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LETTER WITH U S AIR FORCE RESPONSE TO COMMENTS REGARDING DRAFT WORK PLANS FOR RCRA FACILITY INVESTIGATIONS AT SOLID WASTE MANAGEMENT UNITS 59 NAS FORT WORTH TX

9/29/1997

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE

402

File: 17G
A.F.

NAVAL AIR STATION
FORT WORTH JRB
CARSWELL FIELD
TEXAS

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 402

File: 17A-78
A.F.
402

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
BROOKS AIR FORCE BASE TEXAS

29 Sep 97

MEMORANDUM FOR EPA REGION VI
ATTN: MR. RAFAEL CASANOVA

FROM: HQ AFCEE/ERB
3207 North Road, Bldg 532
Brooks AFB, TX 78235-5363

SUBJECT: Respose To Comments, Draft Work Plans Dec 96, Project 96-8117A RFI of SWMU 59 WSA Contract F41624-95-D-8002/0009, Carswell AFB

1. Attached are the response to comments for subject project leading to an RCRA Facility Investigation and Corrective Measures Work Plan for the Off Site Weapons Storage Area at Carswell AFB. Please review the attached comments and respond by 9 Oct 97. This date coincides with our meeting at Carwell AFB.

2. If additional time is required or if you have any questions or comments concerning this effort please call me at (210) 536-6452.

CHARLES A. RICE
Team Chief
Base Closure Restoration Division

Atch: 1
1. Response to comments

1997 OCT -2 AM 10: 27

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ATTACHMENT B

RESPONSE TO EPA REVIEW COMMENTS ON THE DRAFT WORK PLAN, FIELD SAMPLING PLAN, AND HEALTH AND SAFETY PLAN FOR THE RCRA FACILITY INVESTIGATION (RFI) OF THE OFF-SITE WEAPONS STORAGE AREA (WSA) AT NAVAL AIR STATION (NAS) FORT WORTH, TEXAS

Item	Page	Section/ Paragraph	Comment	Response and/or Action Taken
A	1 - 4 1 - 5	1.2.2.1 1.2.2.2	For ease of reference, SWMUs 60 and 65 should be depicted in each of the figures included in the Draft RFI WP for the WSA.	Concur.
B	1 - 6	1.2.2.3	During the technical meeting conducted on June 12, 1997, USAF indicated that media samples would not be analyzed for herbicides/PCBs. Simply based on the previous presence of PCB-containing transformers, the possibility exists that PCBs could have been released to the environment. USAF should provide additional information in the Draft RFI Report for the WSA which clearly documents that herbicides/PCBs are not of concern at the WSA and that justifies the exclusion of herbicides/PCBs from the sampling program. Otherwise, EPA recommends that all samples should be analyzed as indicated in the Draft RFI WP for the WSA.	Pest PCBs will be collected at the 10% level as indicated in the draft WP.
C	1 - 7	1.2.2.5	USAF should provide the work plan for the field activities and the final report depicting the results of these activities as addenda to the Draft RFI Report for the Offsite WSA. USAF should also identify the method detection limits and regulatory levels referenced in the Draft RFI WP for the WSA.	The final report will be included as an addendum to the RFI Report. TEC will review work plan as related to information provided in the final report in order to assess the need to include both as addenda. If there is no apparent need for both, TEC will discuss with EPA.

