

INL CERCLA Program: Project Updates

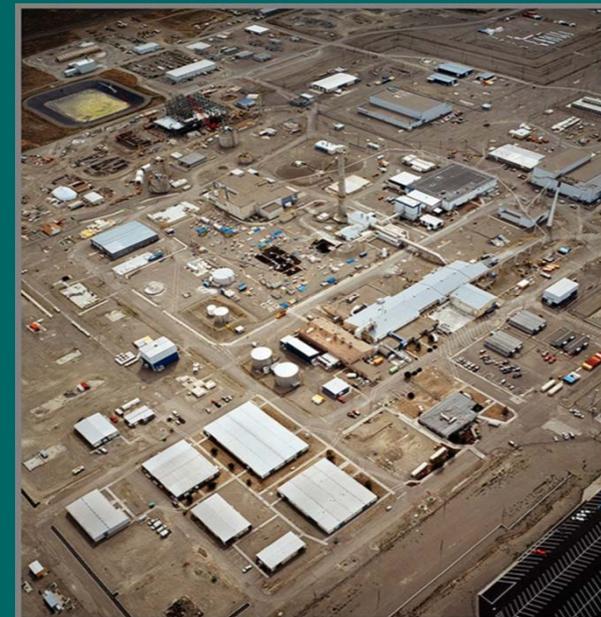
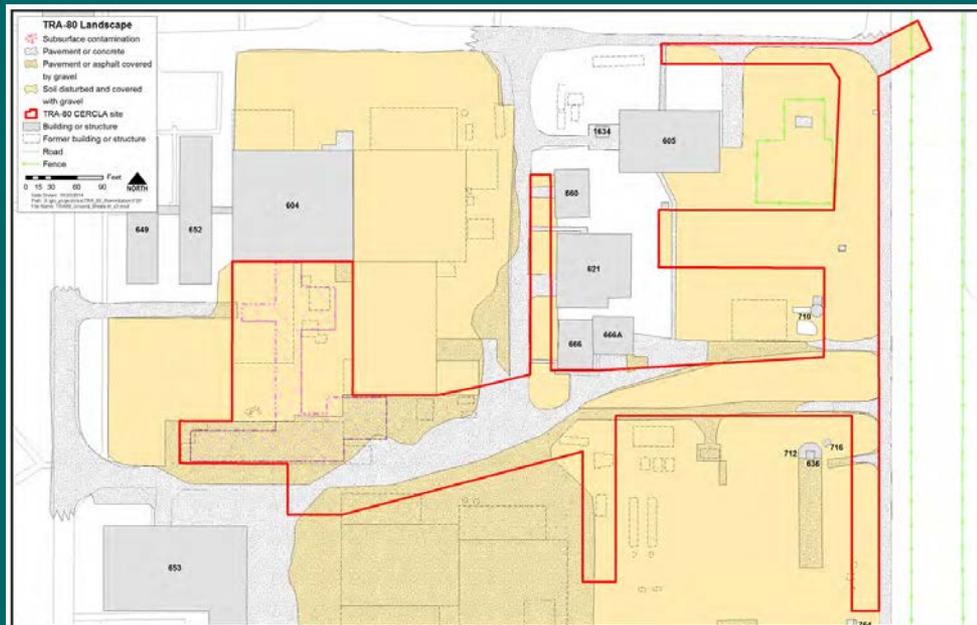


