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G1		The Phase I RFI/RI Workplan for OU10 is the first workplan to be finalized in which an investigation of varied IHSSs within the industrialized portions of the plant is presented Some of the items of concern will be called out in the following comments any presentation technique in the OU 10 Workplan that would enhance the clarity and/or brevity of this workplan should be incorporated	Items of concern will be addressed in following responses
G2		The Division suggests that the figures and tables presented at the back of each section be placed within the text	Each figure and table will be moved into the text as near to the point where it is referred to as possible
G3		The Division suggests that the information in Appendix A be more fully incorporated into Section 2 0	Information in Appendix A will be more fully incorporated into Section 2 0

REVIEWED FOR ~~CLASSIFICATION~~/UCNI
By
Date 10/22/92

ADMIN RECORD

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G4		In a staff level scoping meeting held for OU 13 on 12/10/91, equipment accessibility (particularly for drilling rigs) was a major issue IHSSs 148, 157 1, and 186 were among the OU13 sites where access would be very difficult This workplan proposes no strategy for how the FSP can be modified when access precludes certain sample types This needs to be done	Figures that show the location of buildings, paved areas, pipelines, and other facilities will be added to Section 2 where the IHSSs are described Access problems that are evident will be addressed in the FSAP (Section 6) In Section 6, sampling points will be plotted on the maps that show locations of buildings pipelines, electrical lines and other obstructions for each IHSS Sampling points will be adjusted from the uniform grid when it is necessary to avoid obstructions and buried lines The "Sampling Program" subsection in the FSAP will clarify that soil gas probes will be driven by hand where access with a vehicle is not possible No instance has been found where any sample types need to be precluded from an IHSS
G5		The Division has repeatedly asked for a revision of SOP GT 8	SOP GT 8 has been revised and was submitted to CDH and EPA for comment
S1		Section 1 0 In the second paragraph of this section, the sentence "Although the IAG requires general compliance with both RCRA and CERCLA, RECRA regulations apply to RIs at OU 13" should be removed	This sentence will be removed
S2		Section 2 0 - General Comments 1) Maps of the individual IHSSs need to be included	Maps of the individual IHSSs will be included in the appropriate IHSS-specific sub-sections in Section 2

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S3		2) Many of the data tables presented at the end of this section should be moved to the appendices	Tables 2 8 through 2 21 (summaries of constituents detected in concentrations above background) and Table 2 25 (Summary Statistics, Selected Trace Metals, Surface Water and Sediment Sites) will be moved to the appendix
S4		3) As defined in the Historical Release Report (HRR), Under Building Contamination (UBCs), Potential Areas of Concern (PACs), and Potential Incidents of Concern (PICs) have not been considered in this workplan DOE should consider which UBCs, PACs and PICs incorporated in this workplan	UBC, PAC and PIcs are not part of the OU13 Work Plan UBC will be addressed in the D and D plan for RFP If the regulatory agencies determine that the information in the HRR warrents inclusion as a new IHSS, we will address the those additional IHSSs on a case by case basis
S5		<u>Section 2 0 - Specific Comments</u> The areal extents of IHSSs 117 1, 158, 171, 186, and 191 are different on this map than was originally presented in the CEARP Also, they are different than what was presented in the Historical Release Report (HRR) Please review these figures and confirm that they properly reflect the correct IHSS locations	Boundaries of the IHSSs will be reviewed and maps corrected as necessary on all maps containing IHSS boundaries Any differences between boundaries in the workplan and the HRR will be explained in Section 2 under "Locations and Operational Histories of IHSSs
S6		<u>Section 2 1 1 10</u> While the Division is sympathetic to DOE's desire to eliminate IHSS 169 from further consideration, the justification of no further action must be proven	Justification will be provided in the OU13 RFI/RI Work Plan