Item	Page	Section/ Paragraph	Comment	Response and/or Action Taken
D	1 - 8	1.2.2.6	USAF should provide the work plan for the field activities and the final report depicting the results of these activities as addenda to the Draft RFI Report for the Offsite WSA. USAF should also identify the release criteria referenced in the Draft RFI WP for the WSA.	The final report will be included as an addendum to the RFI Report. TEC will review work plan as related to information provided in the final report in order to assess the need to include both as addenda. If there is no apparent need for both, TEC will discuss with EPA.
E	1 - 9	1.2.2.7	TNRCC approved "partial closure" of SWMU 60 by correspondence to USAF dated November 5, 1996. TNRCC stated that "final closure" could not be approved until USAF completed its study of background radium in ground water. This background study (Weapons Storage Area Background Study, July 1997) was received by EPA on July 10, 1997. EPA will provide comments to TNRCC on this study by October 11, 1997, as specified in AFCEE's schedule for document reviews.	Concur.
F	1 - 11	1.2.3	EPA is uncertain of the compliance status of the Soil/Debris Waste Dump, EOD Range, and SWMU 60. USAF should consult with the TNRCC for a determination of the compliance status of these areas of the WSA.	Concur.
G	2 - 4	2.2.3	USAF should provide detailed information in the Draft RFI Report for the WSA for all wells on the Offsite WSA property. This information must include detailed completion information, any stratigraphic data (e.g., cross-sections) derived from this completion information, and any analytical data available. This information is needed to completely characterize the subsurface at the WSA.	All available information will be provided. Currently no construction details for the on-site wells have been identified.
H	2 - 6	2.3	See Comment Q concerning the proposed risk assessment for the WSA.	See Response Q.

Item	Page	Section/ Paragraph	Comment	Response and/or Action Taken
I	2-14	2.5.1.1	For clarification purposes, USAF should consider the TNRCC's MSC and EPA Region 6's Human Health Media-Specific Screening Level for lead in determining the regulatory compliance of the WSA. USAF should also consider EPA's directive titled "Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities" (OSWER Directive #9355.4-12, July 14, 1994).	TNRCC's MSCs and EPA Region 6's media specific screening levels will be considered for the appropriate media. It is TEC's understanding that these regulatory and guidance levels are applicable to environmental media, not to structural surfaces. TEC will discuss the applicability of MSCs and Region 6 screening levels with EPA. EPA's Interim Soil Lead Guidance will be considered for lead in soil, not on structural surfaces.
J	2-16	2.5.2.1	EPA agrees with USAF's proposal to perform additional analyses if high levels of contamination are discovered during the activities proposed for the Draft RFI WP for the WSA. Additional analyses should be performed if the concentration of any constituent exceeds its maximum theoretical extract concentration or TCLP regulatory level when assuming 100% leachability. The following equation depicts this relationship for wastes that are 100% solid (i.e., those that contain no filterable liquid): Although slightly different calculation would apply, this same relationship can be used for dual-phase samples. For liquid wastes (i.e., those that contain less than 0.5% dry solids), the waste after filtration is defined as the TCLP extract. The purpose of the additional sampling would be to verify the toxicity characteristic of the media samples.	Concur.
K	3-2	3.3	EPA is assuming that the actual location of the "disturbed area" is southeast of the Control Fence.	Concur.

Item	Page	Section/ Paragraph	Comment	Response and/or Action Taken
L	3 - 6	3.3.2	The visual site inspection performed on July 31, 1997, revealed that the concrete slab at the WAA was initially laid in sections with approximately 1/2 inch separation between slabs. EPA believes that USAF should perform additional soil sampling in these areas for verification purposes. These sampling locations should be chosen based on any staining observed on the concrete. Cracks should not be the only reasoning for sampling beneath the concrete at the WSA.	The cracks referred to in the work plan are the 1/2 inch separation between slabs. These separations and any others potentially impacted by the storage area will be investigated.
M	3 - 1 1	3.3.7	USAF should ensure that the subsurface soil samples collected from the removed storage tank locations are not taken from fill materials applied after removal of the underground storage tanks.	Efforts will be made to ensure samples are collected beneath fill. However, it should be noted that the soil layer at the WSA is thin (~7 ft.) and that native soil beneath fill may be limited.
N	3 - 1 2	3.3.8	No surface water seeps were observed during the visual site inspection conducted on July 31, 1997, in the areas proposed for investigation during the RFI for the WSA. Since it is unlikely that surface water seeps will be encountered during the initial RFI activities, USAF should perform periodic inspections of the site, especially after significant precipitation, and sample any observed seeps as stated in the Draft RFI WP for the WSA. This scheduling of events should not substantially delay submittal of the Draft RFI Report for the WSA.	Concur.