WAG 3 OU 3-14

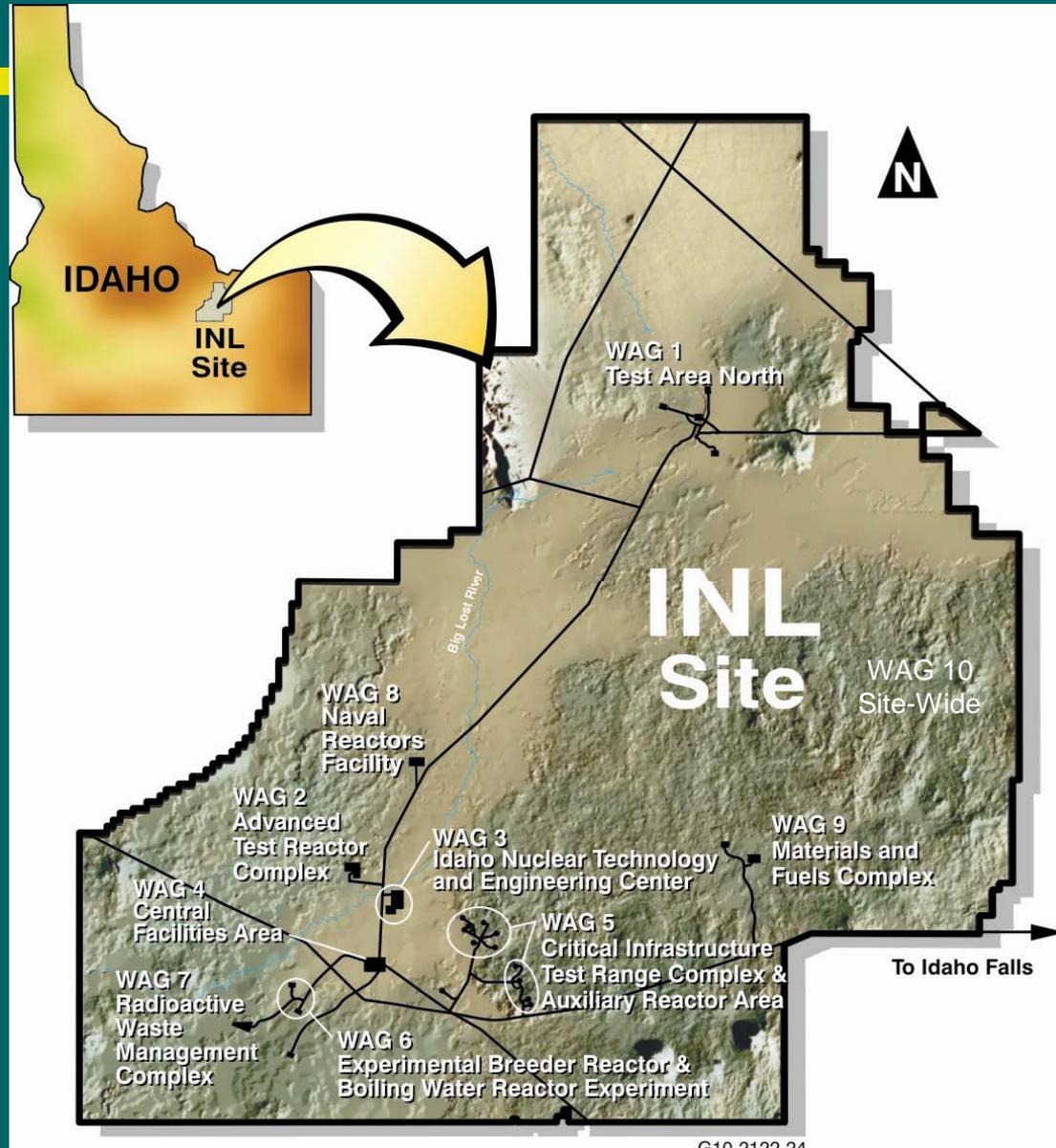
WAG 10 OU 10-08

INL CAB Meeting
April 8, 2015

Daryl Koch
Idaho DEQ

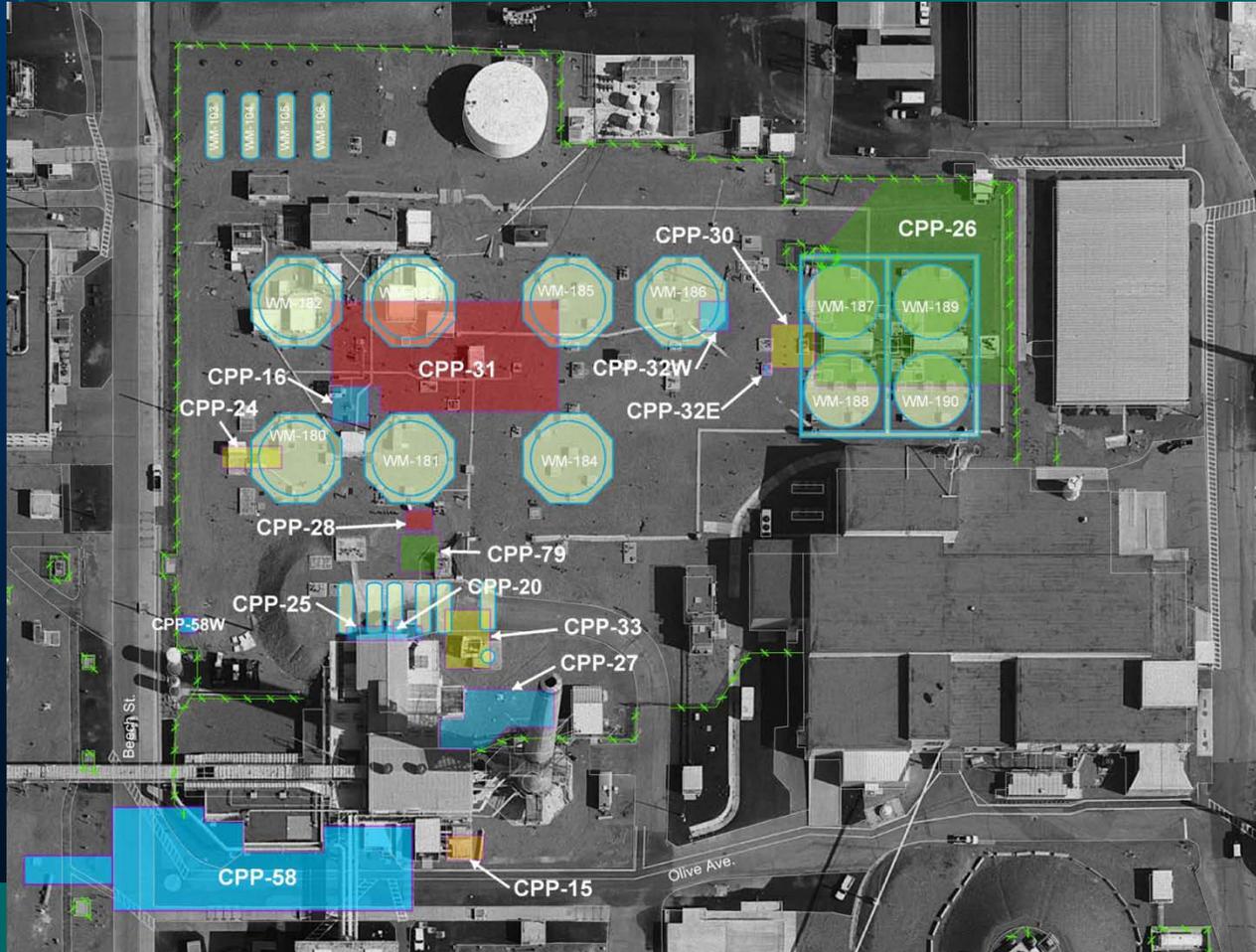


INL WAG Map





WAG 3 OU 3-14 Tank Farm Remedy



