300ft

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

GIS Dept. 303-966-7707

DRAFT

MAP ID: 01-0887

October 11, 2001

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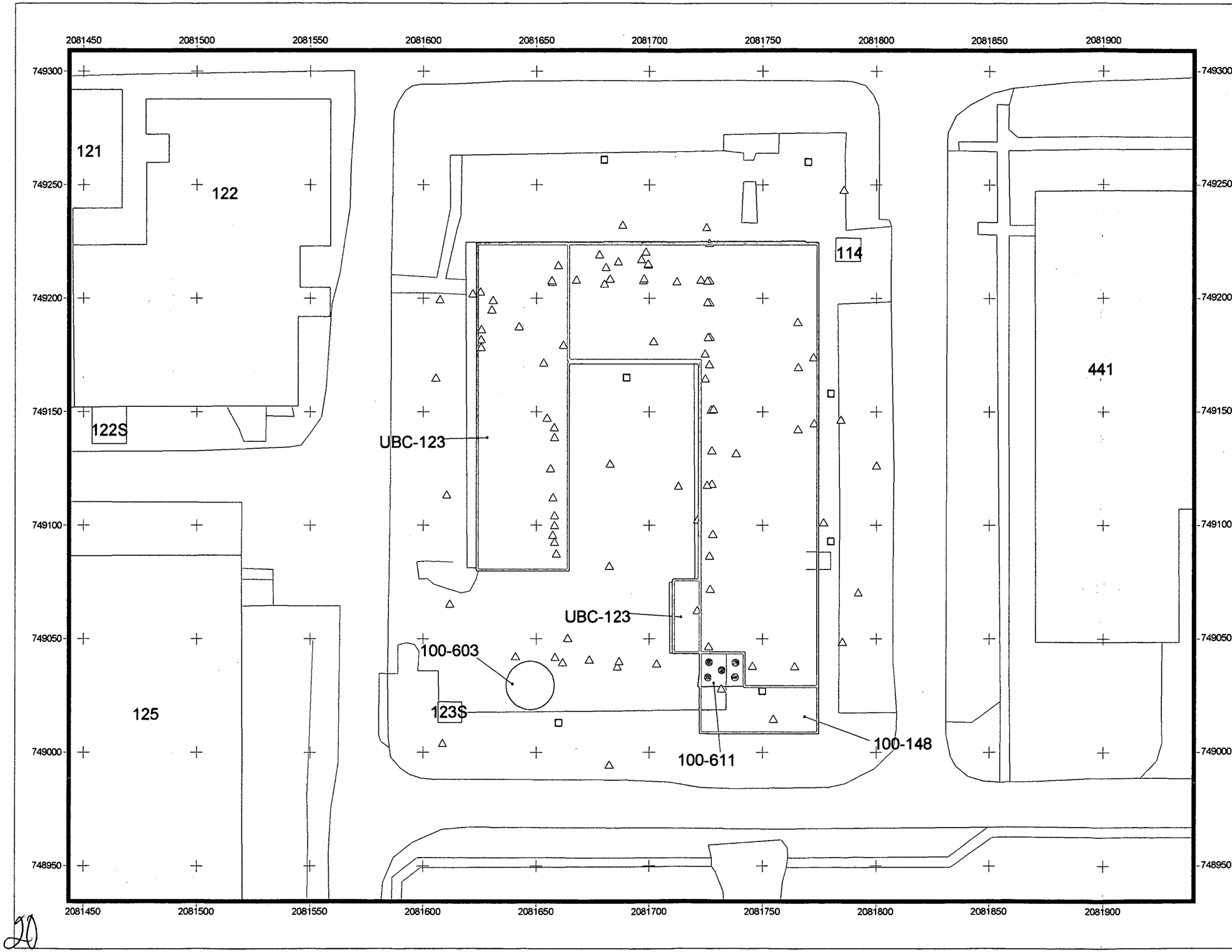
5



FY 2002 Sampling Locations for IA Group 100-4 (100-148, 100-603, 100-611, and UBC 123)

KEY

- FY 2002 geostatistical sampling location
- FY 2002 biased sampling location
- FY 2002 statistical sampling location
- Random start 36-ft triangular grid line
- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations (50-ft buffer)

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:500

20 0 20 40 60 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

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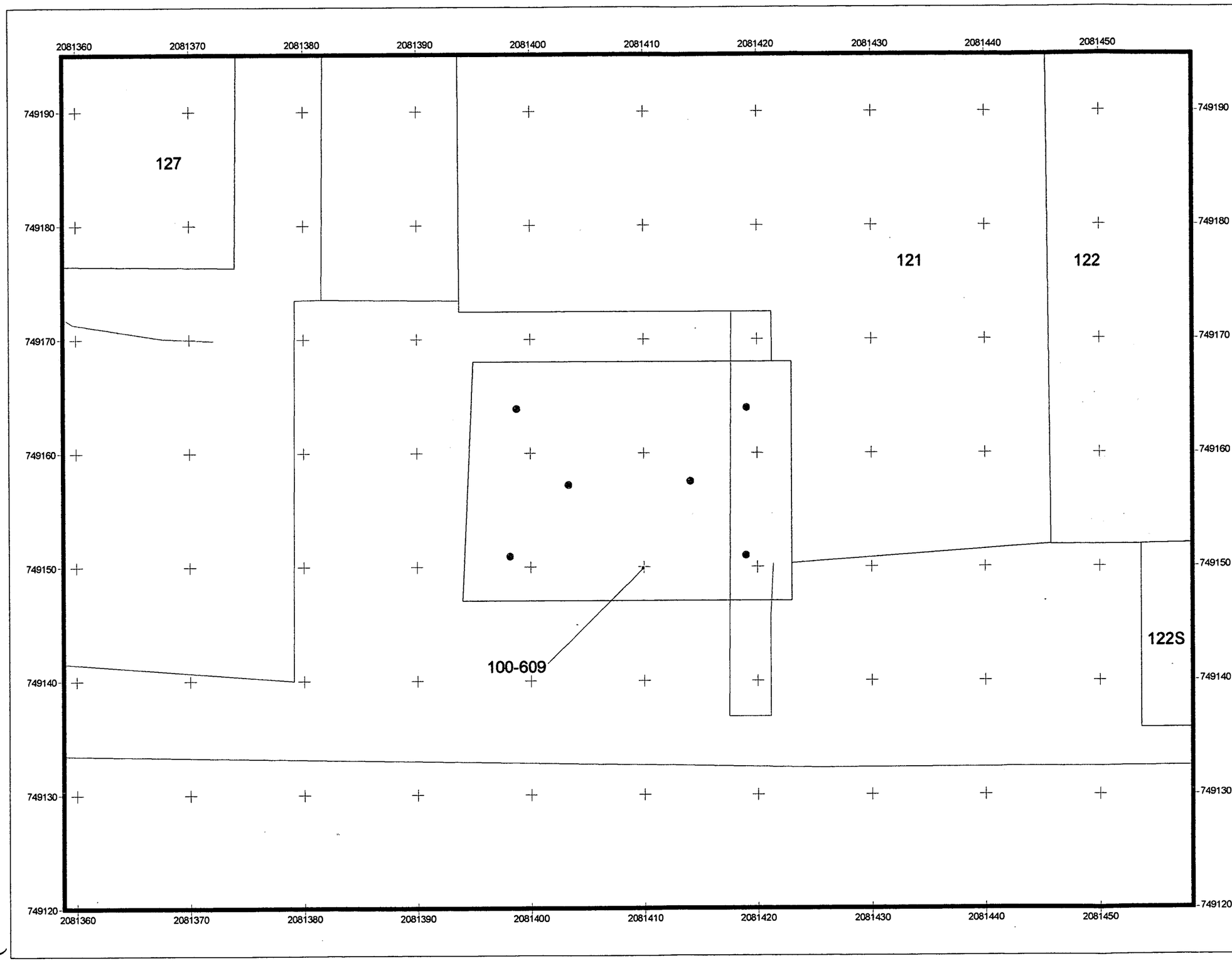

FY 2002 Sampling Locations for IA Group 100-5 (100-609)

KEY

- FY 2002 geostatistical sampling location
- FY 2002 biased sampling location
- FY 2002 statistical sampling location
- Random start 36-ft triangular grid line
- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations (50-ft buffer)

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:100

4 0 4 8 12 Feet

State Plane Coordinate Projection
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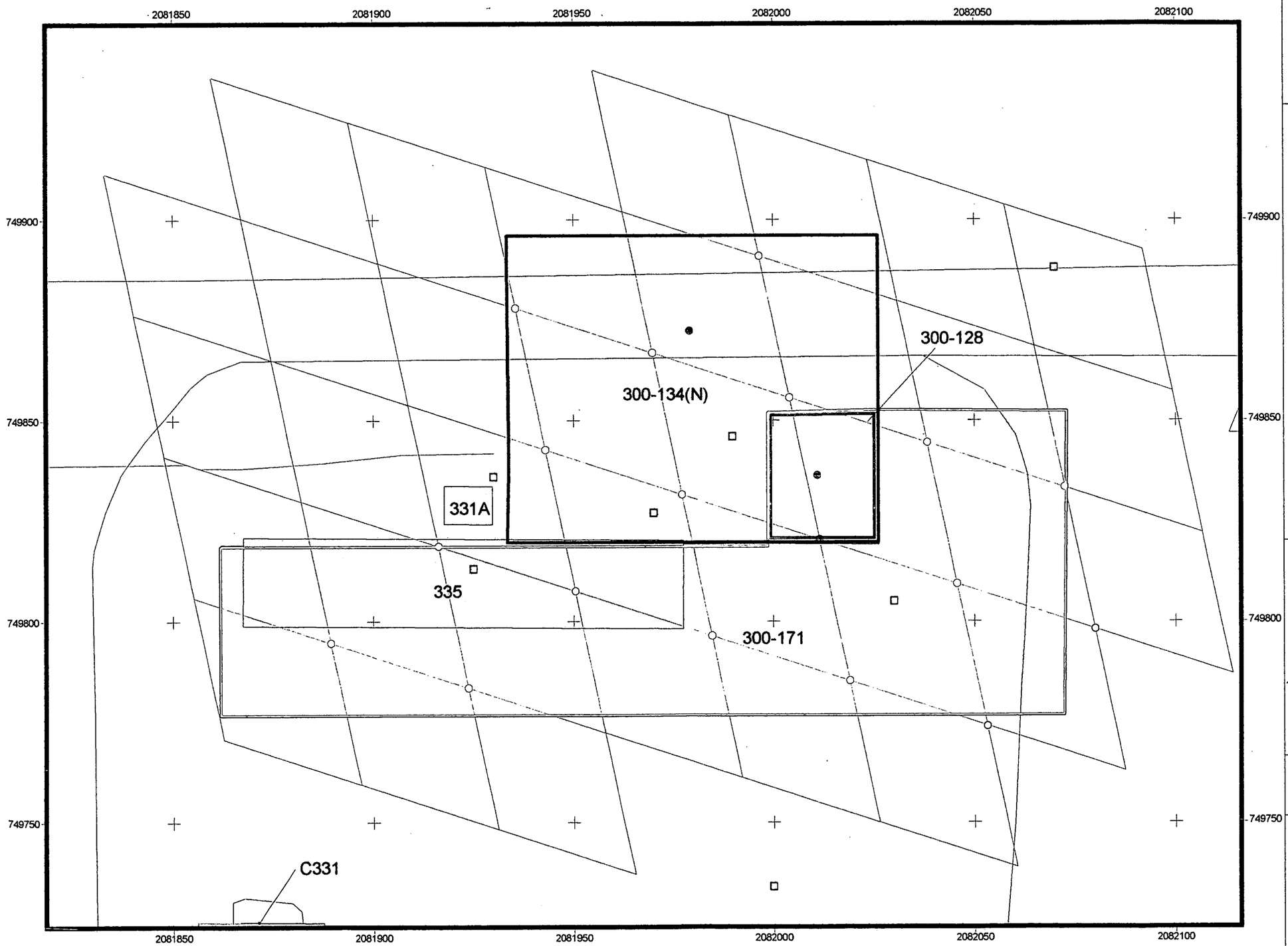

FY 2002 Sampling Locations for IA Group 300-1 (300-128, 300-134(N), and 300-171)

KEY

- FY 2002 geostatistical sampling location
- FY 2002 biased sampling location
- FY 2002 statistical sampling location
- Random start 36-ft triangular grid line
- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations (50-ft buffer)