Item	Page	Section/ Paragraph	Comment	Response and/or Action Taken
O	3-13	3.3.9	During the technical meeting held on June 12, 1997, USAF stated that the three shallow wells referenced in the Draft RFI WP for the WSA were not installed due to the presence of bedrock at approximately 5 feet below the land surface, the seasonal occurrence of ground water in the "overburden," and the limited recharge area for this zone. Based on this reasoning, USAF proposed to exclude additional overburden wells from the RFI activities for the WSA. EPA agrees with USAF's proposal and believes that the installation of these wells would not be practical for purposes of this RFI; however, consideration should be given to the language in USAF's RCRA Permit. Regulatory requirements may require installation of these wells and USAF should consult with the TNRCC for this determination.	Concur.

Item	Page	Section/ Paragraph	Comment	Response and/or Action Taken
P	3-19	3.7	USAF should consider the protocols described in EPA's guidance documents in the establishment of background for all environmental media of concern. These documents, not all inclusive, are titled "Statistical Analysis of Ground Water Monitoring Data at RCRA Facilities" (Addendum to Interim Final Guidance, June 1992), "Statistical Analysis of Ground Water Monitoring Data at RCRA Facilities" (Interim Final Guidance, April 1989, EPA/530-SW-89-026), and "Determination of Background Concentrations of Inorganics in Soils and Sediments at Hazardous Waste Sites" (December 1995, EPA/540/5-96-500). Although the document has not been approved by TNRCC, USAF should also consider USAF's "Draft Base-Wide Background Study" (January 1997) in the development of background for the WSA, if applicable. The Draft RFI Report may require amendment based on TNRCC's comments concerning this background study. For clarification purposes, the objective of the RFI is to delineate the full vertical and horizontal extent of contamination to background conditions. Therefore, it is imperative that true background conditions are established for the WSA. Simply investigating to MSCs, for example, does not account for impacts to environmental receptors or all pertinent exposure pathways applicable to NAS FW. Concluding the investigation at MSCs may not detect other areas of contamination associated with the disposal operations at the site. For deed certification, background is used to determine the boundaries of the area. EPA realizes that in some cases delineating the extent of contamination to unaffected background may not be possible or practical. USAF should discuss this issue with EPA and TNRCC if this is the case at NAS FW.	Statistical analysis of groundwater monitoring data will not be possible with the current number of wells. Additional monitoring locations and multiple sampling events would be required to analyze groundwater quality in accordance with the reference groundwater guidance documents. It is the intent of the proposed investigation to determine if contamination is present on site before proceeding with an elaborate and costly ground water monitoring program in relation to a less than 90 day storage unit. It should be noted that TNRCC regulations do not require a groundwater monitoring program for closures of less than 90 day storage units. TEC will consult EPA regarding this comment. The document entitled "Determination of Background Concentrations of Inorganics. in Soils and Sediments at Hazardous Waste Sites" is applicable and will be utilized.

Item	Page	Section/ Paragraph	Comment	Response and/or Action Taken
Q	3-20	3.8	For clarification purposes, if chemical contamination is present above any of the Media-Specific Concentrations (MSCs) specified in the TNRCC's RRS No. 2 or EPA Region 6's Human Health Media-Specific Screening Levels, a "baseline risk assessment" (BRA) will be required, unless USAF remediates to background conditions under the TNRCC's RRS No. 1. This BRA should adhere to EPA's guidance titles "Risk Assessment Guidance for Superfund" (Volume 1, Human Health Evaluation Manual [Part A], EPA/540/1-89/002, December 1989).	According to TAC 30, Chapter 335, Subchapter S, RRS No. 2 does not specify that a BRA is required if site concentrations are above MSCs or EPA Region 6 concentrations. RRS No. 2 specifies that cleanup can be performed to the MSCs developed according to procedures outlined in RRS No. 2.
Q	3-21	3.8	Why is groundwater ingestion not being considered?	Ingestion of groundwater as a potential exposure pathway will be considered in the risk assessment and will be added to the preliminary CSM.
Q	3-21	3.8	The frequency of detection should be evaluated along with the presence/absence of that contaminant in other media matrices.	Concur. Chemicals detected at less than 1 percent frequency will be evaluated for their presence in other site media before determining whether they should be eliminated from the risk assessment.