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S7		Section 3 0 Regarding the last sentence in the first paragraph of this section, cleanup criteria for UO 13 will be based on the risk assessment as well as ARARs	The text will be revised to state that cleanup criteria will be based on results of an environmental and human-based risk assessment, and likely ARARs
S8		Section 5 0 This section needs to be expanded to explain how statistical treatment of data will be accomplished (soil data, groundwater data, etc)	This section will be expanded to present the size of hot spots that can be found with the specified grid sizes Statistical evidence will be provided No mathematical statistical treatment of groundwater data is anticipated
S9		Section 5 1 2 5 The rationale for determining the number and location of boreholes and wells in the various IHSSs is possibly inadequate As mentioned elsewhere in these comments, predetermining the need and limiting the maximum number of wells and boreholes in any IHSS does not take into consideration, among other things, the IHSS size, contaminant loading, or contaminant type It is the divisions belief that these types of decisions should be deferred until data from previous stages can be evaluated	Data from Stages 1 and 2 will be evaluated prior to commencement of Stage 3 Text in Section 5will be revised to agree with Section 6 1 2, where it is stated that "more extensive methods of sampling may be required on a case by case basis " The subsection titled "Identify Data Quantity Needs" will be revised to state that since the data quantity needed in Stage 3 is based on the results of Stages 1 and 2, Stage 3 data needs will not be completely specified in this work plan Any need for more extensive sampling will be established in the technical memorandum submitted at the completion of Stage 2

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S10		Section 5 1 The Division has several concerns with Section 5 0 that can be summarized in comments to Table 5 1 First, this RFI/RI work plan was supposed to be formulated after a complete and comprehensive review of all existing information	The first two rows of Table 5 1 need not be included because they refer to activities that have already been completed as part of the preparation of the Work Plan These two rows will not be included in the final Work Plan. Please note that evaluating available information is recognized in EPA documents as an initial step in the RI/FS process Also note that the first sentence of Section 5 1 1 2 is "Existing data are described in Section 2 of this document "
S11		Second, the listed objectives on Table 5 1 are extremely broad the following "sub"-objectives will be required in the RFI/RI Report Characterization of subsurface stratigraphy and transport characteristics of subsurface materials, depth to groundwater, ground water flow regime, vadose water flow regime Characterization of any remaining "source" material, affected media, location, concentration, type, physical state, and quantity of contaminants, extent of contaminant migration in each media, fate and transport of any contamination	Tables 5 1 and 5 2 will be combined The new table will include the "sub"-objectives

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S12		In addition, the Division is concerned that, under the Decision column, the sentence "Prioritize contamination sources and transport mechanisms for future studies" indicates a fundamental misunderstanding of the purpose of this RFI/RI	The "Decisions" will be eliminated when Tables 5 1 and 5 2 are combined The text under "Data Objectives and Decisions" will be revised to clarify that the "objectives" and "RFI/RI activities" are required for decisions on whether remediation is necessary and which remedial alternatives are appropriate
S13		To be consistent with other approved OU Workplans Tables 5 1 and 5 2 could be combined	Tables 5 1 and 5 2 will be combined
S14		Section 6 0 - General Comments Maps of the individual IHSSs need to be included in the appropriate sub-section describing the sampling program for that IHSS show the planned sampling locations	Maps of individual IHSSs showing sampling locations will be included in Section 6
S15		2) DOE needs to make a commitment at some point in this section that, in all stages of the investigation, sampling will continue to the edge of any contamination anomaly, even if this is past the edge of the IHSS This is necessary to establish the extent of any contamination.	The following text will be added to Section 6 under "Sampling Rationale" During all stages of the investigation, any anomalies detected will be investigated until the anomalies are completely mapped

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S16		3) The Division believes that a comprehensive surficial soil sampling program should be developed and proposed in this workplan the HPGe survey will not work a recently paved sites	A surficial soil sampling program will be added to Section 6 Soils will be sampled during Stage 1, and the results of the metals analyses will be presented at the end of Stage 2 EG&G Nuclear Instruments Division suggested setting the HPGe instrument directly on the asphalt over the hole, and taking direct readings at each station Since each measurement will be from a confined source (area of the hole), the instrument will probably require recalibration. The text in Section 6 under "Sampling Program" will be modified to describe the use of the HPGe meter in more detail
S17		4) Related to the previous comment, it is the Divisions's opinion that an initial surficial soil sampling program should be included in Stage I	See the response above
S18		5) An HPGe survey over sites, or portions of sites, that have been paved or re-paved since storage or spillage of hazardous constituents seems pointless	See response S16 The HPGe meter can be used to measure radioactivity through holes in pavement These are point readings rather than area readings