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:300

10 0 10 20 30 40 Feet

State Plane Coordinate Projection
Colorado Central Zone
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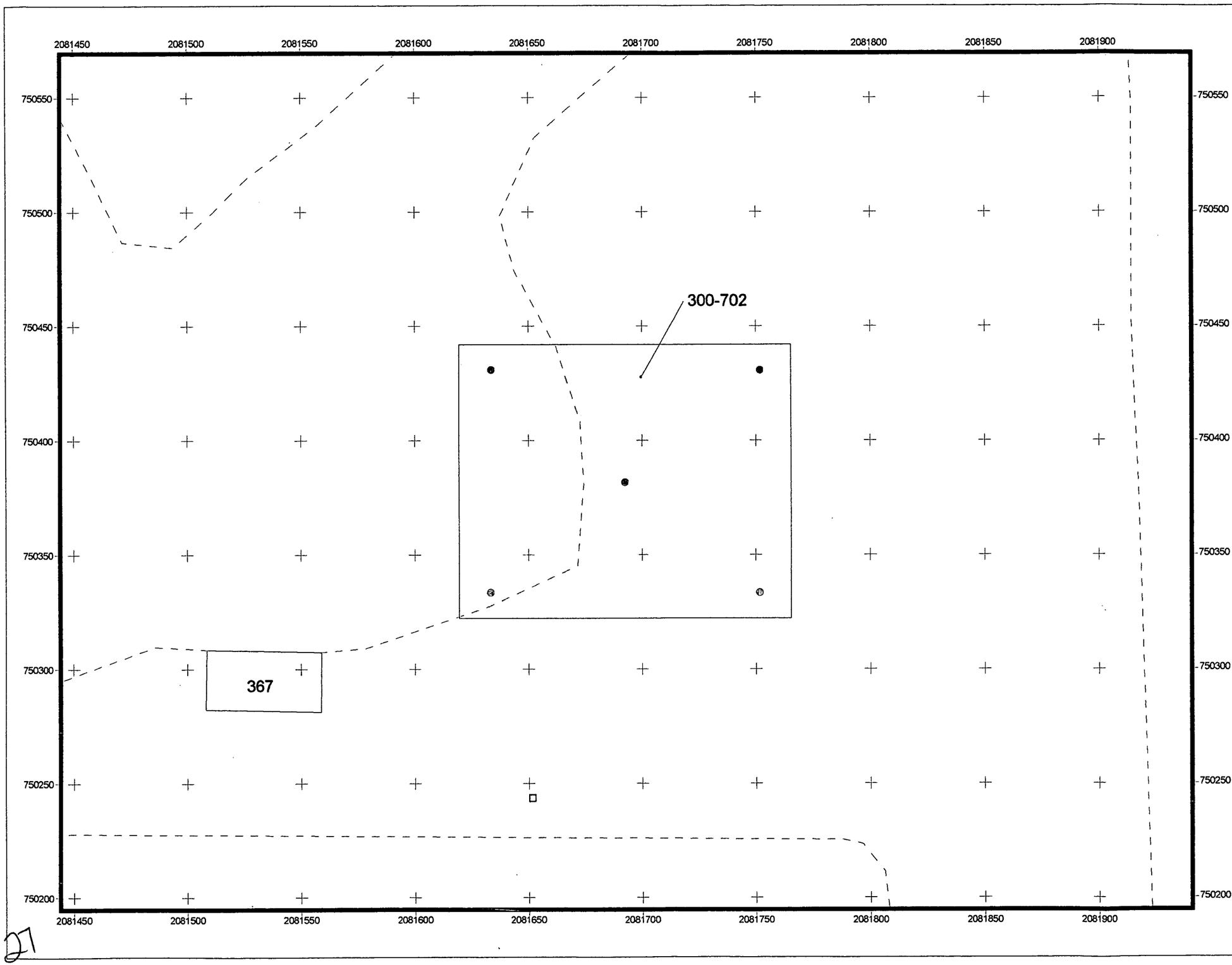

FY 2002 Sampling Locations for IA Group 300-6 (300-702)

KEY

- FY 2002 geostatistical sampling location
- FY 2002 biased sampling location
- FY 2002 statistical sampling location
- Random start 36-ft triangular grid line
- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations (50-ft buffer)

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:250

10 0 10 20 30 Feet

State Plane Coordinate Projection
Colorado Central Zone
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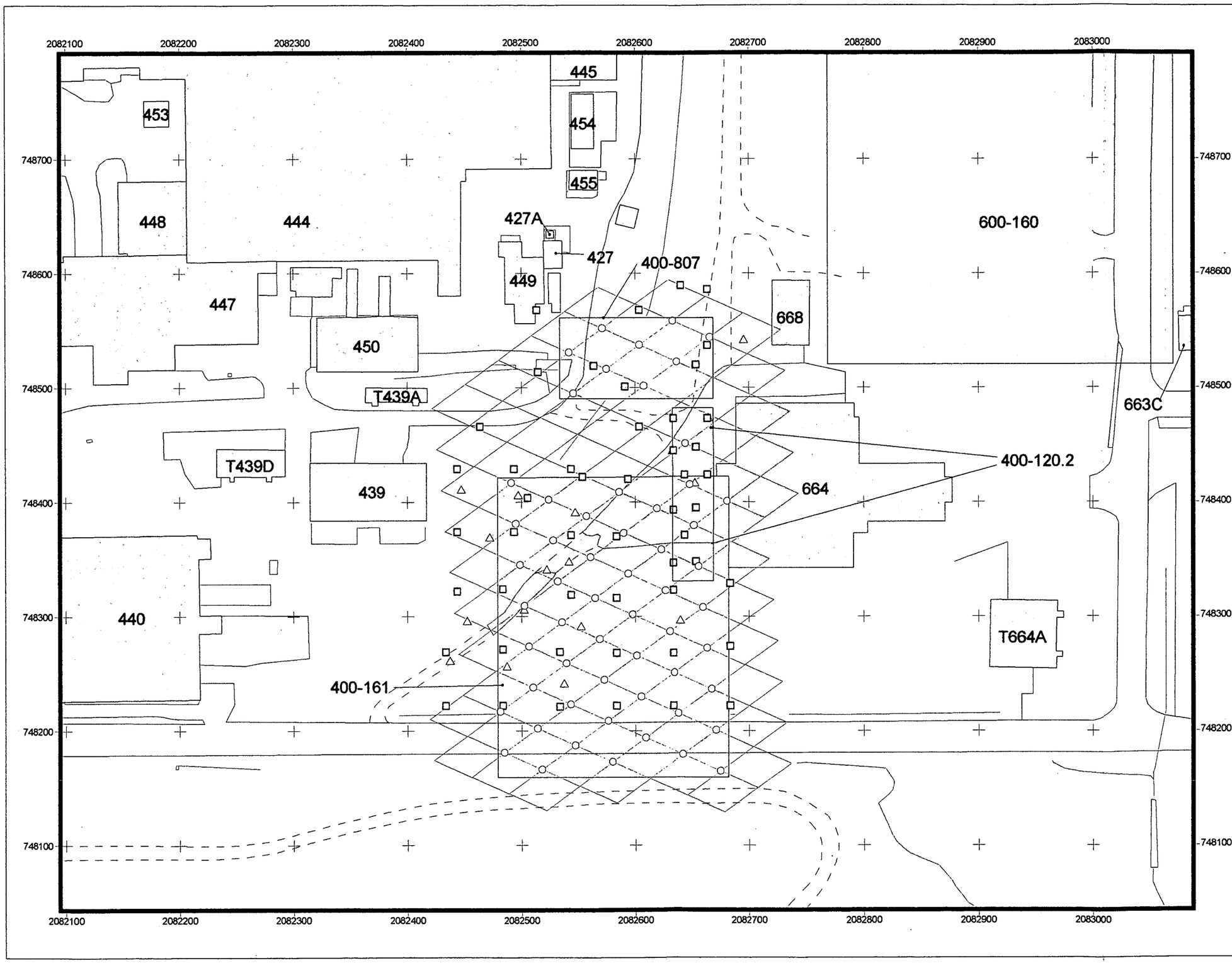

FY 2002 Sampling Locations for IA Group 400-10 (400-120.2, 400-161 and 400-807)

KEY

- FY 2002 geostatistical sampling location
- FY 2002 biased sampling location
- FY 2002 statistical sampling location
- Random start 36-ft triangular grid line
- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations (50-ft buffer)

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:1000

50 0 50 100 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

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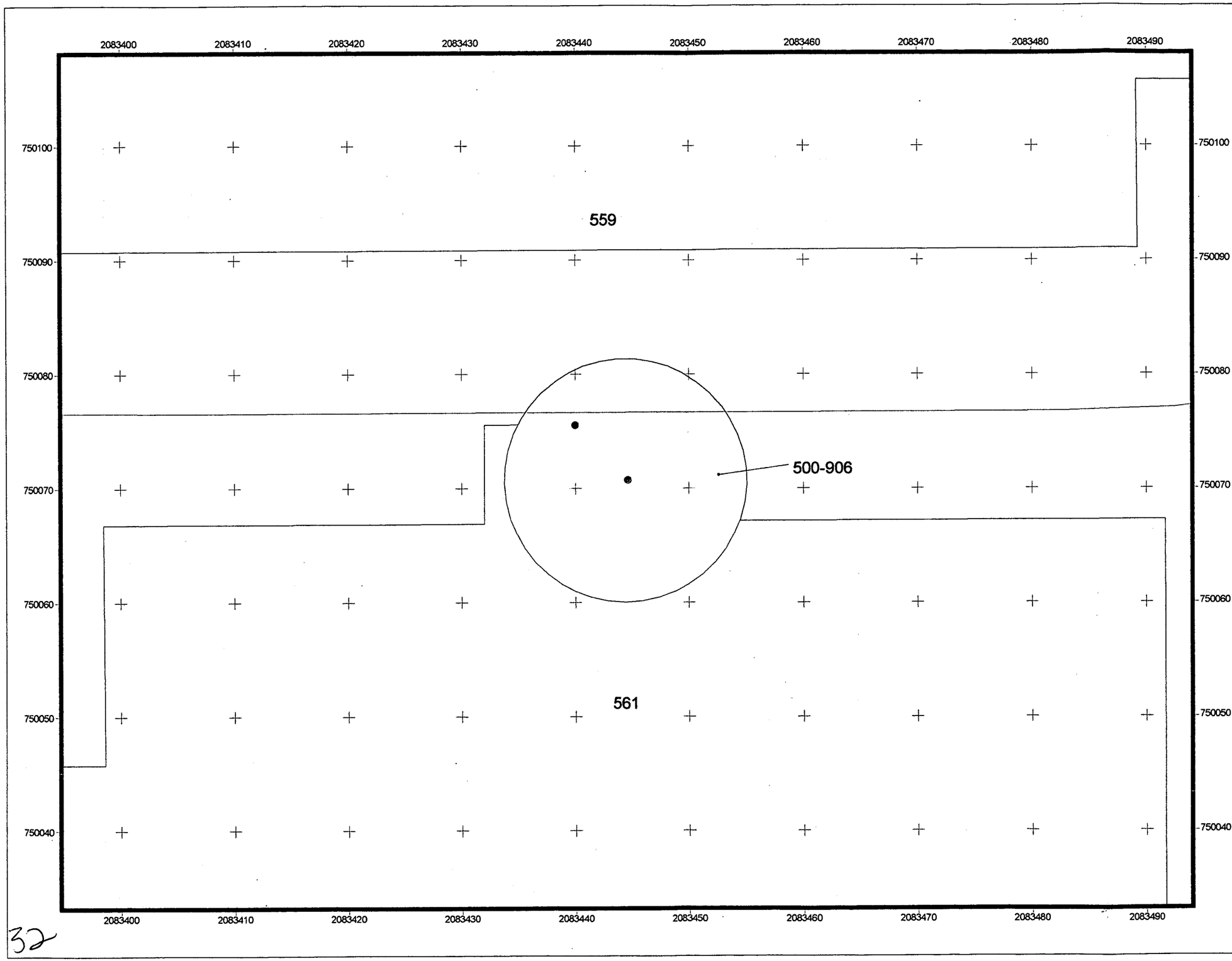

FY 2002 Sampling Locations for IA Group 500-6 (500-906)

KEY

- FY 2002 geostatistical sampling location
- FY 2002 biased sampling location
- FY 2002 statistical sampling location
- Random start 36-ft triangular grid line
- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations (50-ft buffer)

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:100

4 0 4 8 12 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

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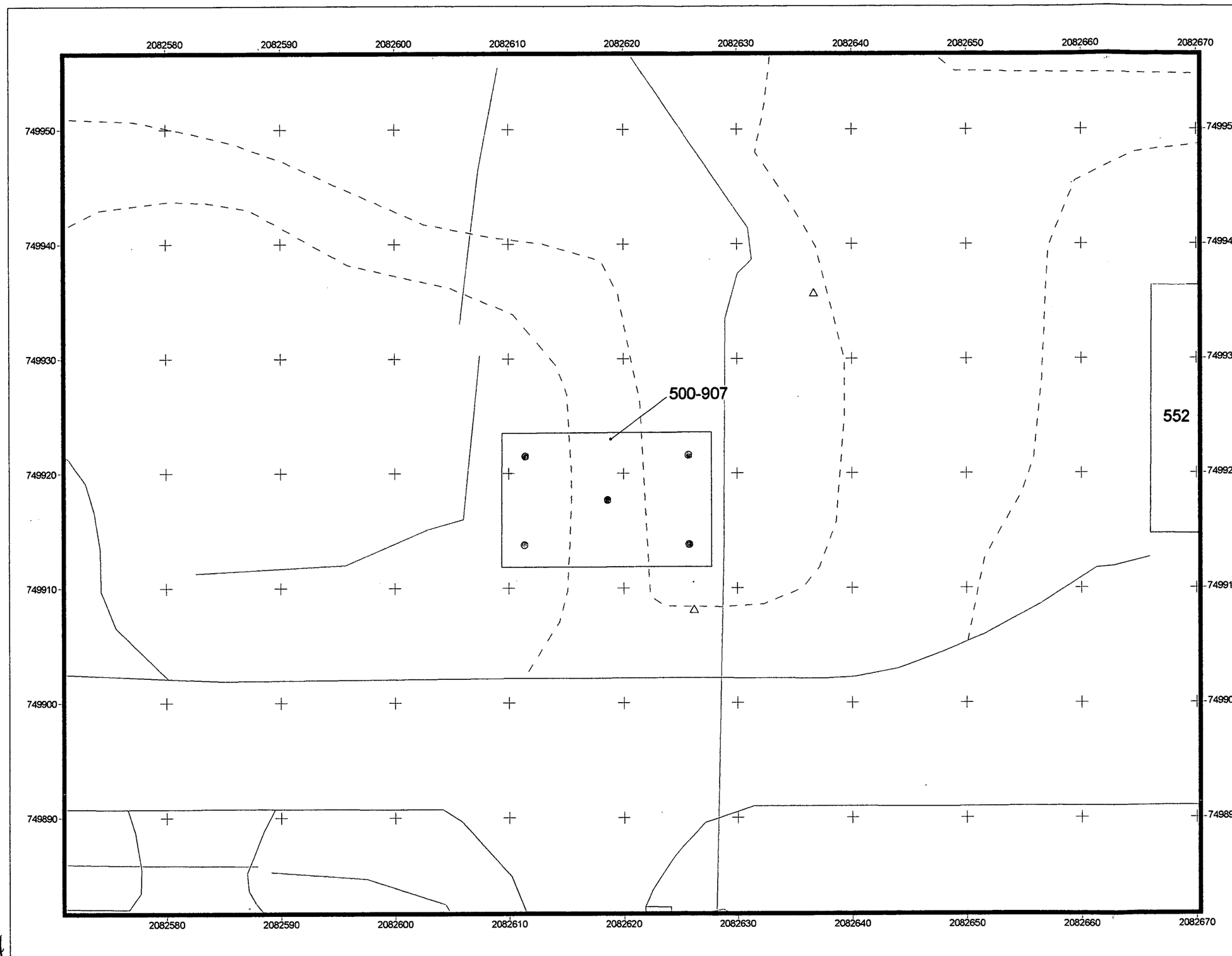