Item	Page	Section/ Paragraph	Comment	Response and/or Action Taken
Q	3-21	3.8	Chemicals with concentrations below background concentrations and their risk-based concentrations can be dropped as COCs; however, chemicals with background concentrations above risk-based concentrations should be retained as COCs. Risk attributable to naturally-occurring background can be characterized separately from site-related potential risk in the risk assessment. COCs should not be selected based on anthropogenic background. Anthropogenic background, if relevant, can be considered on a site-specific basis in the risk management decision.	We disagree with the statement that chemicals with background concentrations above risk-based concentrations should be retained as COCs. USAF should not be responsible for characterizing risks associated with naturally-occurring background levels, even if these levels are above risk-based concentrations. However, before proceeding with this action, we will consult with EPA. Anthropogenic levels will not be used to select COCs. They will, if available, be used for comparing to site concentrations to evaluate whether anthropogenic sources are responsible for site concentrations. Results from such a comparison will be discussed in the report for risk management decision purposes.

Item	Page	Section/ Paragraph	Comment	Response and/or Action Taken
Q	3-21	3.8	Page 3-21 states that target risk levels of 1×10^{-7} will be used for carcinogens. Is this statement correct? Additionally, will the risk levels consider all relevant exposure routes?	Originally the 1×10^{-7} target risk level was considered so that exposure routes not incorporated into screening levels would be generically accounted for in the decrease in risk level. However, because the EPA Region 6 media-specific screening levels (MSSLs) (which will be considered the primary screening levels) include all relevant exposure routes for groundwater and soil, target risk levels will be consistent with the Region 6 MSSL table. The MSSLs will be used as the primary screening levels because they generally appear to be more conservative than many of the TNRCC medium-specific concentrations (MSC). If a MSC is lower than the MSSL for a compound, the MSC will be used as the screening level.
Q	3-21	3.8	Total Petroleum Hydrocarbons are not considered in the risk assessment and chemical-specific data should be used instead.	As stated in Section 3.8.1, TPH will be represented by individual indicator compounds for which toxicity criteria are available. These compounds include PAHs, BTEX, etc. These compounds will be screened for COC status through the same process as the other compounds.

Item	Page	Section/ Paragraph	Comment	Response and/or Action Taken
Q	3-21	3.8	Current and future land use should be considered in setting the exposure scenarios, pathways, and routes of exposure. Deed restriction agreements are not relevant in the baseline risk assessment since they are considered risk management decisions. However, based on TNRCC Risk Reduction Rules these factors are allowed to be considered. In the event that deed restrictions are considered, these should be explicitly stated in the risk assessment.	If deed restrictions are considered in determining exposure scenarios and pathways, information regarding such restrictions will be incorporated into the risk assessment report.
Q	3-21	3.8	Potential risk to future potential workers should be considered where relevant.	As stated in Section 3.8.2 and depicted in the Conceptual Site Model (Figure 2-1), potential risk to future workers will be considered in the risk assessment.