OU 3-14 Soil Sites

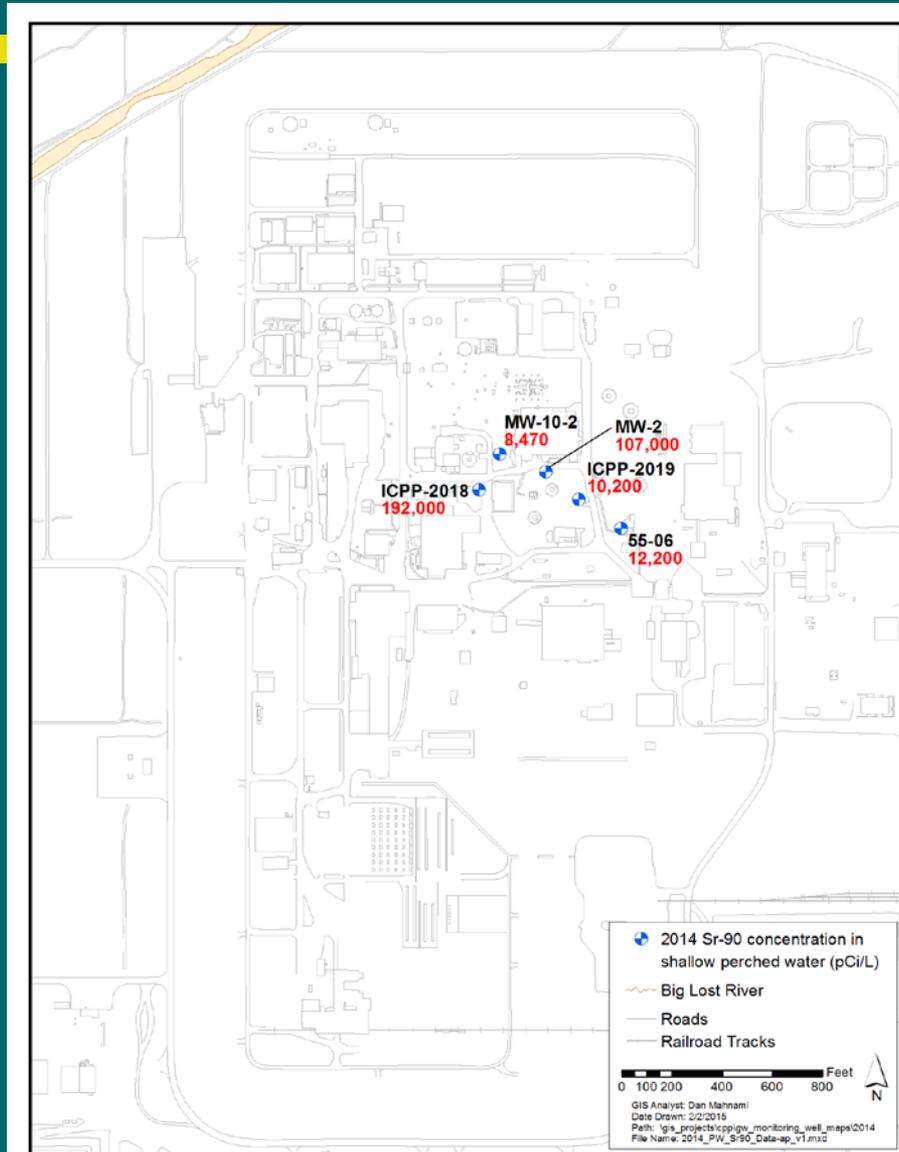
- Roads and Buildings
- Fences
- Underground Tanks
- CPP-28, CPP-31
- CPP-15
- CPP-26, CPP-79
- CPP-24, CPP-30, CPP-33
- CPP-16, CPP-20, CPP-25, CPP-27, CPP-32, CPP-58