FY 2002 Sampling Locations for IA Group 500-7 (500-907)

KEY

- FY 2002 geostatistical sampling location
- FY 2002 biased sampling location
- FY 2002 statistical sampling location
- Random start 36-ft triangular grid line
- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations (50-ft buffer)

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:200

10 0 10 20 Feet

State Plane Coordinate Projection
Colorado Central Zone
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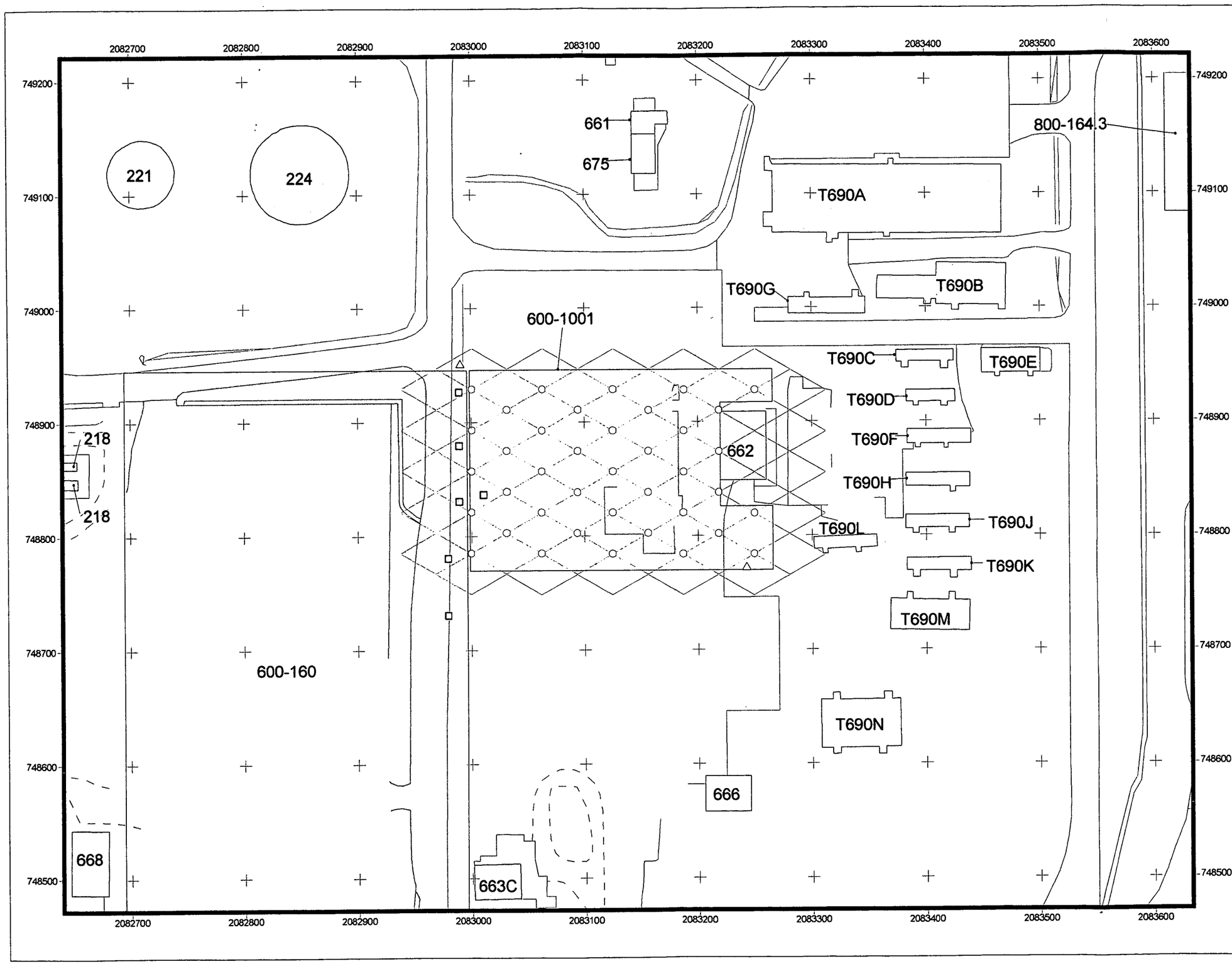

FY 2002 Sampling Locations for IA Group 600-1 (600-1001)

KEY

- FY 2002 geostatistical sampling location
- FY 2002 biased sampling location
- FY 2002 statistical sampling location
- Random start 36-ft triangular grid line
- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations (50-ft buffer)

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:1000

50 0 50 100 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

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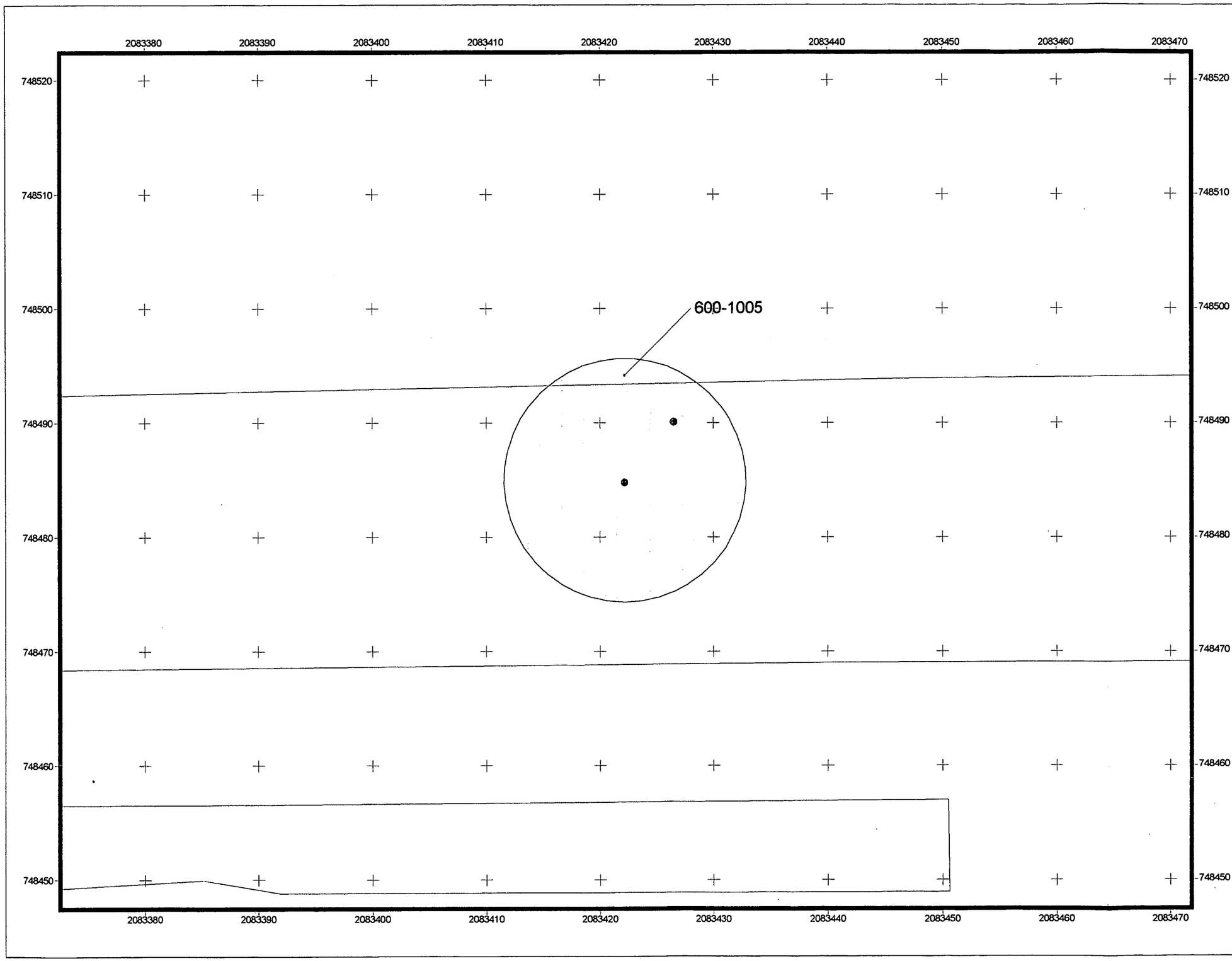

FY 2002 Sampling Locations for IA Group 600-6 (600-1005)

KEY

- FY 2002 geostatistical sampling location
- FY 2002 biased sampling location
- FY 2002 statistical sampling location
- Random start 36-ft triangular grid line
- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations (50-ft buffer)

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:100

4 0 4 8 12 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

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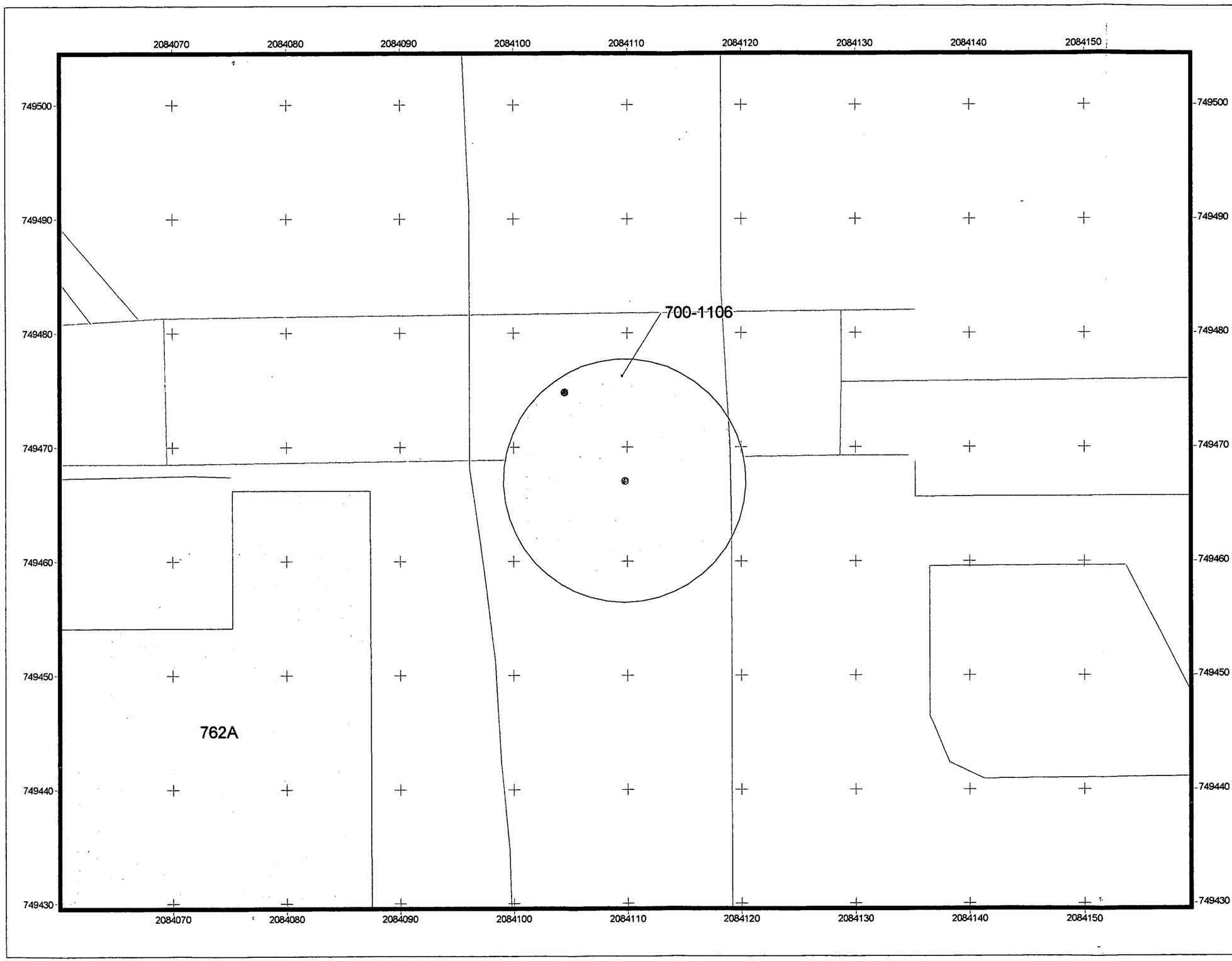