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S19		6) The grid spacings proposed for the HPGe survey are substantially tighter than those proposed for the OU 10 Workplan Please explain the reason for the tighter grid spacing proposed in this Workplan and why the NaI survey has not been considered In addition, OU10 proposes sampling vertical soil profiles to confirm the rad surveys and expand characterization of the upper soil horizons This type of sampling should be added to the workplan	The grid spacings are based on review of the capabilities of the chosen screening technologies, particularly the HPGe detector Justification for the grid spacings selected has been provided in Subsection 6 2 1 of the Work Plan In general, the HPGe survey will be performed on 20-foot centers over unpaved portions of the partially paved areas A grid of 20-foot centers will result in approximately 90% coverage of the total surface area. Within paved portions of an IHSS the HPGe survey grid will be reduced to 10 feet to account for the limited area of detection that will result The sodium iodide survey is not needed when the HPGe survey provides sufficient coverage A sodium iodide system does not identify and quantify radionuclides as well as the HPGe Vertical soil profiles will be added to the FSAP under "Sampling Rationale" and "Sampling Program "

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S20		7) No sampling program is proposed for IHSSs 190 and 191	Text will be added to the description of IHSS 190 in Subsection 2 1 stating that the spills of sodium hydroxide are not likely to have produced any contaminants that are hazardous to human and health and environment which are detectable this long after the releases Similar text is already present in Section 2 2 Section 6 will state that no further investigation of IHSS 190 is proposed because it is unlikely that any impact would be detectable Text will be added to the description of IHSS 191 stating that hydrogen peroxide reacts with dirt to produce oxygen and water Consequently any traces of this event would have disappeared long ago Text will be added to Section 6 stating that no further investigation of this IHSS is proposed because there would be no detectable impact
S21		8) This investigation must establish all of the parameters listed as requirements for RFI/RI Reports listed in the IAG Stage III is very limited groundwater characterization.	Do not agree that Stage III is very limited groundwater characterization. See response S15
S22		9) Portions of several of the OU 13 IHSSs lie beneath buildings Since these portions of the IHSSs cannot be investigated and evaluated, they will need to be monitored until the buildings are removed	The scope of the RFI/RI Work Plan does include investigation of the extent and location of any present or past release Monitoring for purposes other than for an RFI/RI investigation is not appropriate for the RFI/RI Work Plan, and should be included in some other Rocky Flats activity

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S23		10) Thought needs to be given to the number of Stage III groundwater monitoring wells and whether the number proposed is sufficient sampling each well once will not create a statistically significant sample set from which to 1) discern the presence or absence of contamination and 2) calculate risk	The assumption given in the Work Plan on the number of groundwater monitoring wells is for scoping purposes (p 6-21) It is intended to provide a preliminary estimate of the number of monitoring wells The number cannot be known until Stages 1 and 2 have been completed This uncertainty is recognized in Section 6 2 3 which contains the following statement "The number, location, and types of sampling points required [for Stage 3] cannot be precisely defined until Stages 1 and 2 have been completed and the data collected fully evaluated " Conforming to the IAG scheduling requirements does not allow for collecting, analyzing, and validating the results of more than one sample before the risk analysis begins Therefore, one sample provides the best indication in level of contamination that is consistent with the IAG schedule for RFI/RI investigations Part of the risk assessment is evaluating uncertainty, which would include uncertainty in the level of contamination
S24		11) Sampling the paving material (concrete or asphalt present during the waste storage or spill occurrence) should be accomplished in Stage I These samples need only be analyzed for radionuclides The other contaminants, being RCRA regulated, would be judged to be present/absent based on a paving rinsate	Do not agree that samples of paving material need to be collected for chemical radionuclide analysis during Stage 1 However, the HPGe survey method will be revised to investigate radioactivity of the paving in the areas where pavement was present during spill occurrence This revision will be added to the "Sampling Program" section in the FSAP Furthermore, a limited number of paving samples will be collected and analyzed with a laboratory HPGe

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S25		12) The division believes that some sort of vadose zone characterization will be necessary within this RFI/RI We also believe that this can be coordinated with the other industrialized area OUs Lysimeters and tensiometers have been proposed in OU 10 and OU 12	The OU10 Work Plan states (Section 7 2) that tensiometer nests (or equivalent) may be installed at certain IHSSs The possibility of installing tensiometers will be added to Section 6 of the OU13 Work Plan The need for tensiometers can better be evaluated after data on soils and contamination levels and depths is available from Stage 2 The possibility of installing tensiomenters will be added to the FSAP under "Sampling Rationale " Text will be added to Section 5 to specify that the applicability of vadose zone data from the OU2 vadose study and STP vadose characterization
S26		13) Each activity and sampling methodology proposed for use in this workplan needs to have a specific section of the text describing the strategy and methodology preferred. This should be done for activities proposed in all three Stages of the investigation	A subsection on sampling equipment and procedures will be added to the FSAP in Section 6
S27		Section 6 0 - Specific Comments Section 6 0 The Division believes that the list of intended data uses and objectives of this RFI/RI listed in the second paragraph of this section should match the list of DQOs presented in Table 5 1 Table 5 1 should be revised to more closely correspond to the list presented here	Tables 5 1 and 5 2 will be combined (see the response to S13), and the resulting table will conform to the list presented in section 6