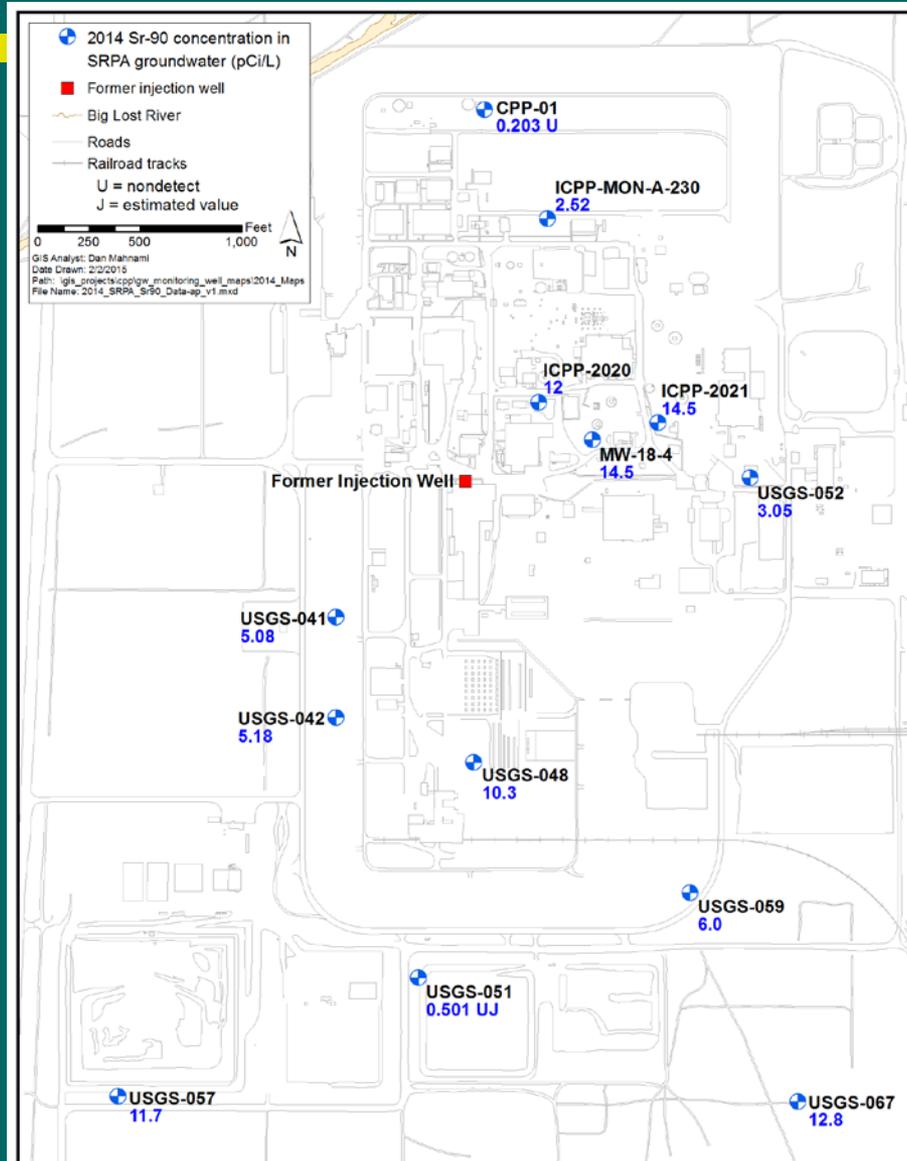
GIS Analyst: Linda Tedrow
Date Drawn: 3/20/2006

Path: X:\gis_projects\cpp\OU_3_14_RIBRA
File Name: ou314scilsites-bl_v1.mxd

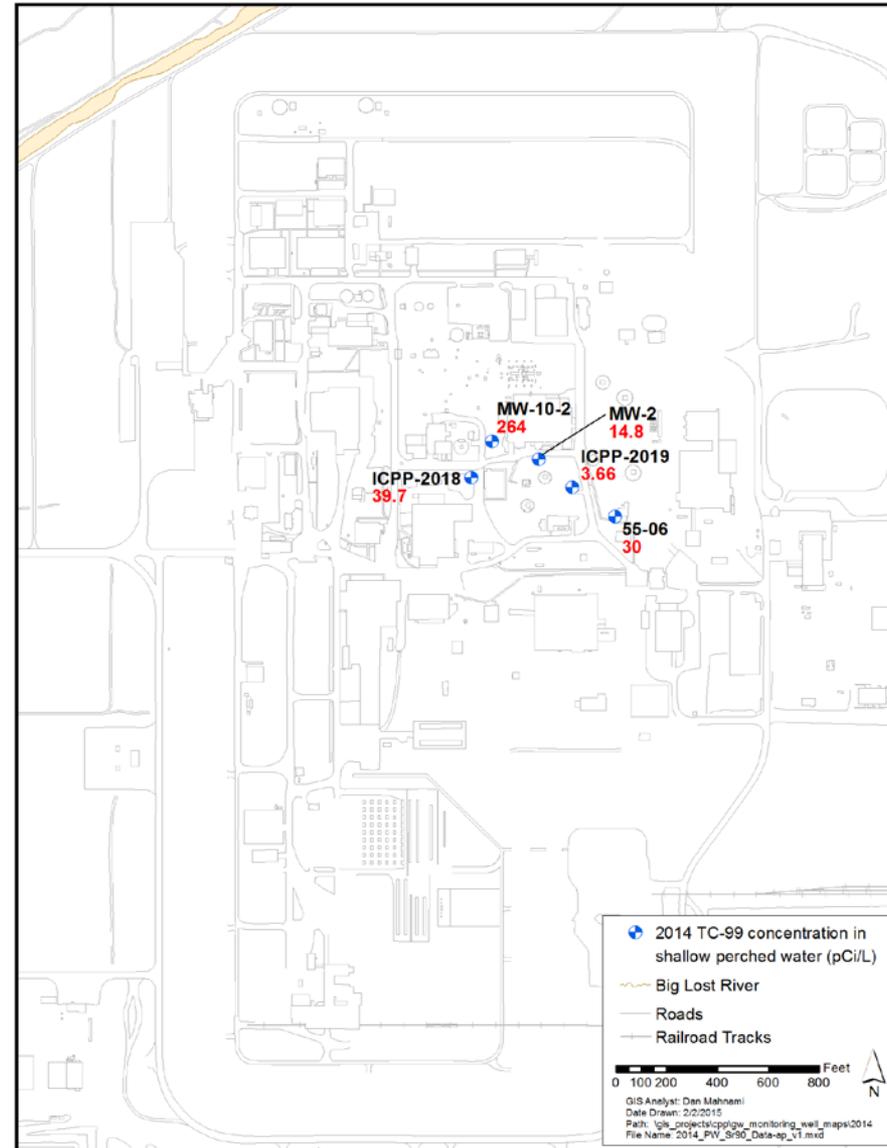
Distribution of Sr-90 (pCi/L) in perched water in FY 2014