FY 2002 Sampling Locations for IA Group 700-12 (700-1106)

KEY

- FY 2002 geostatistical sampling location
- FY 2002 biased sampling location
- FY 2002 statistical sampling location
- Random start 36-ft triangular grid line
- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations (50-ft buffer)

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:100

4 0 4 8 12 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

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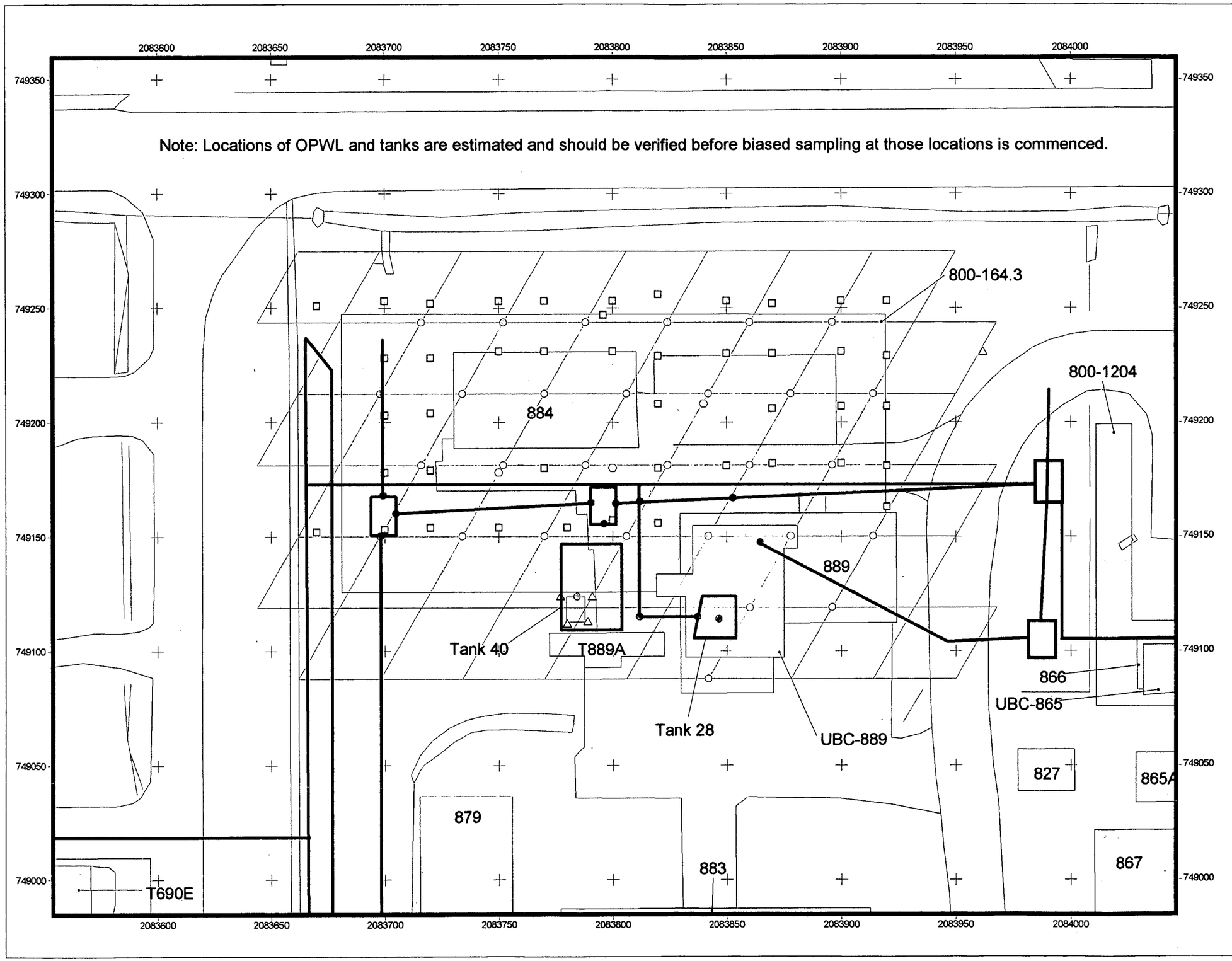

FY 2002 Sampling Locations for IA Group 800-6 (800-164.3, UBC 889, and OPWL Tanks 28 and 40)

KEY

- FY 2002 geostatistical sampling location
- FY 2002 biased sampling location
- FY 2002 statistical sampling location
- Random start 36-ft triangular grid line
- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature
- OPWL location (estimated)
- OPWL tank location (estimated)

Existing soil sampling locations (50-ft buffer)

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:500

20 0 20 40 60 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by:

WATERSTONE
Environmental Hydrology and Engineering, Inc.

Prepared for:

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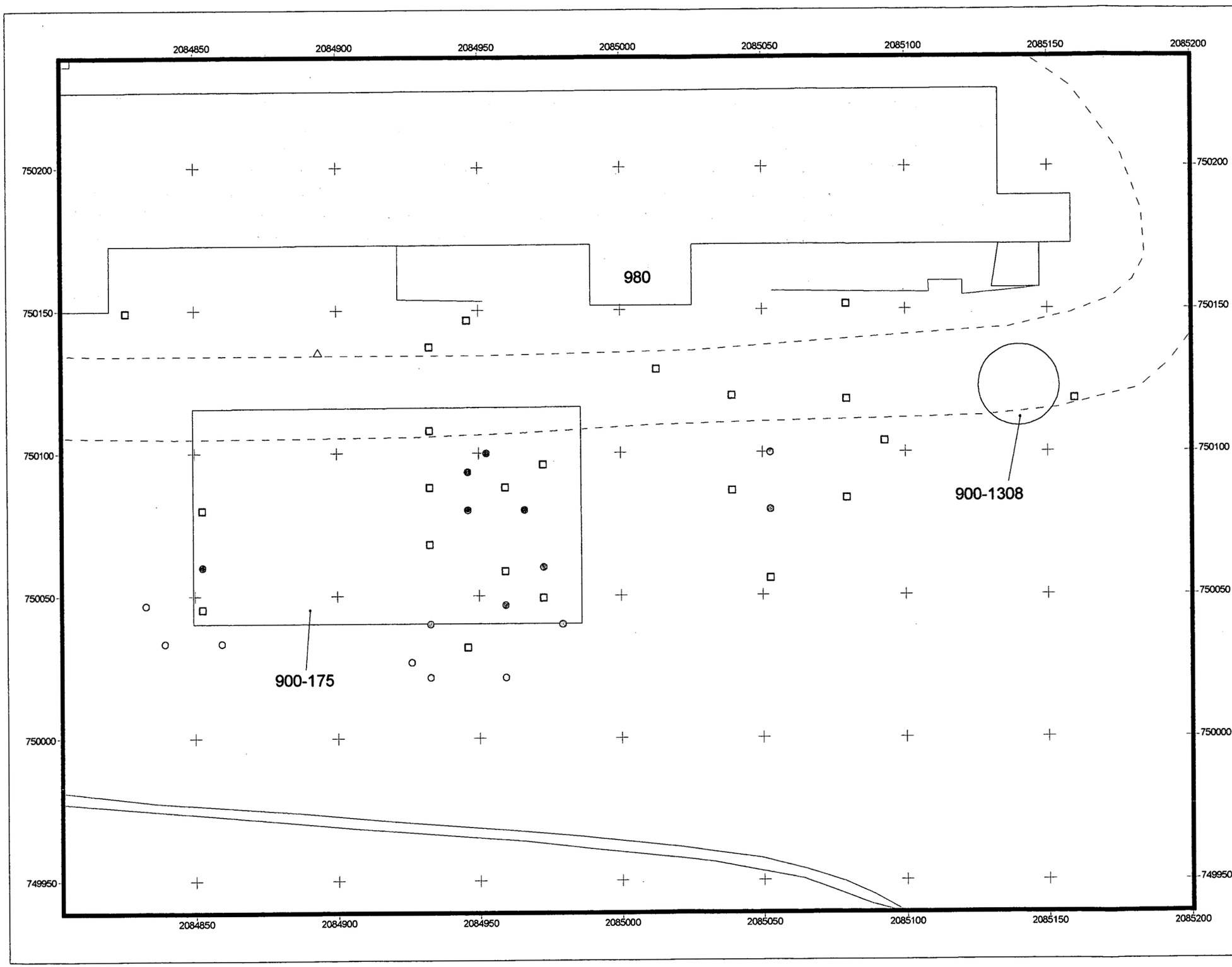

FY 2002 Sampling Locations for IA Group 900 - 4&5 (900-175 and 900-1308)

KEY

- FY 2002 geostatistical sampling location
- FY 2002 biased sampling location
- FY 2002 statistical sampling location
- Random start 36-ft triangular grid line
- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations (50-ft buffer)

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:300

10 0 10 20 30 40 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

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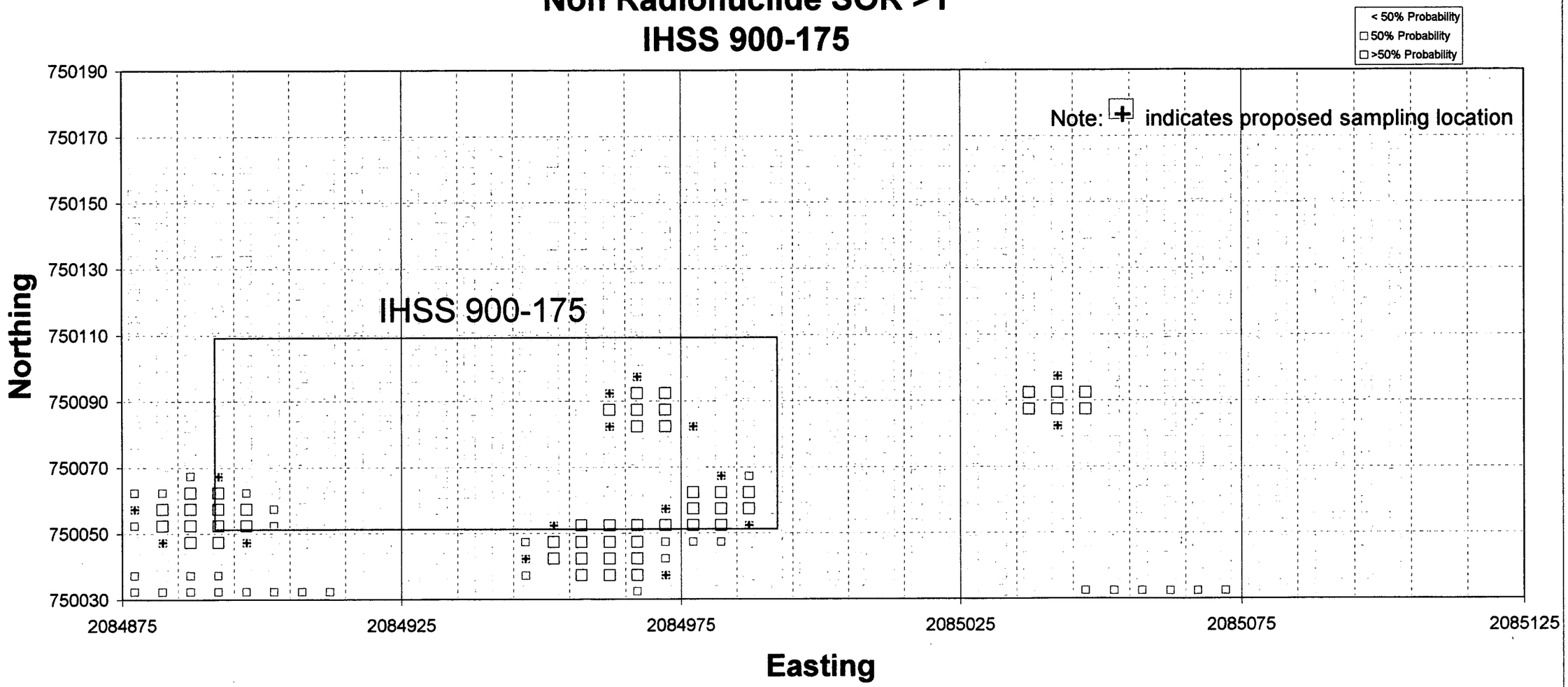
Probability Of Exceedance Map
Non Radionuclide SOR >1
IHSS 900-175