Item	Page	Section/ Paragraph	Comment	Response and/or Action Taken
Q	3-21	3.8	Trespassers are not eliminated based on a fenced area.	The fence will be evaluated for accessibility during a site survey. If it appears that trespassers could access the site, they will be considered potential current receptors in the risk assessment
Q	3-21	3.8	In the initial concentration comparisons to risk-based levels (i.e., MSCs) in the selection of COCs, the maximum detected concentration should be considered. The UCL can then be calculated to demonstrate final attainment of a risk reduction standard.	As stated in Section 3.8.1, maximum detected site concentrations will be used in the screening of COCs. As discussed in Section 3.8.2, 95 percent UCLs will be derived for demonstrating attainment of risk reduction standards.
Q	3-24	3.8	The information presented in page 3-24 (first full paragraph, last sentence) appears too be from TNRCC's draft risk reduction program guidance which is not currently implementable.	The statement referred to in this comment, "For example, when the TDS content of the potentially contaminated groundwater is less than 3,000 ppm and no beneficial use is documented within 0.5 miles of the site, the cumulative target risk for carcinogens may be $1x10^{-5}$ for Class A and B carcinogens and $1x10^{-4}$ for Class C carcinogens" is from the Leaking Storage Tank Program's *Risk-Based Corrective Action for Leaking Storage Tank Sites* (TNRCC, January 1994).

Item	Page	Section/ Paragraph	Comment	Response and/or Action Taken
Q	3-21	3.8	No specific exposure parameter values were presented in the Draft RFI WP for the WSA. It is unclear whether this work plan will fulfill the requirements for concurrence.	Because of the time-consuming nature of compiling exposure assumptions, they were not included in the Work Plan. Assumptions used in the risk assessment will be consistent with EPA guidance (including but not limited to *Risk Assessment Guidance for Superfund Part A* [1989]; *Exposure Factors Handbook* [1992]; Standard Default *Exposure Factors Supplemental Guidance* [1991]; *Dermal Exposure Assessment* [1992]), as well as the TNRCC Risk Reduction Standards and Leaking Petroleum Storage Tank standards.
R	3-22	3.8.3	USAF should also consult EPA's most current "Health Effects Assessment Summary Tables" for additional toxicity data.	Concur.
S	4-2	4.7.2	USAF should perform the ecological risk assessment according to the protocols described in the document title "Texas Natural Resource Conservation Commission Draft Guidance for Conducting Ecological Risk Assessments under the Texas Risk Reduction Program." USAF should also consider the protocols described in EPA's "Ecological Risk Assessment Guidance for Superfund, Process for Designing and Conducting Ecological Risk Assessments" (Interim Final, EPA 540-R-97-006, June 5, 1997).	Concur. The primary resource for performing the ecological risk assessment at the WSA will be the TNRCC's guidance. The EPA interim final document referred to in EPA's comment will be consulted for additional guidance when necessary.
T	5-1	5.0	USAF provided EPA with a schedule of proposed review dates for several Base Realignment and Closure documents during the technical meeting held on June 12, 1997. It is our understanding that the Draft RFI Report and the CMS WP for the WSA are due to the TNRCC an EPA on November 5, 1997.	Every effort will be made to conform with the schedule. However, it should be noted that the earliest possible completion dates include completion of sampling on September 12, completion of analyses on October 12, completion of data validation on November 12. TEC will provide progress updates monthly.

Item	Page	Section/ Paragraph	Comment	Response and/or Action Taken
U	7 - 4	7.2	If any of the PQLs listed in Section 7.2 of the Draft QAPP for the WSA are greater than their respective background, then those PQLs shall be used as the cleanup levels under the TNRCC's RRS No. 1. If the PQL and/or the background concentration for a contaminant is greater than the cleanup level under the TNRCC's RRS No 2, the greater of the PQL or background shall be used for determining compliance under this RRS. USAF must demonstrate in both cases, in the Draft RFI Report for the WSA or other documents required by the TNRCC, that lower levels of quantitation are not possible. USAF did not provide a specific listing of the analytes to be investigated during the activities proposed in the Draft RFI WP for the WSA. It is our understanding that analytes listed under each analytical method in Section 7.2 of the Draft QAPP for the WSA will be analyzed during the RFI activities as applicable to each area under investigation.	Concur. The analytes listed in Section 7.2 of the draft QAPP will be analyzed during the RFI activities.
V	2 - 2	2.3	EPA is assuming that the EOD Range will be investigated, as stated in the Draft WP for the WSA, too determine if residual explosive related materials are present in the surface and subsurface soils.	Concur.