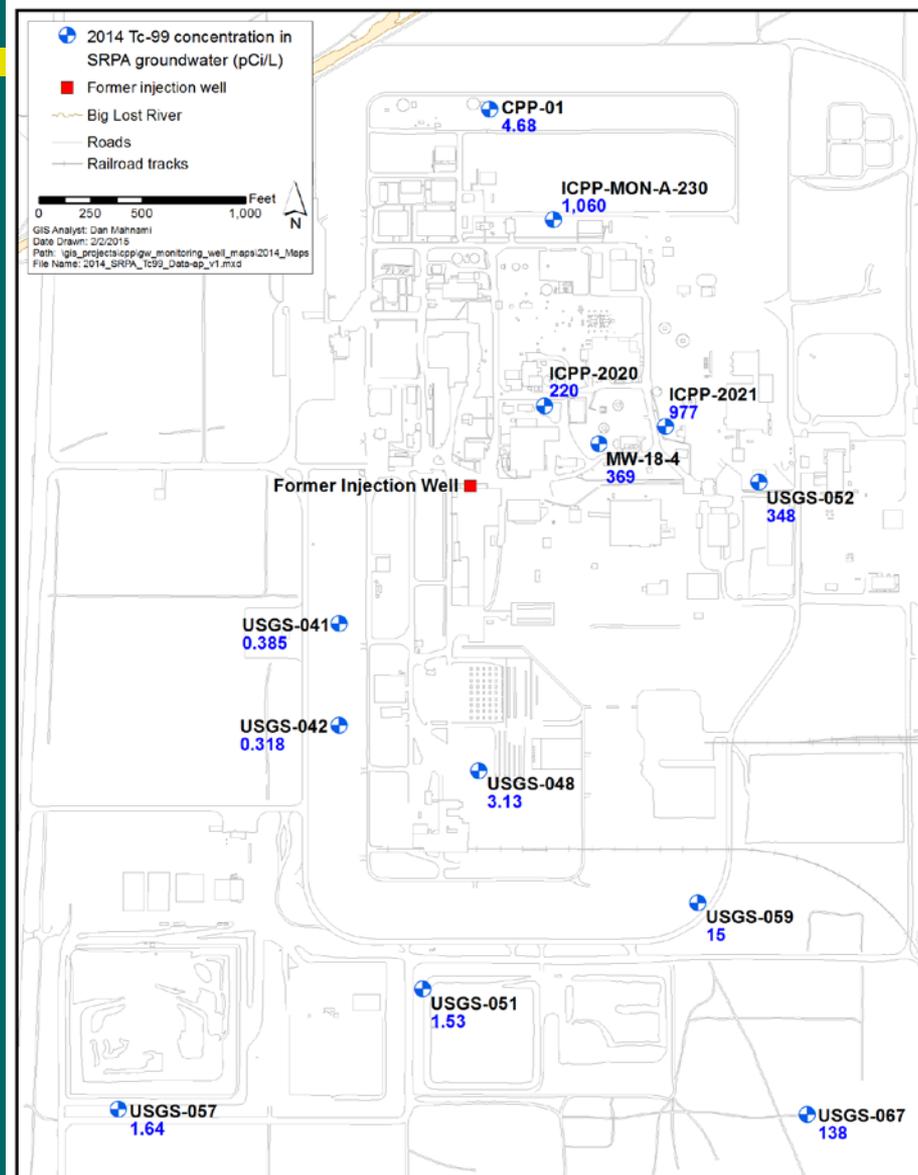
Distribution of Sr-90 in SRPA groundwater FY 2014 (MCL = 8 pCi/L)