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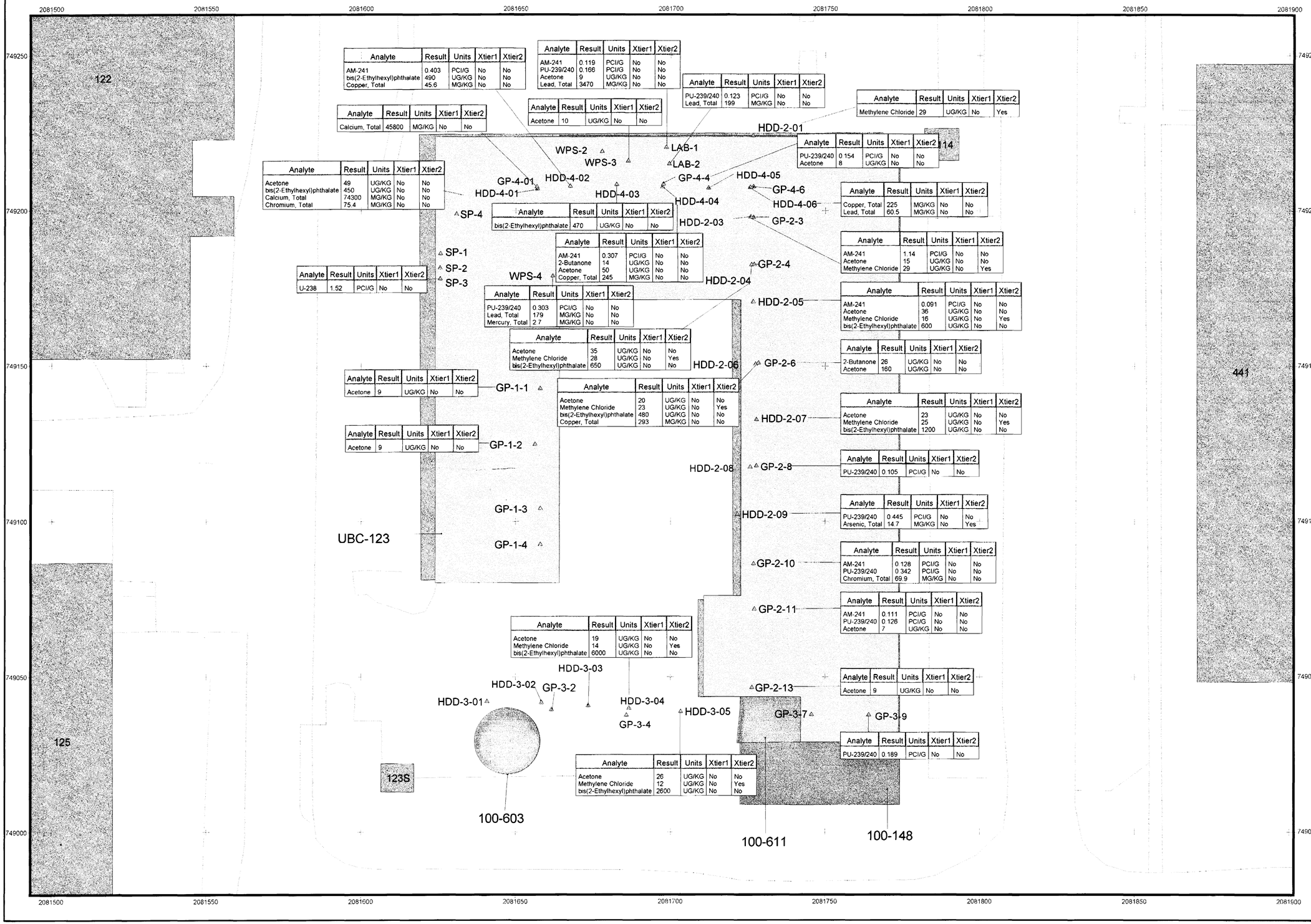
Location of Existing Sample Results Above Detection Limits or Background Levels Collected at UBC 123 (IA Group 100-4) in November 2000



Analyte	Result	Units	Xtier1	Xtier2
AM-241	0.403	PCI/G	No	No
bis(2-Ethylhexyl)phthalate	490	UG/KG	No	No
Copper, Total	45.6	MG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
AM-241	0.119	PCI/G	No	No
PU-239/240	0.166	PCI/G	No	No
Acetone	9	UG/KG	No	No
Lead, Total	3470	MG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
PU-239/240	0.123	PCI/G	No	No
Lead, Total	199	MG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
Calcium, Total	45800	MG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
Acetone	10	UG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
Methylene Chloride	29	UG/KG	No	Yes

Analyte	Result	Units	Xtier1	Xtier2
Acetone	49	UG/KG	No	No
bis(2-Ethylhexyl)phthalate	450	UG/KG	No	No
Calcium, Total	74300	MG/KG	No	No
Chromium, Total	75.4	MG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
PU-239/240	0.154	PCI/G	No	No
Acetone	8	UG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
Copper, Total	225	MG/KG	No	No
Lead, Total	60.5	MG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
bis(2-Ethylhexyl)phthalate	470	UG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
AM-241	1.14	PCI/G	No	No
Acetone	15	UG/KG	No	No
Methylene Chloride	29	UG/KG	No	Yes

Analyte	Result	Units	Xtier1	Xtier2
AM-241	0.307	PCI/G	No	No
2-Butanone	14	UG/KG	No	No
Acetone	50	UG/KG	No	No
Copper, Total	245	MG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
U-238	1.52	PCI/G	No	No

Analyte	Result	Units	Xtier1	Xtier2
PU-239/240	0.303	PCI/G	No	No
Lead, Total	179	MG/KG	No	No
Mercury, Total	2.7	MG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
AM-241	0.091	PCI/G	No	No
Acetone	36	UG/KG	No	No
Methylene Chloride	16	UG/KG	No	Yes
bis(2-Ethylhexyl)phthalate	600	UG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
Acetone	35	UG/KG	No	No
Methylene Chloride	28	UG/KG	No	Yes
bis(2-Ethylhexyl)phthalate	650	UG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
2-Butanone	26	UG/KG	No	No
Acetone	160	UG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
Acetone	9	UG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
Acetone	20	UG/KG	No	No
Methylene Chloride	23	UG/KG	No	Yes
bis(2-Ethylhexyl)phthalate	480	UG/KG	No	No
Copper, Total	293	MG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
Acetone	9	UG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
Acetone	23	UG/KG	No	No
Methylene Chloride	25	UG/KG	No	Yes
bis(2-Ethylhexyl)phthalate	1200	UG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
PU-239/240	0.105	PCI/G	No	No

Analyte	Result	Units	Xtier1	Xtier2
PU-239/240	0.445	PCI/G	No	No
Arsenic, Total	14.7	MG/KG	No	Yes

Analyte	Result	Units	Xtier1	Xtier2
AM-241	0.128	PCI/G	No	No
PU-239/240	0.342	PCI/G	No	No
Chromium, Total	69.9	MG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
AM-241	0.111	PCI/G	No	No
PU-239/240	0.126	PCI/G	No	No
Acetone	7	UG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
Acetone	19	UG/KG	No	No
Methylene Chloride	14	UG/KG	No	Yes
bis(2-Ethylhexyl)phthalate	6000	UG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
Acetone	9	UG/KG	No	No

Analyte	Result	Units	Xtier1	Xtier2
PU-239/240	0.189	PCI/G	No	No

Analyte	Result	Units	Xtier1	Xtier2
Acetone	26	UG/KG	No	No
Methylene Chloride	12	UG/KG	No	Yes
bis(2-Ethylhexyl)phthalate	2600	UG/KG	No	No

KEY

- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:200

20 0 20 40 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by:

WATERSTONE
Environmental Hydrology and Engineering, Inc.

Prepared for:

KAISER•HILL COMPANY

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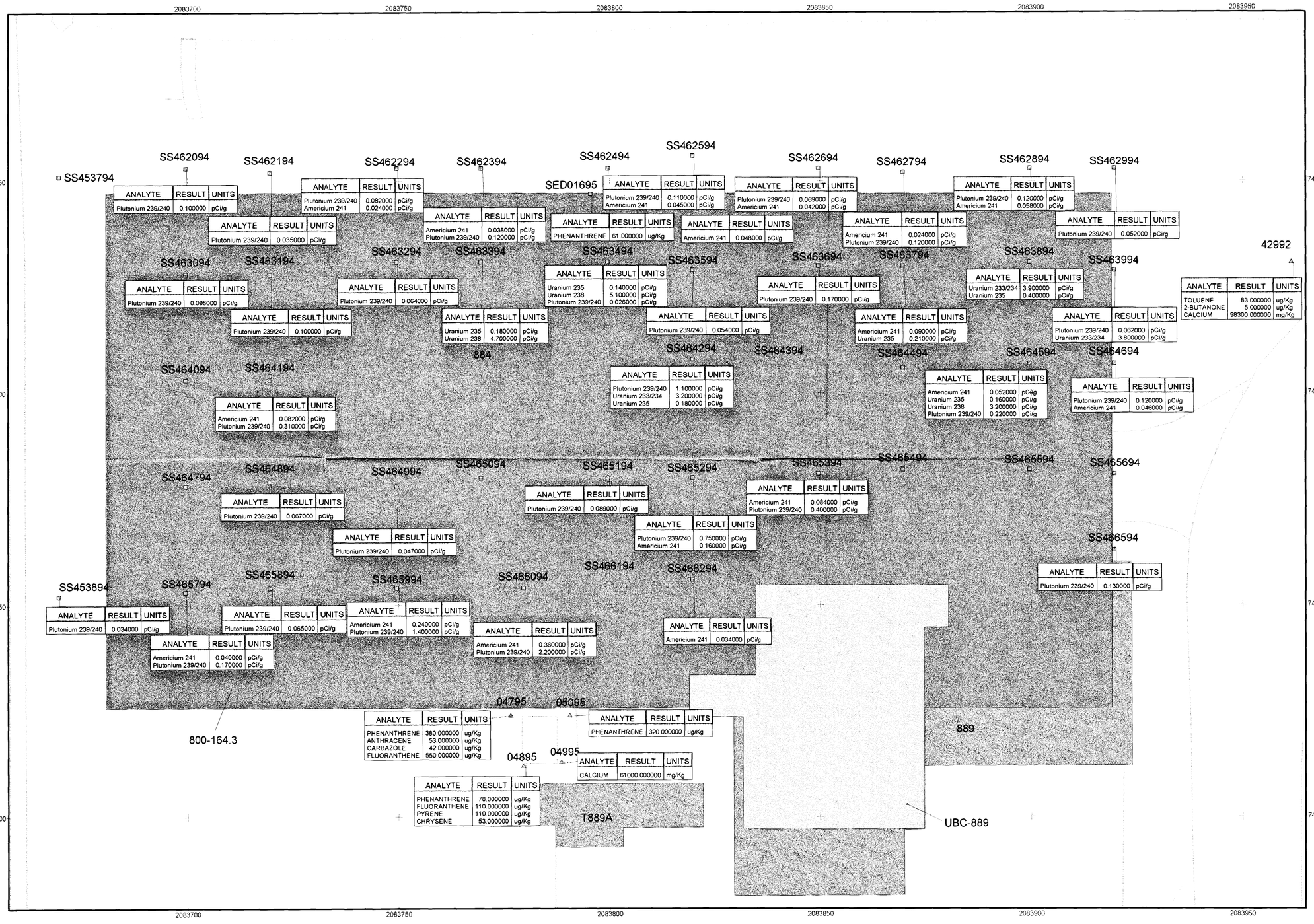

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.100000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.035000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.082000	pCi/g
Americium 241	0.024000	pCi/g

ANALYTE	RESULT	UNITS
Americium 241	0.038000	pCi/g
Plutonium 239/240	0.120000	pCi/g

ANALYTE	RESULT	UNITS
PHENANTHRENE	61.000000	ug/Kg

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.110000	pCi/g
Americium 241	0.045000	pCi/g

ANALYTE	RESULT	UNITS
Americium 241	0.048000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.069000	pCi/g
Americium 241	0.042000	pCi/g

ANALYTE	RESULT	UNITS
Americium 241	0.024000	pCi/g
Plutonium 239/240	0.120000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.120000	pCi/g
Americium 241	0.058000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.052000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.098000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.100000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.064000	pCi/g

ANALYTE	RESULT	UNITS
Uranium 235	0.140000	pCi/g
Uranium 238	5.100000	pCi/g
Plutonium 239/240	0.026000	pCi/g

ANALYTE	RESULT	UNITS
Uranium 235	0.180000	pCi/g
Uranium 238	4.700000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.054000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.170000	pCi/g

ANALYTE	RESULT	UNITS
Americium 241	0.090000	pCi/g
Uranium 235	0.210000	pCi/g

ANALYTE	RESULT	UNITS
Uranium 233/234	3.900000	pCi/g
Uranium 235	0.400000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.062000	pCi/g
Uranium 233/234	3.800000	pCi/g

ANALYTE	RESULT	UNITS
TOLUENE	83.000000	ug/Kg
2-BUTANONE	5.000000	ug/Kg
CALCIUM	98300.000000	mg/Kg

ANALYTE	RESULT	UNITS
Americium 241	0.082000	pCi/g
Plutonium 239/240	0.310000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	1.100000	pCi/g
Uranium 233/234	3.200000	pCi/g
Uranium 235	0.180000	pCi/g

ANALYTE	RESULT	UNITS
Americium 241	0.052000	pCi/g
Uranium 235	0.160000	pCi/g
Uranium 238	3.200000	pCi/g
Plutonium 239/240	0.220000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.120000	pCi/g
Americium 241	0.046000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.067000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.047000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.089000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.750000	pCi/g
Americium 241	0.160000	pCi/g

ANALYTE	RESULT	UNITS
Americium 241	0.084000	pCi/g
Plutonium 239/240	0.400000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.130000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.034000	pCi/g

ANALYTE	RESULT	UNITS
Americium 241	0.040000	pCi/g
Plutonium 239/240	0.170000	pCi/g

ANALYTE	RESULT	UNITS
Plutonium 239/240	0.065000	pCi/g

ANALYTE	RESULT	UNITS
Americium 241	0.240000	pCi/g
Plutonium 239/240	1.400000	pCi/g

ANALYTE	RESULT	UNITS
Americium 241	0.360000	pCi/g
Plutonium 239/240	2.200000	pCi/g

ANALYTE	RESULT	UNITS
Americium 241	0.034000	pCi/g

ANALYTE	RESULT	UNITS
PHENANTHRENE	380.000000	ug/Kg
ANTHRACENE	53.000000	ug/Kg
CARBAZOLE	42.000000	ug/Kg
FLUORANTHENE	550.000000	ug/Kg

ANALYTE	RESULT	UNITS
PHENANTHRENE	320.000000	ug/Kg

ANALYTE	RESULT	UNITS
CALCIUM	61000.000000	mg/Kg

ANALYTE	RESULT	UNITS
PHENANTHRENE	78.000000	ug/Kg
FLUORANTHENE	110.000000	ug/Kg
PYRENE	110.000000	ug/Kg
CHRYSENE	53.000000	ug/Kg

Location of Existing Sample Results Above Detection Limits or Background Levels for IA Group 800-6 (800-164.3, UBC 889, and OPWL Tanks 28 and 40)

KEY

- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:150

10 0 10 20 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by:

WATERSTONE
Environmental Hydrology and Engineering, Inc.