Item	Page	Section/ Paragraph	Comment	Response and/or Action Taken
W	5 - 7	5.6	It is our understanding that no monitoring wells will be installed for purposes of this RFI (see Comment P - Ground Water Monitoring). However, USAF must contact EPA and the TNRCC prior to planning and installation. Additionally, USAF should follow EPA's recommended procedures for the installation of "RCRA-compliant" ground water monitoring wells. EPA recommends the requirements specified in the guidance document title "Handbook of Suggested Practices for the Design and Installation of Ground-Water Monitoring Wells" (EPA/600/4-89/034, March 1991).	Concur.

Attachment C

Table C-1. Summary of Analytes with PQLs Greater Than Potential Cleanup Levels

		Water (ug/L)			Soil (mg/kg)		
Method	**Analyte**	**PQL**	**RRS MSC**	**EPA RBC**	**PQL**	**RRS MSC**	**EPA RBC**
8020A	Benzene	2	5[a]	0.4	NE	--	--
8080A	Aldrin	0.04	0.005	0.004	NE	--	--
	alpha-Benzene Hexachloride	0.03	0.0135	0.011	0.002	0.00135	0.0004[b]
	Chlordane	0.14	2[a]	0.05	NE	--	--
	Dieldrin	0.02	0.00532	0.0042	0.01	0.000532	0.001[b]
	Heptachlor Epoxide	0.83	0.2[a]	0.007	0.2	0.02	0.03[b]
	Toxaphene	2.4	3[a]	0.061	0.2	0.3	0.04[b]
	PCBs	1	0.5[a]	0.009	1	0.05	0.07
8260A	1,1-Dichloroethene	1.2	7[a]	0.5	NE	--	--
	1,2,3-Trichloropropane	3.2	219	0.0015	0.02	21.9	0.000006[b]
	1,2-Dichloroethane	0.6	5[a]	0.12	NE	--	--
	1,2-Dibromo-3-chloropropane	2.6	0.2[a]	0.048	0.01	0.02	0.00061[b]
	1,2-Dichloropropane	0.4	5[a]	0.16	NE	--	--
	1,2-Ethylene dibromide	0.6	0.05[a]	NA	NE	--	--
	Bromodichloromethane	0.8	100[a]	0.18	NE	--	--
	Carbon Tetrachloride	2.1	5[a]	0.2	NE	--	--
	Chloroform	0.3	100[a]	0.16	NE	--	--
	cis-1,2-Dichloropropene	1	NA	0.081	0.005	NA	0.001[b]
	Tetrachloroethene	1.4	5[a]	1.1	NE	--	--
	trans 1,3-Dichloropropene	1	NA	0.081	0.005	NA	0.001[b]
	Vinyl Chloride	1.1	2[a]	0.02	0.009	0.2	0.005
	1,1,2,2-Tetrachloroethane	NE	--	--	0.002	0.426	0.001[b]
8270B	1,4-Dichlorobenzene	10	75[a]	0.5	NE	--	--
	2,4-Dinitrotoluene	NE	--	--	0.7	NA	0.2[b]

Table C-1. Summary of Analytes with PQLs Greater Than Potential Cleanup Levels (Continued)