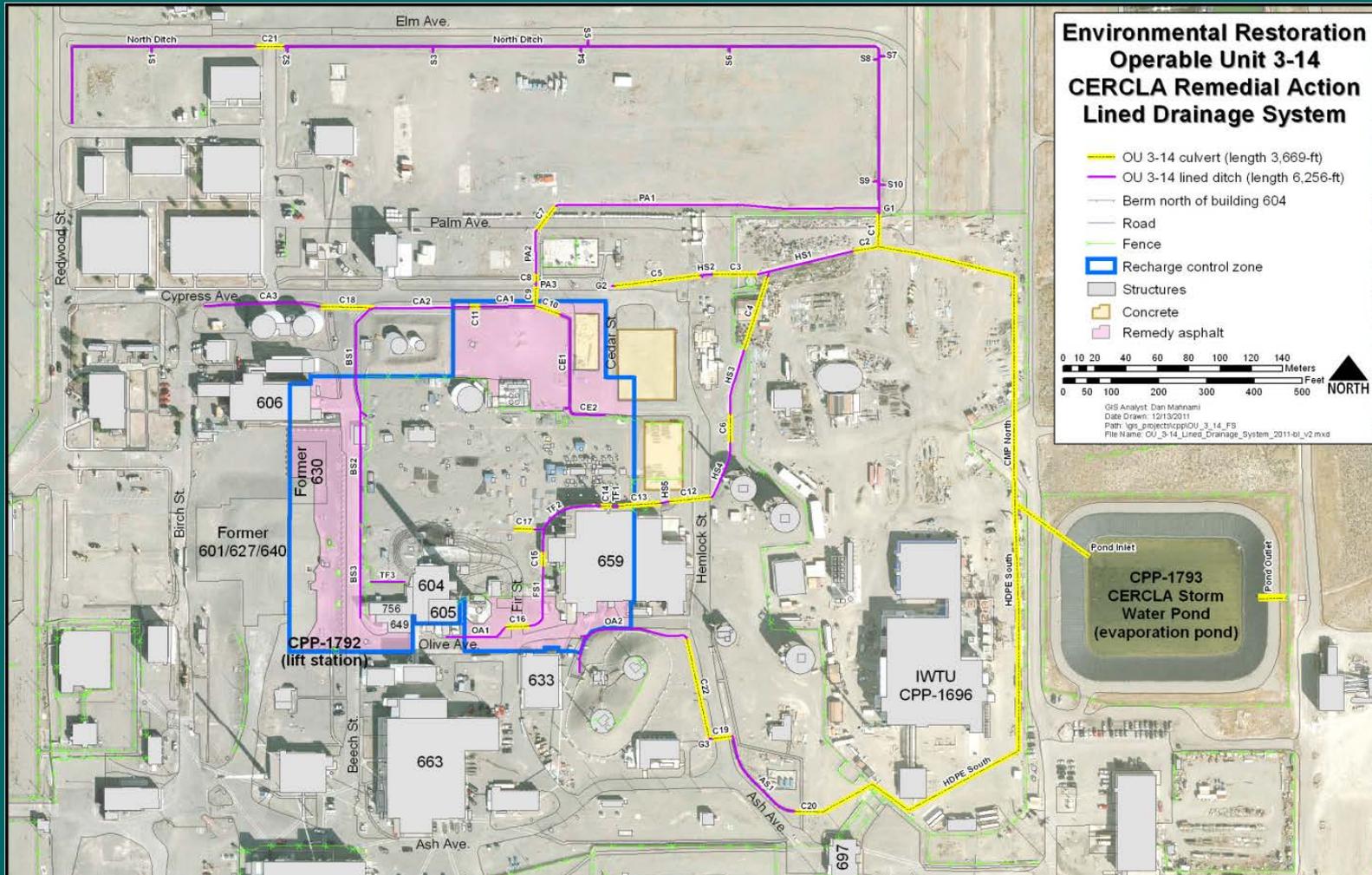
Distribution of Tc-99 (pCi/L) in perched water in FY 2014



Distribution of Tc-99 in SRPA groundwater FY 2014 (MCL = 900 pCi/L)



WAG 3 OU 3-14 Remedy

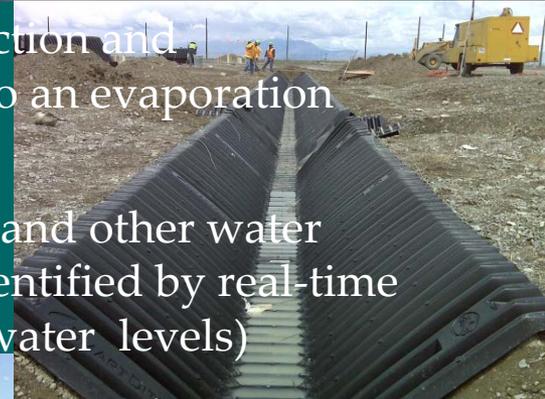




WAG 3 OU 3-14 Update

Remedial action for 3-14 is the reduction of the volume and associated hydraulic head of the perched water zone beneath the Tank Farm (TF) contaminated with Sr-90 from historical liquid releases of Sodium bearing waste