Prepared for:

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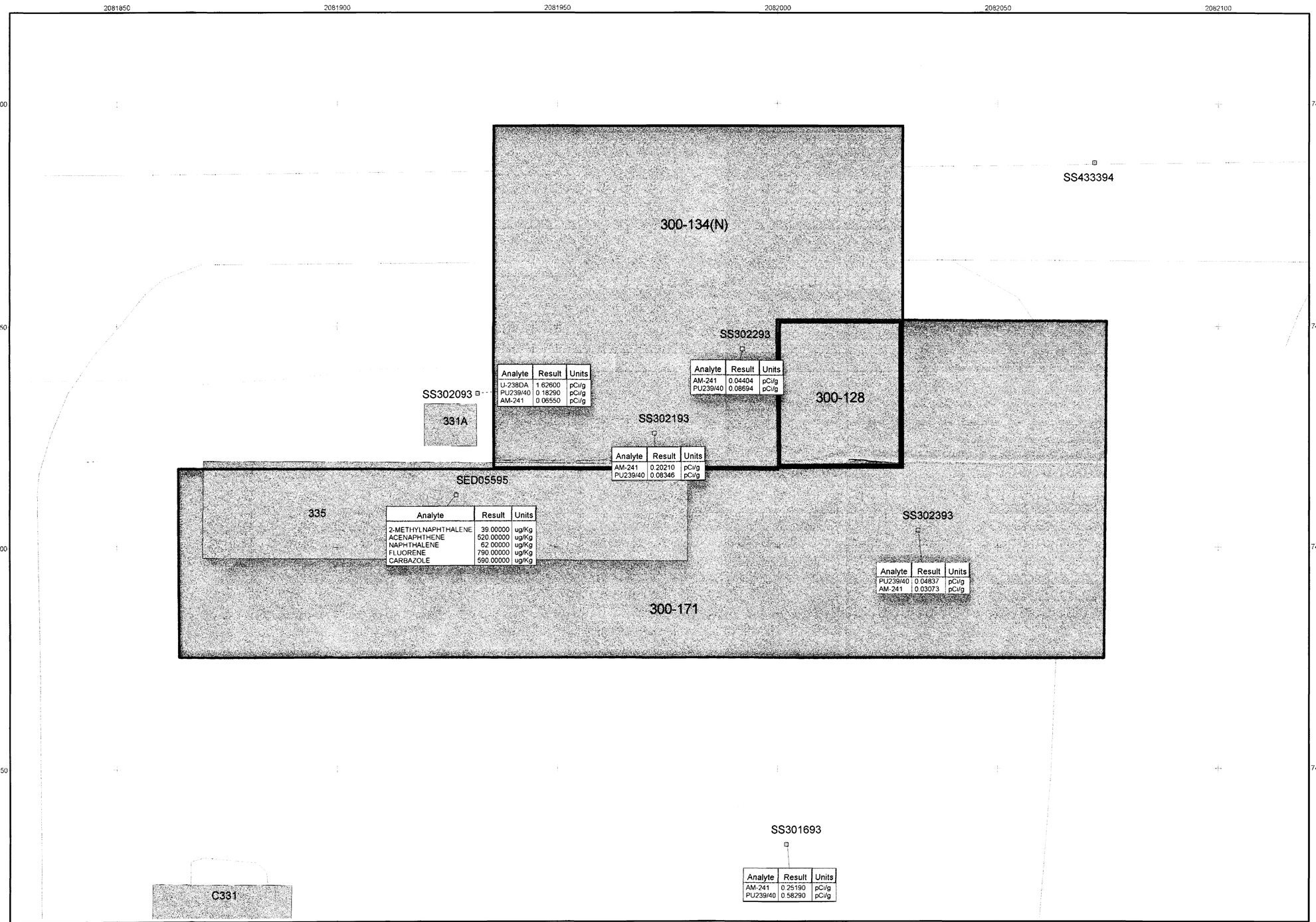
Location of Existing Sample Results Above Detection Limits or Background Levels for IA Group 300-1 (300-128, 300-134(N), and 300-171)



KEY

- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:150

10 0 10 20 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by:

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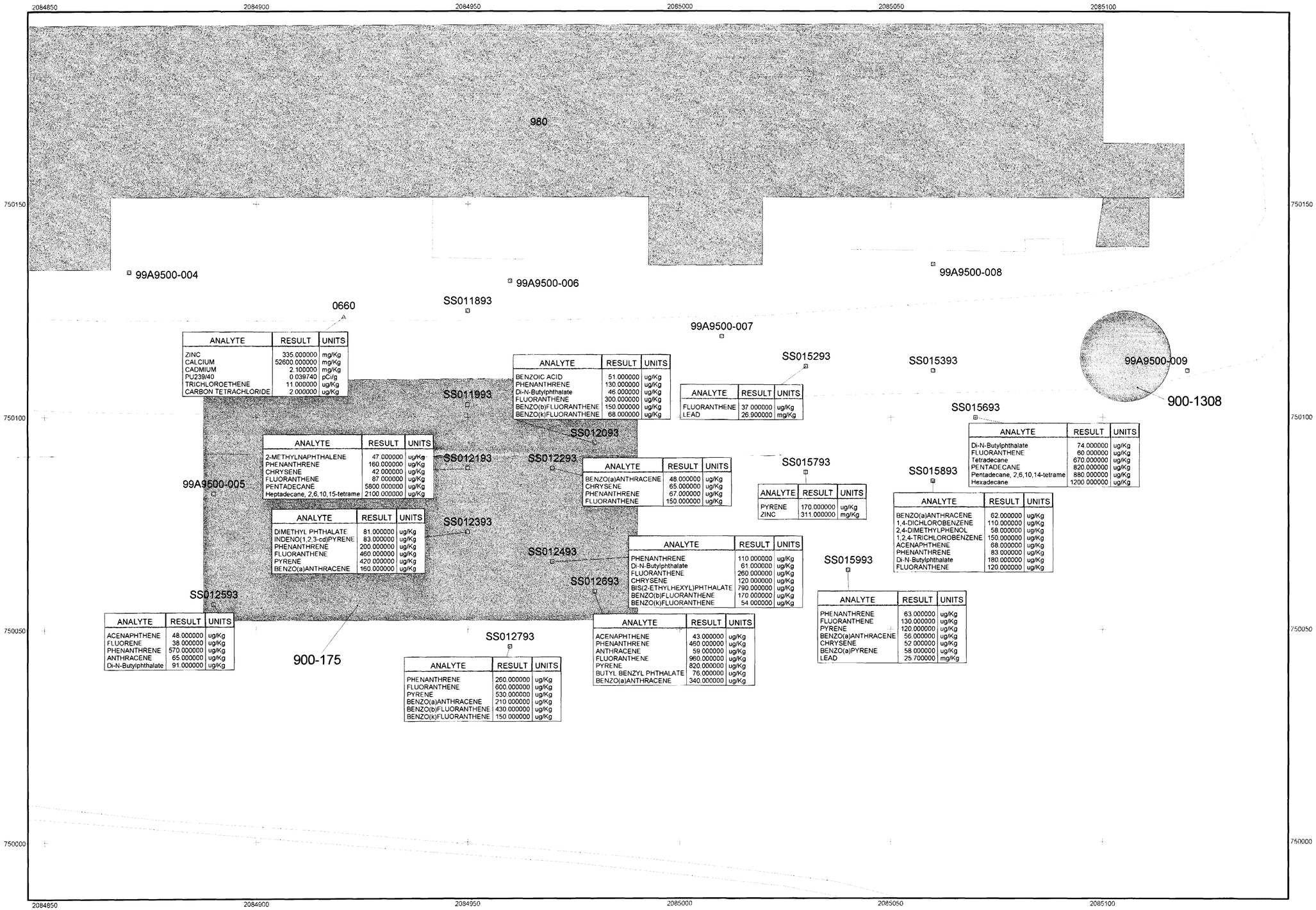
Location of Existing Sample Results Above Detection Limits or Background Levels for IA Group 900-4&5 (I900-175 and 900-1308)



ANALYTE	RESULT	UNITS
ZINC	335.000000	mg/Kg
CALCIUM	52600.000000	mg/Kg
CADMIUM	2.100000	mg/Kg
PU239/40	0.039740	pCi/g
TRICHLOROETHENE	11.000000	ug/Kg
CARBON TETRACHLORIDE	2.000000	ug/Kg

ANALYTE	RESULT	UNITS
BENZOIC ACID	51.000000	ug/Kg
PHENANTHRENE	130.000000	ug/Kg
Di-N-Butylphthalate	46.000000	ug/Kg
FLUORANTHENE	300.000000	ug/Kg
BENZO(b)FLUORANTHENE	150.000000	ug/Kg
BENZO(k)FLUORANTHENE	68.000000	ug/Kg

ANALYTE	RESULT	UNITS
FLUORANTHENE	37.000000	ug/Kg
LEAD	26.900000	mg/Kg

ANALYTE	RESULT	UNITS
2-METHYLNAPHTHALENE	47.000000	ug/Kg
PHENANTHRENE	160.000000	ug/Kg
CHRYSENE	42.000000	ug/Kg
FLUORANTHENE	87.000000	ug/Kg
PENTADECANE	5800.000000	ug/Kg
Heptadecane, 2,6,10,15-tetrame	2100.000000	ug/Kg

ANALYTE	RESULT	UNITS
BENZO(a)ANTHRACENE	48.000000	ug/Kg
CHRYSENE	65.000000	ug/Kg
PHENANTHRENE	67.000000	ug/Kg
FLUORANTHENE	150.000000	ug/Kg

ANALYTE	RESULT	UNITS
PYRENE	170.000000	ug/Kg
ZINC	311.000000	mg/Kg

ANALYTE	RESULT	UNITS
Di-N-Butylphthalate	74.000000	ug/Kg
FLUORANTHENE	60.000000	ug/Kg
Tetradecane	670.000000	ug/Kg
PENTADECANE	820.000000	ug/Kg
Pentadecane, 2,6,10,14-tetrame	880.000000	ug/Kg
Hexadecane	1200.000000	ug/Kg

ANALYTE	RESULT	UNITS
BENZO(a)ANTHRACENE	62.000000	ug/Kg
1,4-DICHLOROBENZENE	110.000000	ug/Kg
2,4-DIMETHYLPHENOL	58.000000	ug/Kg
1,2,4-TRICHLOROBENZENE	150.000000	ug/Kg
ACENAPHTHENE	68.000000	ug/Kg
PHENANTHRENE	83.000000	ug/Kg
Di-N-Butylphthalate	180.000000	ug/Kg
FLUORANTHENE	120.000000	ug/Kg

ANALYTE	RESULT	UNITS
DIMETHYL PHTHALATE	81.000000	ug/Kg
INDENO(1,2,3-cd)PYRENE	83.000000	ug/Kg
PHENANTHRENE	200.000000	ug/Kg
FLUORANTHENE	460.000000	ug/Kg
PYRENE	420.000000	ug/Kg
BENZO(a)ANTHRACENE	160.000000	ug/Kg

ANALYTE	RESULT	UNITS
PHENANTHRENE	110.000000	ug/Kg
Di-N-Butylphthalate	61.000000	ug/Kg
FLUORANTHENE	260.000000	ug/Kg
CHRYSENE	120.000000	ug/Kg
BIS(2-ETHYLHEXYL)PHTHALATE	790.000000	ug/Kg
BENZO(b)FLUORANTHENE	170.000000	ug/Kg
BENZO(k)FLUORANTHENE	54.000000	ug/Kg

ANALYTE	RESULT	UNITS
PHENANTHRENE	63.000000	ug/Kg
FLUORANTHENE	130.000000	ug/Kg
PYRENE	120.000000	ug/Kg
BENZO(a)ANTHRACENE	56.000000	ug/Kg
CHRYSENE	52.000000	ug/Kg
BENZO(a)PYRENE	58.000000	ug/Kg
LEAD	25.700000	mg/Kg

ANALYTE	RESULT	UNITS
ACENAPHTHENE	48.000000	ug/Kg
FLUORENE	38.000000	ug/Kg
PHENANTHRENE	570.000000	ug/Kg
ANTHRACENE	65.000000	ug/Kg
Di-N-Butylphthalate	91.000000	ug/Kg

ANALYTE	RESULT	UNITS
PHENANTHRENE	260.000000	ug/Kg
FLUORANTHENE	600.000000	ug/Kg
PYRENE	530.000000	ug/Kg
BENZO(a)ANTHRACENE	210.000000	ug/Kg
BENZO(b)FLUORANTHENE	430.000000	ug/Kg
BENZO(k)FLUORANTHENE	150.000000	ug/Kg

ANALYTE	RESULT	UNITS
ACENAPHTHENE	43.000000	ug/Kg
PHENANTHRENE	460.000000	ug/Kg
ANTHRACENE	59.000000	ug/Kg
FLUORANTHENE	960.000000	ug/Kg
PYRENE	820.000000	ug/Kg
BUTYL BENZYL PHTHALATE	76.000000	ug/Kg
BENZO(a)ANTHRACENE	340.000000	ug/Kg

KEY

- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:150

10 0 10 20 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by:

WATERSTONE
Environmental Hydrology and Engineering, Inc.