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S28		Section 6 1 2 The results of the Stage I investigation and a presentation of Stage II sampling strategy should be summarized in a Technical Memorandum presented to the regulatory agencies prior to commencing Stage II sampling	A technical memorandum to be developed at the end of Stage 1 will be added to the Work Plan in the subsections on "Sampling Rationale" and "Sampling Program " It will show the locations of boreholes to be drilled in Stage 2
S29		Section 6 2 1 1 Even though Section 2 1 1 1 indicates that there is no record of radioactive material storage at IHSS 117 1, the Division agrees that the HPGe radiological survey is prudent.	See the response to S16 Surficial soil sampling for metals in IHSS 117 1 will be added to the FSAP "Sampling Program" subsection The HPGe detector can be used over holes in pavement (see response S16)
S30		Sections 6 2 1 2 and 6 2 1 3 Previous comments regarding the HPGe survey and the need for surficial soil sampling apply to these IHSSs as well	See the response to S16
S31		Sections 6 2 1 4 and 6 2 1 5 Surficial soil sampling for metals is required in these IHSSs based on their histories presented in Sections 2 1 1 4 and 2 1 1 5	See the response to S16
S32		Section 6 2 1 6 This section is a good example of why site maps for these IHSSs are necessary	Site maps will be added to the Work Plan.
S33		Section 2 1 1 6 states that most of the contamination in this IHSS probably came from a leaking original process waste line (OPWL) Where, within the IHSS, did this line run (ie , where can we expect most of the contamination to be)? Can the sampling program concentrate on a specific suspected area?	Section 2 1 1 6 deals with IHSS 148, which includes an OPWL that came out from the south end of the east wing of the building The IHSS map in Section 6 will show sampling points in this area

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S34		Sections 6 2 1 8 and 6 2 1 9 Previous comments regarding the HPGe survey, possible metals contamination (beryllium in IHSS 157 1) and the need for surficial soil sampling apply to these IHSSs as well	See the response to S16 Surficial soil sampling will be included in the detailed sampling plans for these IHSSs given in Section 6 Beryllium will be included in the surficial soil analysis for IHSS 157 1 TAL metals will be included in the surficial soil analysis for IHSS 158
S35		Section 6 2 1 10 The discussion of this IHSS in Section 2 1 1 11 mentions an open sump in the area which has had standing water in it during several inspections The standing water has had an oily sheen It seems to the division that some sort of sampling of the sump water would be warranted for Stage 1	Sampling of the Sump will be added to activities in Stage 1 specified in the "Analytical Rationale" subsection and the detailed sampling program for this IHSS The results of the sampling will be reported at the end of Stage 2 This information may then be used in planning Stage 3 sampling
S36		Section 6 2 1 11 In the light of the possibly extensive soil contamination at this site, previous comments regarding the need for surficial soil sampling apply to this site as well	Surficial soil sampling will be specified in the "Analytical Rationale" subsection and the detailed sampling program for this IHSS
S37		Table 6 1 The format of this table needs to be changed. The applicable SOPs for each procedure would be presented on a different table and can be removed from Table 6 1 The analytical program should be presented on a different table These columns should be replaced on Table 6 1 with columns for sample location and sample purpose	We will revise the table(s) as requested The new tables will appear in the "Sampling Rationale" subsection

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S38		Figures 6-2, 6-3, 6-4, and 6-6 IHSS 117 1 and 157 1 are shown with different areal extents on these figures than was originally presented in CEARP Phase I and is currently shown in HRR Please revise these figures and ensure that the sampling programs proposed for these IHSSs investigate the proper area In addition, the areal extents of IHSSs 117 3, 128, 134(S), 158, 171, 186, and 191 presented in the HRR are different than the outlines presented on these figures Please revise these figures to reflect what is present in the HRR	The areal extents of IHSSs on figures in the Work Plan will be reviewed and revised The revised IHSS boundaries will be placed on maps throughout the Work Plan