- Specific actions include:
- Construction of precipitation and snow-melt collection and conveyance system so surface drainage is routed to an evaporation pond located east of INTEC (completed)
- Identification and replacement of aging fire water and other water line infrastructure beneath INTEC (on-going as identified by real-time telemetry for detecting rapid increase in perched water levels)
- Installation of low-permeability pavement (LPP) over Recharge Control Zone outside of TF (complete)
- Installation of LPP inside of TF over western half (2017)
- Installation of LPP on east side of TF (within one year following closure of the four remaining SBW tanks)



WAG 10 OU 10-08 New Sites



- WAG 10-08 is the process for addressing completely new sites or the evaluation of new information at/near and existing site. The site, after going through the 10-08 process, may warrant no action; no further action with Institutional Controls (ICs); remedial action under the selected “Plug-In” remedy, or “action outside 10-08 for various reasons one of which is the potential to affect groundwater.
- The Agencies have selected a “plug-in” remedy of “remove and dispose” that will apply to new CERCLA sites at the INL if it falls within a specific set of criteria. This process is intended to streamline remedial decision-making.

DOE/ID-11385

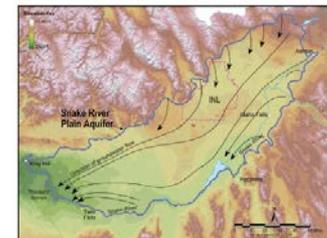
Revision 0

September 2009



Record of Decision

Operable Unit 10-08 Record of Decision for
Site-Wide Groundwater, Miscellaneous Sites, and
Future Sites