Prepared for:

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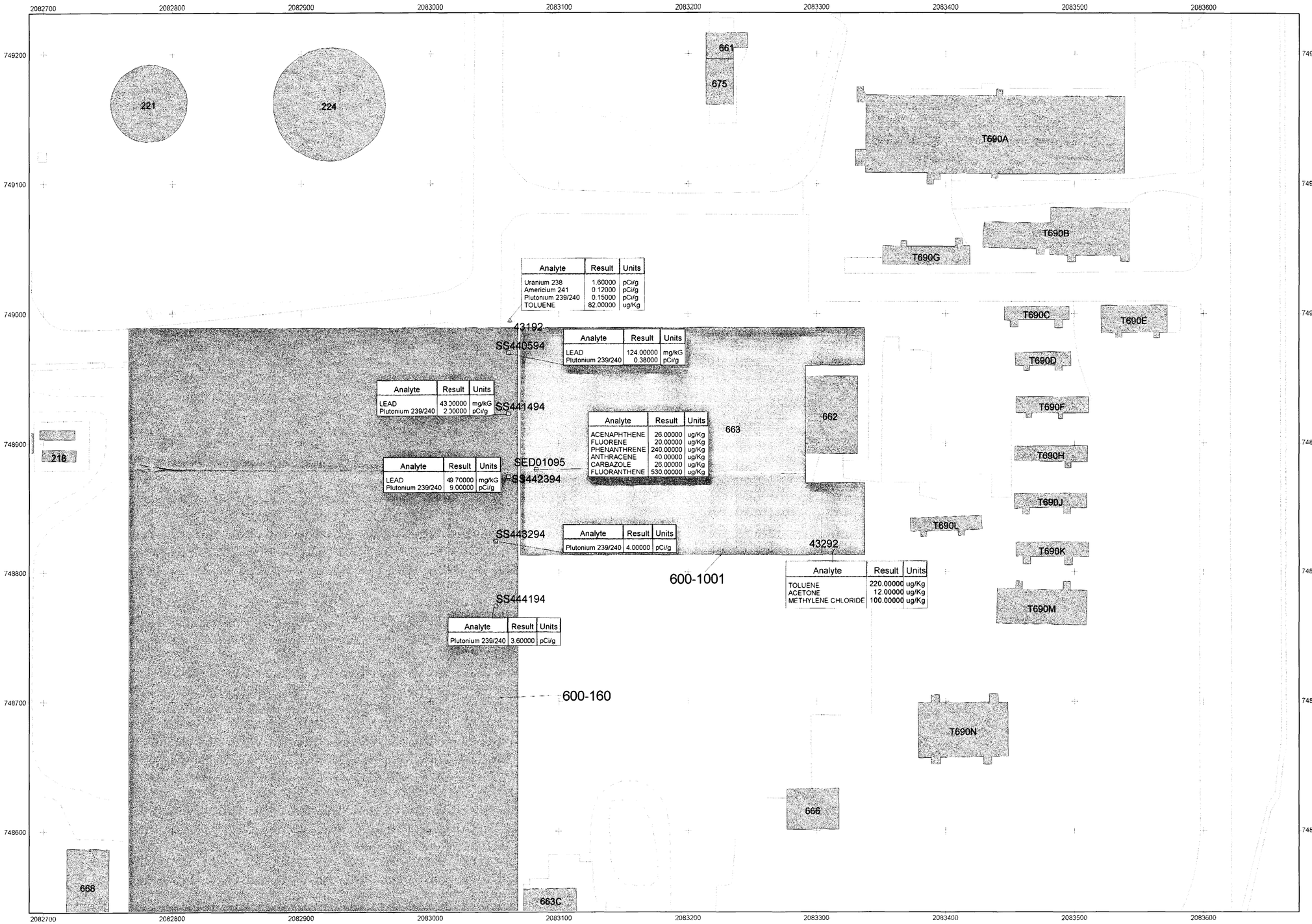
Location of Existing Sample Results Above Detection Limits or Background Levels for IA Group 600-1 (600-1001)



KEY

- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:500

40 0 40 80 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by:

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Prepared for:

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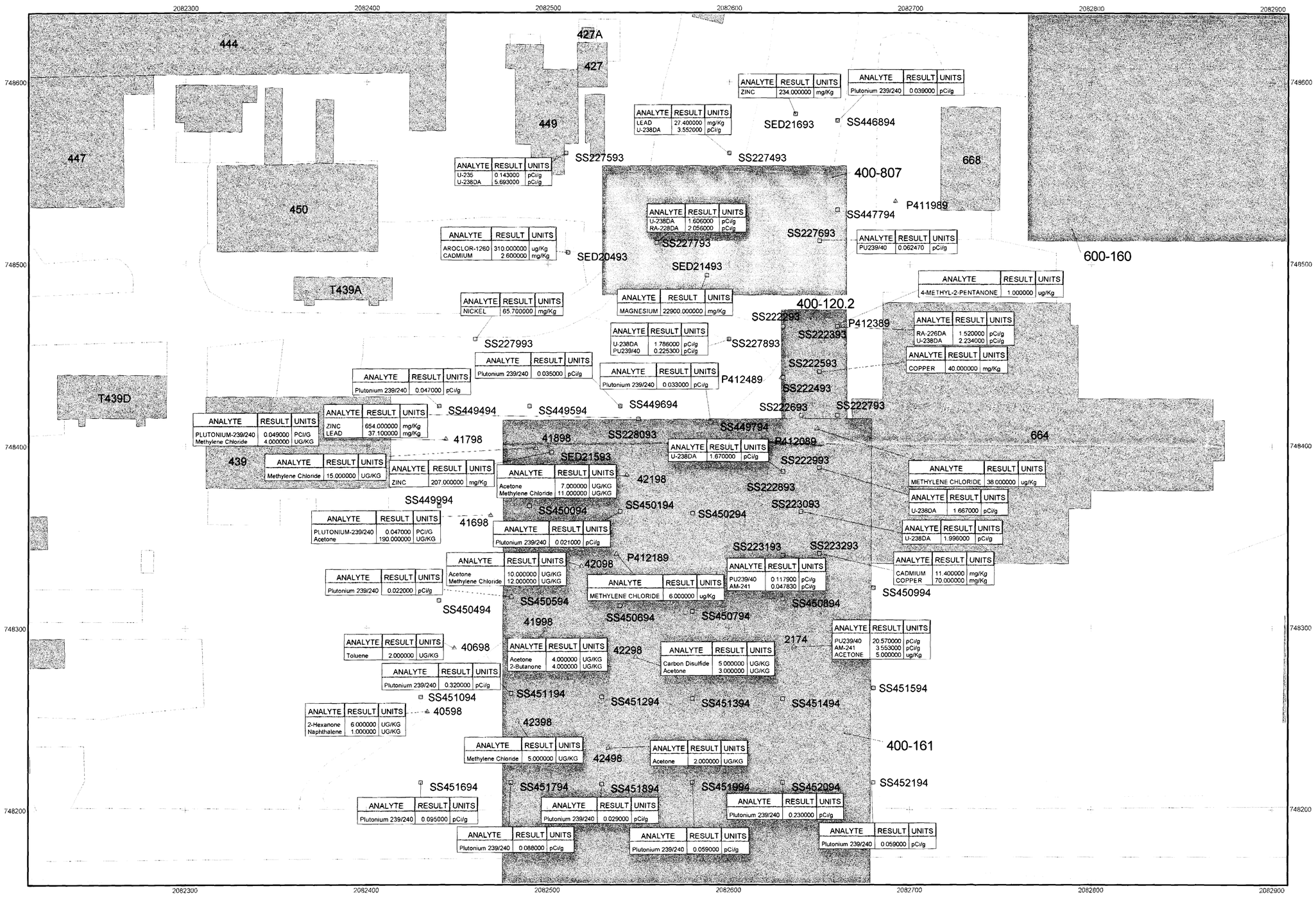

Location of Existing Sample Results Above Detection Limits or Background Levels for IA Group 400-10 (400-120.2, 400-161, and 400-807)

KEY

- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:350

40 0 40 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by:

WATERSTONE
Environmental Hydrology and Engineering, Inc.

Prepared for:

KAISER-HILL COMPANY

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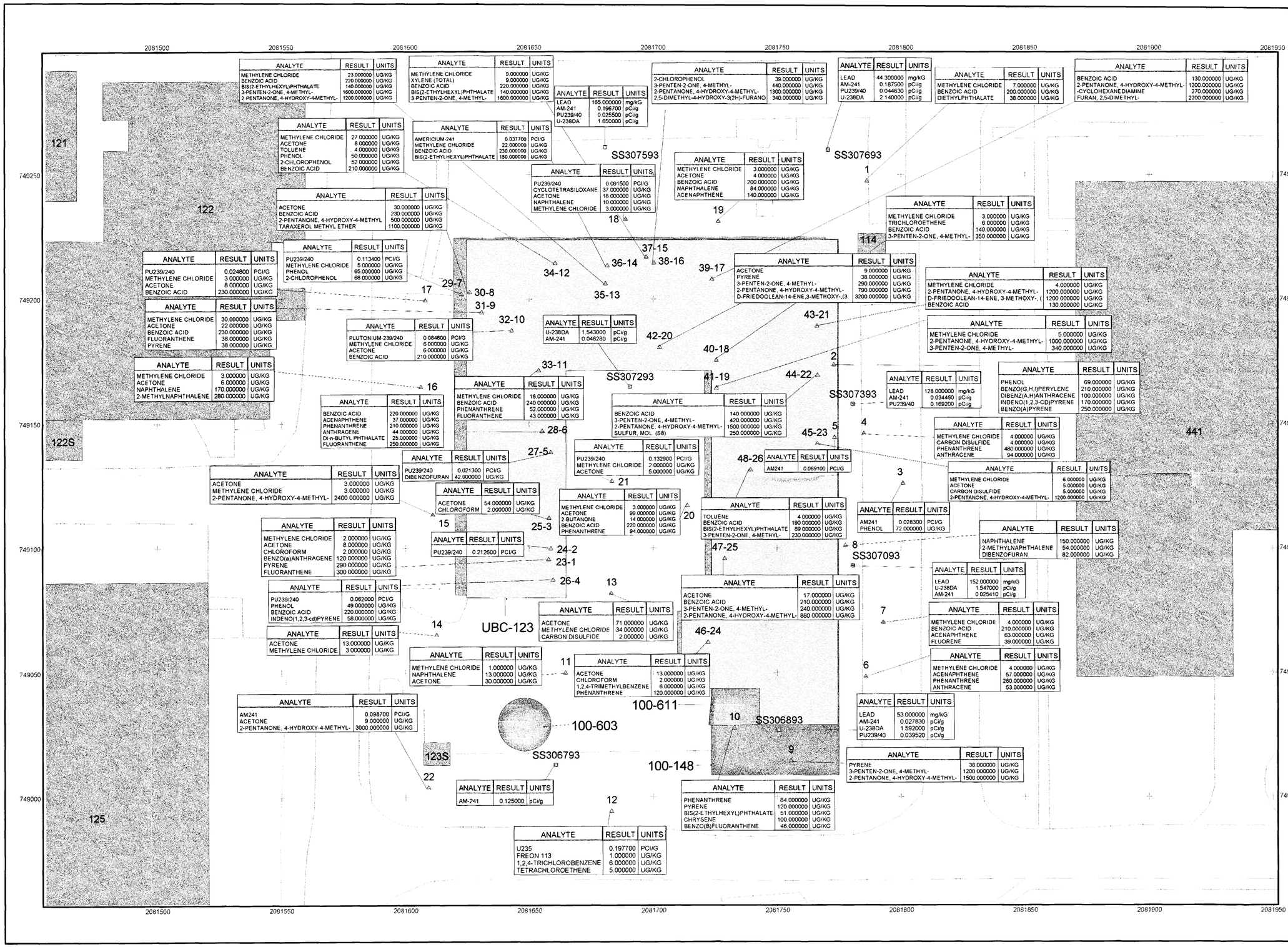

ANALYTE	RESULT	UNITS
METHYLENE CHLORIDE	23.000000	UG/KG
BENZOIC ACID	220.000000	UG/KG
BIS(2-ETHYLHEXYL)PHTHALATE	140.000000	UG/KG
3-PENTEN-2-ONE, 4-METHYL-	1600.000000	UG/KG
2-PENTANONE, 4-HYDROXY-4-METHYL-	1200.000000	UG/KG

ANALYTE	RESULT	UNITS
METHYLENE CHLORIDE	9.000000	UG/KG
XYLENE (TOTAL)	9.000000	UG/KG
BENZOIC ACID	220.000000	UG/KG
BIS(2-ETHYLHEXYL)PHTHALATE	140.000000	UG/KG
3-PENTEN-2-ONE, 4-METHYL-	1800.000000	UG/KG