Method	Analyte	Water (ug/L) PQL	Water (ug/L) RRS MSC	Water (ug/L) EPA RBC	Soil (mg/kg) PQL	Soil (mg/kg) RRS MSC	Soil (mg/kg) EPA RBC
	2,6-Dinitrotoluene	NE	--	--	0.7	NA	0.1[b]
	2-Nitroaniline	50	NA	2.2	NE	--	--
	3,3-Dichlorobenzidine	20	NA	0.15	1.3	NA	0.01[b]
8270B	Benz(a)anthracene	10	0.117	0.092	0.7	0.877	0.6
	Benzo(a)pyrene	10	0.2	0.0092	0.7	0.0877	0.06
	Benzo(b)fluoranthene	10	0.117	0.92	NE	--	--
	Bis(2-chloroethyl)ether	10	0.0774	0.0098	0.7	0.0074	0.0003[b]
	Bis(2-chloroisopropyl)ether	10	12.2	0.27	NE	--	--
	Bis(2-ethylhexyl)phthalate	10	6	4.8	0.7	0.608	11[b]
	Chrysene	10	11.7	9.2	NE	--	--
	Dibenz(a,h)anthracene	10	0.0117	0.0092	0.7	0.0877	0.06
	Hexachlorobenzene	10	1	0.04	0.7	0.1	0.3
	Hexachlorobutadiene	10	10.9	8.6	0.7	1.09	0.1[b]
	Hexachloroethane	NE	--	--	0.7	6.08	0.2[b]
	Indeno(1,2,3-c,d)pyrene	10	0.0117	0.092	0.7	0.877	0.6
	n-Nitrosodiphenylamine	NE	--	--	0.7	NA	0.2[b]
	n-Nitrosodi-n-propylamine	10	0.0122	0.0096	0.7	0.00122	0.00002[b]
	Nitrobenzene	10	18.3	3.4	0.7	1.83	0.09[b]
	2,4,6-Trichlorophenol	10	7.74	6.1	NE	--	--
	Pentachlorophenol	50	1	0.56	3.3	0.1	0.2[b]
8330	1,3,5-Trinitrobenzene	7.3	1.83	1.8	0.25	0.183	3.3
	1,3-Dinitrobenzene	4	3.65	3.7	NE	--	--
	Nitrobenzene	7	18.3	3.4	0.26	1.83	0.09[b]
	RDX	14	NA	6.1	NE	--	--
	2,4-Dinitrotoluene	NE	--	--	0.25	NA	0.2[b]
	2,6-Dinitrotoluene	NE	--	--	0.26	NA	0.1[b]
6010A	Antimony	10	6	15	1	0.6	31
	Beryllium	3	4	0.02	0.3	0.4	0.14
	Thallium	NE	--	--	2	NA	0.4[b]

[a] MSC is the federal maximum contaminant level (MCL).
[b]Risk-based concentration based on the soil to groundwater migration pathway.
EPA RBC - EPA Region 6 risk-based concentration (EPA 1996)
MCL - Maximum contaminant level
NA - not available
NE - no exceedances, i.e., PQL below potential action levels.
PQL - practical quantitation limit, as provided in the QAPP (TEC 1996).
RRS MSC - TNRCC Risk Reduction Standards medium-specific concentration (TAC 30 Chapter 335, Subchapter S)

Attachment C

Table C-2. Summary of Metals with PQLs Greater Than Background Levels

	Water (mg/L)			Soil (mg/kg)			
		Ground	Surface				
Metal	**PQL**	**Water[a]**	**Water[a]**	**PQL**	**Surface[a]**	**Subsurface[a]**	**Sediment[a]**
Antimony	0.01	ND (0.002)	0.0031	1	0.56	0.712	0.33
Arsenic	0.01	ND (0.0049)	ND (0.0049)	NE	--	--	--
Beryllium	0.003	0.0003	ND (0.0003)	NE	--	--	--
Cadmium	0.001	ND (0.0005)	ND (0.0005)	NE	--	--	--
Lead	0.01	ND (0.0016)	ND (0.0016)	NE	--	--	--
Selenium	0.01	0.0077	0.0115	1	0.9072	0.313	0.214
Silver	0.005	0.0002	0.0003	0.45	0.213	0.1277	0.144
Zinc	0.02	0.118	0.0122	NE	--	--	--

Notes:

a Source: *Draft NAS Fort Worth JRB, Texas Basewide Background Study Volume 1* (January 1997), Jacobs Engineering Group, Inc., Denver, CO

ND - not detected

NE - no exceedances of PQL.

PQL - practical quantitation limit; from the QAPP (TEC 1996).

Border indicates that the background concentration is below the respective PQL.

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