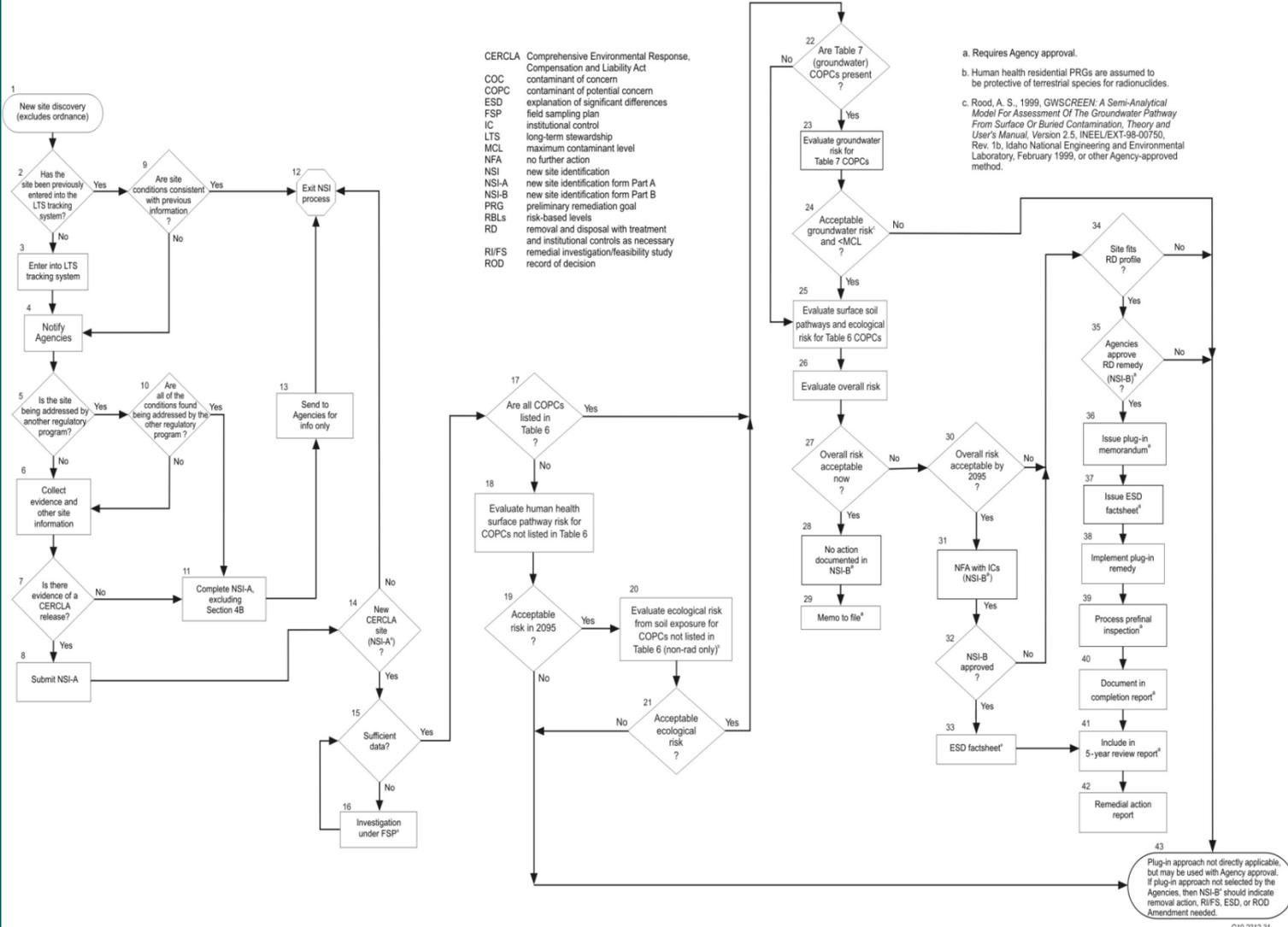
WAG 10 OU 10-08 Update



Initial Assessment

Risk Assessment

Plug-In Remedy and Documentation



CERCLA Comprehensive Environmental Response, Compensation and Liability Act
COC contaminant of concern
COPC contaminant of potential concern
ESD explanation of significant differences
FSP field sampling plan
IC institutional control
LTS long-term stewardship
MCL maximum contaminant level
NFA no further action
NSI new site identification
NSI-A new site identification form Part A
NSI-B new site identification form Part B
PRG preliminary remediation goal
RBLs risk-based levels
RD removal and disposal with treatment and institutional controls as necessary
remedial investigation/feasibility study record of decision
RIFS record of investigation
ROD record of decision

a. Requires Agency approval.
 b. Human health residential PRGs are assumed to be protective of terrestrial species for radionuclides.
 c. Rood, A. S., 1999, *GWSCREEN: A Semi-Analytical Model For Assessment Of The Groundwater Pathway From Surface Or Buried Contamination, Theory and User's Manual*, Version 2.5, INEL/EXT-98-00750, Rev. 1b, Idaho National Engineering and Environmental Laboratory, February 1999, or other Agency-approved method.

Remove and dispose remedy profile



Removal and Disposal Site Parameter	Bounding Conditions
Contaminated media	Soil Sediment Sludge
Contaminated materials	Concrete Metal Wood Pipe Asbestos/transite Glass Construction debris or other associated material
Contaminants of concern	Radionuclide contaminants of concern listed Metal contaminants of concern listed Organic compound contaminants of concern listed
Risks (at least one from bounding conditions list)	Excess lifetime cancer risk for current workers and/or future residents greater than 1E-04 Hazard index for current workers and/or future residents greater than 1 Ecological hazard quotient greater than 10 for populations of flora and fauna or greater than 1 for individual flora and fauna listed as threatened and/or endangered
Dimensions	Contaminated soil volumes up to 2,700,000 cubic feet Depth not greater than 47 feet below ground surface (top of basalt) Area of contamination up to 2,500,000 square feet

COCs - Cleanup levels and ecological screening



Contaminant of Concern	CAS Number	Residential Soil Cleanup Level for Year of Cleanup (pCi/g) at 10 ⁻⁴	Residential Soil Cleanup Level in 2095 ^w (pCi/g) at 10 ⁻⁴	Outdoor Worker Soil Cleanup Level ^w (pCi/g) at 10 ⁻⁴	Ecological Soil Screening Level ^x (pCi/g)	Half-life (year)
Radionuclides						
Ag-108m	14391-65-2(m)	TBC ^y	1.68E+00	3.25E+00	1.83E+03	1.27E+02
Am-241	14596-10-2	TBC ^y	1.87E+02	5.67E+02	1.78E+01	4.32E+02
Co-60	10198-40-0	TBC ^y	3.61E+00	6.02E+00	1.18E+03	5.27E+00
Cs-134	13967-70-9	TBC ^y	1.57E+01	2.59E+01	1.90E+03	2.06E+00
Cs-137+D	10045-97-3(+D)	TBC ^y	6.0E+00	1.13E+01	4.95E+03	3.02E+01
Eu-152	14683-23-9	TBC ^y	4.16E+00	7.37E+00	2.18E+03	1.36E+01
Eu-154	15585-10-1	TBC ^y	4.99E+00	8.57E+00	2.48E+03	8.80E+00
Eu-155	14391-16-3	TBC ^y	3.80E+02	6.34E+02	3.25E+04	4.96E+00
Ni-63	13981-37-8	TBC ^y	9.48E+03	5.55E+05	1.14E+05	1.00E+02
Np-237+D	13994-20-2(+D)	TBC ^y	1.30E+01	2.72E+01	1.94E+01	2.14E+06
Pu-238	13981-16-3	TBC ^y	2.97E+02	1.60E+03	1.78E+01	8.78E+01
Pu-239	15117-48-3	TBC ^y	2.59E+02	1.40E+03	1.89E+01	2.41E+04
Pu-240	14119-33-6	TBC ^y	2.60E+02	1.41E+03	1.89E+01	6.57E+03
Pu-241	14119-32-5	TBC ^y	4.06E+04	1.69E+05	3.73E+05	1.44E+01
Pu-244+D	14119-34-7(+D)	TBC ^y	7.16E+00	1.45E+01	2.12E+01	8.00E+07
Ra-226+D	13982-63-3(+D)	TBC ^y	1.24E+00	2.58E+00	2.04E+01	1.60E+03
Sr-90+D	10098-97-2(+D)	TBC ^y	2.31E+01	1.08E+03	3.34E+03	2.86E+01
U-234	13966-29-5	TBC ^y	4.01E+02	3.24E+03	2.05E+01	2.45E+05
U-235+D	15117-96-1(+D)	TBC ^y	1.95E+01	3.98E+01	2.27E+01	7.04E+08
U-238+D	7440-61-1(+D)	TBC ^y	7.42E+01	1.80E+02	2.32E+01	4.47E+09

TRA-80 at WAG 2 ATR Complex