ANALYTE	RESULT	UNITS
LEAD	165.000000	mg/KG
AM-241	0.196700	pCi/g
PU239/40	0.025500	pCi/g
U-238DA	1.650000	pCi/g

ANALYTE	RESULT	UNITS
2-CHLOROPHENOL	39.000000	UG/KG
3-PENTEN-2-ONE, 4-METHYL-	440.000000	UG/KG
2-PENTANONE, 4-HYDROXY-4-METHYL-	1300.000000	UG/KG
2,5-DIMETHYL-4-HYDROXY-3(2H)-FURANO	340.000000	UG/KG

ANALYTE	RESULT	UNITS
LEAD	44.300000	mg/KG
AM-241	0.187500	pCi/g
PU239/40	0.044630	pCi/g
U-238DA	2.140000	pCi/g

ANALYTE	RESULT	UNITS
METHYLENE CHLORIDE	7.000000	UG/KG
BENZOIC ACID	200.000000	UG/KG
DIETHYLPHTHALATE	38.000000	UG/KG

ANALYTE	RESULT	UNITS
BENZOIC ACID	130.000000	UG/KG
2-PENTANONE, 4-HYDROXY-4-METHYL-	1200.000000	UG/KG
-CYCLOHEXANEDIAMINE	270.000000	UG/KG
FURAN, 2,5-DIMETHYL-	2200.000000	UG/KG

ANALYTE	RESULT	UNITS
METHYLENE CHLORIDE	27.000000	UG/KG
ACETONE	8.000000	UG/KG
TOLUENE	4.000000	UG/KG
PHENOL	50.000000	UG/KG
2-CHLOROPHENOL	52.000000	UG/KG
BENZOIC ACID	210.000000	UG/KG

ANALYTE	RESULT	UNITS
AMERICIUM-241	0.037700	PCI/G
METHYLENE CHLORIDE	22.000000	UG/KG
BENZOIC ACID	230.000000	UG/KG
BIS(2-ETHYLHEXYL)PHTHALATE	150.000000	UG/KG

ANALYTE	RESULT	UNITS
PU239/240	0.091500	PCI/G
CYCLOTETRASILOXANE	37.000000	UG/KG
ACETONE	18.000000	UG/KG
NAPHTHALENE	10.000000	UG/KG
METHYLENE CHLORIDE	3.000000	UG/KG

ANALYTE	RESULT	UNITS
METHYLENE CHLORIDE	3.000000	UG/KG
ACETONE	4.000000	UG/KG
BENZOIC ACID	200.000000	UG/KG
NAPHTHALENE	84.000000	UG/KG
ACENAPHTHENE	140.000000	UG/KG

ANALYTE	RESULT	UNITS
ACETONE	30.000000	UG/KG
BENZOIC ACID	230.000000	UG/KG
2-PENTANONE, 4-HYDROXY-4-METHYL	500.000000	UG/KG
TARAXEROL METHYL ETHER	1100.000000	UG/KG

ANALYTE	RESULT	UNITS
METHYLENE CHLORIDE	3.000000	UG/KG
TRICHLOROETHENE	6.000000	UG/KG
BENZOIC ACID	140.000000	UG/KG
3-PENTEN-2-ONE, 4-METHYL-	350.000000	UG/KG

ANALYTE	RESULT	UNITS
PU239/240	0.024800	PCI/G
METHYLENE CHLORIDE	3.000000	UG/KG
ACETONE	8.000000	UG/KG
BENZOIC ACID	230.000000	UG/KG

ANALYTE	RESULT	UNITS
PU239/240	0.113400	PCI/G
METHYLENE CHLORIDE	5.000000	UG/KG
PHENOL	65.000000	UG/KG
2-CHLOROPHENOL	68.000000	UG/KG

ANALYTE	RESULT	UNITS
METHYLENE CHLORIDE	30.000000	UG/KG
ACETONE	22.000000	UG/KG
BENZOIC ACID	230.000000	UG/KG
FLUORANTHENE	38.000000	UG/KG
PYRENE	38.000000	UG/KG

ANALYTE	RESULT	UNITS
PLUTONIUM-239/240	0.084800	PCI/G
METHYLENE CHLORIDE	6.000000	UG/KG
ACETONE	6.000000	UG/KG
BENZOIC ACID	210.000000	UG/KG

ANALYTE	RESULT	UNITS
U-238DA	1.543000	pCi/g
AM-241	0.046280	pCi/g

ANALYTE	RESULT	UNITS
ACETONE	9.000000	UG/KG
PYRENE	38.000000	UG/KG
3-PENTEN-2-ONE, 4-METHYL-	290.000000	UG/KG
2-PENTANONE, 4-HYDROXY-4-METHYL-	790.000000	UG/KG
D-FRIEDOOLEAN-14-ENE,3-METHOXY-,(3	3200.000000	UG/KG

ANALYTE	RESULT	UNITS
METHYLENE CHLORIDE	4.000000	UG/KG
2-PENTANONE, 4-HYDROXY-4-METHYL-	1200.000000	UG/KG
D-FRIEDOOLEAN-14-ENE, 3-METHOXY-, (	1200.000000	UG/KG
BENZOIC ACID	130.000000	UG/KG

ANALYTE	RESULT	UNITS
METHYLENE CHLORIDE	5.000000	UG/KG
2-PENTANONE, 4-HYDROXY-4-METHYL-	1000.000000	UG/KG
3-PENTEN-2-ONE, 4-METHYL-	340.000000	UG/KG

ANALYTE	RESULT	UNITS
METHYLENE CHLORIDE	3.000000	UG/KG
ACETONE	6.000000	UG/KG
NAPHTHALENE	170.000000	UG/KG
2-METHYLNAPHTHALENE	280.000000	UG/KG

ANALYTE	RESULT	UNITS
METHYLENE CHLORIDE	16.000000	UG/KG
BENZOIC ACID	240.000000	UG/KG
PHENANTHRENE	52.000000	UG/KG
FLUORANTHENE	43.000000	UG/KG

ANALYTE	RESULT	UNITS
BENZOIC ACID	140.000000	UG/KG
3-PENTEN-2-ONE, 4-METHYL-	420.000000	UG/KG
2-PENTANONE, 4-HYDROXY-4-METHYL-	1500.000000	UG/KG
SULFUR, MOL. (S8)	250.000000	UG/KG

ANALYTE	RESULT	UNITS
LEAD	128.000000	mg/KG
AM-241	0.034460	pCi/g
PU239/40	0.169200	pCi/g

ANALYTE	RESULT	UNITS
PHENOL	69.000000	UG/KG
BENZO(G,H,I)PERYLENE	210.000000	UG/KG
DIBENZ(A,H)ANTHRACENE	100.000000	UG/KG
INDENO(1,2,3-CD)PYRENE	170.000000	UG/KG
BENZO(A)PYRENE	250.000000	UG/KG

ANALYTE	RESULT	UNITS
BENZOIC ACID	220.000000	UG/KG
ACENAPHTHENE	37.000000	UG/KG
PHENANTHRENE	210.000000	UG/KG
ANTHRACENE	44.000000	UG/KG
DI-n-BUTYL PHTHALATE	25.000000	UG/KG
FLUORANTHENE	250.000000	UG/KG

ANALYTE	RESULT	UNITS
METHYLENE CHLORIDE	4.000000	UG/KG
CARBON DISULFIDE	4.000000	UG/KG
PHENANTHRENE	480.000000	UG/KG
ANTHRACENE	94.000000	UG/KG

ANALYTE	RESULT	UNITS
PU239/240	0.021300	PCI/G
DIBENZOFURAN	42.000000	UG/KG

ANALYTE	RESULT	UNITS
PU239/240	0.132900	PCI/G
METHYLENE CHLORIDE	2.000000	UG/KG
ACETONE	5.000000	UG/KG

ANALYTE	RESULT	UNITS
AM241	0.069100	PCI/G

ANALYTE	RESULT	UNITS
ACETONE	3.000000	UG/KG
METHYLENE CHLORIDE	3.000000	UG/KG
2-PENTANONE, 4-HYDROXY-4-METHYL-	2400.000000	UG/KG

ANALYTE	RESULT	UNITS
ACETONE	54.000000	UG/KG
CHLOROFORM	2.000000	UG/KG

ANALYTE	RESULT	UNITS
METHYLENE CHLORIDE	3.000000	UG/KG
ACETONE	99.000000	UG/KG
2-BUTANONE	14.000000	UG/KG
BENZOIC ACID	220.000000	UG/KG
PHENANTHRENE	94.000000	UG/KG

ANALYTE	RESULT	UNITS
TOLUENE	4.000000	UG/KG
BENZOIC ACID	190.000000	UG/KG
BIS(2-ETHYLHEXYL)PHTHALATE	89.000000	UG/KG
3-PENTEN-2-ONE, 4-METHYL-	230.000000	UG/KG

ANALYTE	RESULT	UNITS
AM241	0.028300	PCI/G
PHENOL	72.000000	UG/KG

ANALYTE	RESULT	UNITS
METHYLENE CHLORIDE	6.000000	UG/KG
ACETONE	5.000000	UG/KG
CARBON DISULFIDE	5.000000	UG/KG
2-PENTANONE, 4-HYDROXY-4-METHYL-	1200.000000	UG/KG

ANALYTE	RESULT	UNITS
NAPHTHALENE	150.000000	UG/KG
2-METHYLNAPHTHALENE	54.000000	UG/KG
DIBENZOFURAN	82.000000	UG/KG

ANALYTE	RESULT	UNITS
PU239/240	0.212600	PCI/G

ANALYTE	RESULT	UNITS
METHYLENE CHLORIDE	2.000000	UG/KG
ACETONE	8.000000	UG/KG
CHLOROFORM	2.000000	UG/KG
BENZO(a)ANTHRACENE	120.000000	UG/KG
PYRENE	290.000000	UG/KG
FLUORANTHENE	300.000000	UG/KG

ANALYTE	RESULT	UNITS
LEAD	152.000000	mg/KG
U-238DA	1.547000	pCi/g
AM-241	0.025410	pCi/g

ANALYTE	RESULT	UNITS
PU239/240	0.062000	PCI/G
PHENOL	49.000000	UG/KG
BENZOIC ACID	220.000000	UG/KG
INDENO(1,2,3-cd)PYRENE	58.000000	UG/KG

ANALYTE	RESULT	UNITS
ACETONE	17.000000	UG/KG
BENZOIC ACID	210.000000	UG/KG
3-PENTEN-2-ONE, 4-METHYL-	240.000000	UG/KG
2-PENTANONE, 4-HYDROXY-4-METHYL-	880.000000	UG/KG

ANALYTE	RESULT	UNITS
METHYLENE CHLORIDE	4.000000	UG/KG
BENZOIC ACID	210.000000	UG/KG
ACENAPHTHENE	63.000000	UG/KG
FLUORENE	39.000000	UG/KG

ANALYTE	RESULT	UNITS
ACETONE	71.000000	UG/KG
METHYLENE CHLORIDE	34.000000	UG/KG
CARBON DISULFIDE	2.000000	UG/KG

ANALYTE	RESULT	UNITS
ACETONE	13.000000	UG/KG
METHYLENE CHLORIDE	3.000000	UG/KG

ANALYTE	RESULT	UNITS
METHYLENE CHLORIDE	1.000000	UG/KG
NAPHTHALENE	13.000000	UG/KG
ACETONE	30.000000	UG/KG

ANALYTE	RESULT	UNITS
ACETONE	13.000000	UG/KG
CHLOROFORM	2.000000	UG/KG
1,2,4-TRIMETHYLBENZENE	6.000000	UG/KG
PHENANTHRENE	120.000000	UG/KG

ANALYTE	RESULT	UNITS
METHYLENE CHLORIDE	4.000000	UG/KG
ACENAPHTHENE	57.000000	UG/KG
PHENANTHRENE	260.000000	UG/KG
ANTHRACENE	53.000000	UG/KG

ANALYTE	RESULT	UNITS
AM241	0.098700	PCI/G
ACETONE	9.000000	UG/KG
2-PENTANONE, 4-HYDROXY-4-METHYL-	3000.000000	UG/KG

ANALYTE	RESULT	UNITS
LEAD	53.000000	mg/KG
AM-241	0.027830	pCi/g
U-238DA	1.592000	pCi/g
PU239/40	0.039520	pCi/g

ANALYTE	RESULT	UNITS
PYRENE	38.000000	UG/KG
3-PENTEN-2-ONE, 4-METHYL-	1200.000000	UG/KG
2-PENTANONE, 4-HYDROXY-4-METHYL-	1500.000000	UG/KG

ANALYTE	RESULT	UNITS
AM-241	0.125000	pCi/g

ANALYTE	RESULT	UNITS
PHENANTHRENE	84.000000	UG/KG
PYRENE	120.000000	UG/KG
BIS(2-ETHYLHEXYL)PHTHALATE	51.000000	UG/KG
CHRYSENE	100.000000	UG/KG
BENZO(B)FLUORANTHENE	46.000000	UG/KG

ANALYTE	RESULT	UNITS
U235	0.197700	PCI/G
FREON 113	1.000000	UG/KG
1,2,4-TRICHLOROBENZENE	6.000000	UG/KG
TETRACHLOROETHENE	5.000000	UG/KG

Location of Existing Sample Results Above Detection Limits or Background Levels for IA Group 100-4 (100-148, 100-603, 100-611, and UBC 123)

KEY

- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:250

20 0 20 40 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by:

WATERSTONE
Environmental Hydrology and Engineering, Inc.

Prepared for:

KAISER•HILL COMPANY

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