GW - 1

WORK PLANS

GROUNDWATER TECHNOLOGY

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October 1, 1993

Mr. Greg J. Lyssy
U.S. Environmental Protection Agency, Region 6
RCRA Technical Enforcement
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: RCRA FACILITY INVESTIGATION
DRAFT WORK PLAN
Bloomfield Refining Company
#50 County Road 4990
Bloomfield, New Mexico 87413

Administrative Order On Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

Enclosed are three (3) copies of the referenced document revised pursuant to the comments from the United States Environmental Protection Agency (USEPA) dated August 27, 1993. These revised pages have been incorporated into the work plan. Additionally, please find written responses to each of the 27 comments received on August 27, 1993.

Bloomfield Refining Company (BRC) will schedule implementation upon receipt of written approval of the revised RFI workplan. Should you have any questions regarding this matter, please do not hesitate to contact me at (505) 242-3113 or Chris Hawley of BRC at (505) 632-8013.

Sincerely,

Groundwater Technology, Inc.

Cymantha Diaz Liakos

Cymantha Diaz Liakos
Project Manager

Enclosure
cc: Chris Hawley - BRC
Joe Warr - BRC
Dave Roderick - BRC
Roger Anderson - NM-OCD
Ed Horst - NMED

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RESPONSE TO
USEPA'S AUGUST 27, 1993 COMMENTS
RFI DRAFT FACILITY WORKPLAN
BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO

Listed below are responses to the 27 comments made by USEPA Region 6 to Bloomfield Refining Company (BRC) on August 27, 1993. Each comment is repeated and followed by the response.

#1 Section 1.0, Introduction page 2

The workplan contains a discussion of the Project Management Plan, Data Collection Quality assurance Plan, Data Management Plan, and Health and Safety Plan. It does not contain a description of the Community Relations Plan (CRP). A discussion of the CRP should be added.

Response:
The Community Relations Plan is now mentioned in section 1 (Introduction). Section 5 of the RFI Workplan contains the Community Relations Plan.

#2. Section 1.1, Facility Description, page 2

The workplan lists eleven products which are produced at the facility. The workplan should ensure that all of the constituents from the produced products are analyzed for in the proposed sample analysis.

Response:

The dominant constituents present in these products are BTEX and naphthas which are included in the methods 8240 and 8270 constituent lists.

#3. Section 1.3, Hazardous Waste Activity, page 5

The workplan states "in response to a RCRA 3008(a) Order, BRC prepared a closure plan for the NOWP, SOWP, Landfill, and Landfill pond which included soil sample data from these areas supporting closure. The purpose of the closure plan was to make (moot) the issue as to whether or not these units were RCRA-regulated." BRC shall provide the rationale and any supporting documentation to support that statement.

Response:

The workplan has been modified to reflect the requests of the comment. The subject paragraph is as follows:

In March 1985, the USEPA issued a RCRA 3013 Administrative Order (as a result of several agency inspections in the 1981 to 1984 period) identifying alleged violations and /or technical deficiencies and directing BRC to complete an investigation of geologic and hydrogeologic site conditions. A RCRA 3008(a) Compliance Order was issued to BRC one month later. BRC conducted several subsurface investigations at the site to satisfy USEPA and New Mexico Oil Conservation Division (NMOCD) directives. In response to a RCRA 3008A Order, BRC prepared plans, submitted the plans for review and implemented the closure plan for the NOWP, SOWP, Landfill, and Landfill Pond. Additionally, BRC has subjected the waste from the Landfill (originally excavated from the SOWP and NOWP) to a delisting petition (April 1991).

#4. Section 1.4 Areas and Hazardous Waste Constituents of Concern, page 8

The workplan states that the entire site will be considered as one Corrective Action Management Unit (CAMU) for remediation. This statement must be clarified or deleted. In order to utilize the CAMU provisions as part of the Order, the facility will be required to meet the requirements of 40 CFR 264.552 and 40 CFR 264.553. BRC must request the use of CAMU at the appropriate time, and if all of the referenced requirements are met, the facility will be allowed to use CAMU (s) for management of remediation wastes pursuant to implementing corrective action requirements at the facility.

Response:

The sentence has been modified as follows:

As discussed in the Task I report, BRC's approach to the investigation treats the entire site as one SWMU. Likewise, based upon the present knowledge of site conditions and the anticipated filling of data gaps, BRC anticipates Corrective Actions will be performed on a site-wide basis in a manner consistent with Corrective Action Management Unit (CAMU) regulations.

#5 Section 1.4, Areas and Hazardous Waste Constituents of Concern, page 8

The workplan states that groundwater plume delineation will be useful for design of the corrective measures for the site and for the development of the groundwater monitoring program. This statement must be revised to reflect the actual requirements of an RFI. The RFI workplan must provide the rationale necessary to determine if a release has occurred to the environment in any media. If a release has occurred, then the complete horizontal and vertical extent of contamination must be determined.

Response:

The subject sentence has been modified as follows:

Additional groundwater investigation will be conducted in order to fully delineate the nature and extent of impairment and obtain data required for corrective measures. Further, data collected during the investigation will be useful in development of the groundwater monitoring program.

#6. Section 1.4, Areas and Hazardous Waste Constituents of Concern, page 8

There is missing language between page 8 and page 9. The missing language should be added.

Response:

The missing language is now located on page 8.

#7 Section 1.4, Areas and Hazardous Waste Constituents of Concern, page 9

The workplan states that selected soil samples will be collected during the soil vapor survey for laboratory analysis of VOCs. It is understood that the soil gas survey will be utilized for determining VOC concentrations in the soil gas. However, soil samples collected as part of this phase should be analyzed for the required Appendix IX constituents. BRC shall provide the rationale for analyzing the soil samples for VOCs.

Response:

Soil samples will not be collected for VOC analysis during the soil vapor survey. Accordingly, pages 9 , 11 and 33 of the text have been changed. The soil sampling and laboratory analysis has been dropped because of the potential for confusion that may result when reviewer's compare the soil gas analytical results (derived from analysis of air in pore spaces) with laboratory soil analytical results (obtained using laboratory purging procedures in accordance with SW-846). Further, the intent of the soil gas survey will not be diminished by eliminating these ten samples. The objective of the survey is: to identify areas of contaminant impact and delineate contaminated zones, to identify and map their areal distribution across the site, and to determine the optimum locations for borings and monitoring wells. All of these objectives can be achieved without the analysis of ten soil samples for VOCs.

#8 Section 1.4, Areas and Hazardous Waste Constituents of Concern, page 9

The workplan states that the entire site will be considered as one Corrective Action Management Unit (CAMU) for remediation. This statement must be clarified or deleted. In order utilize the CAMU provisions as part of the Order, the facility will be required to meet the requirements of 40 CFR 264.552 and 40 CFR 264.553. BRC must request the use of CAMU at the appropriate time, and if all of the referenced requirements are met, the facility will be allowed to use CAMU(s) for management of remediation wastes pursuant to implementing corrective action requirements at the facility.

Response:

This is a repeat of comment #4 which has been addressed above.

#9 Section 1.5, Data Acquisition Objectives, Phase I page 11

The workplan does not propose to place any soil vapor survey points along the Hammond Ditch area. Additional sampling locations are needed to provide information on the possible plume migration towards the San Juan River. As discussed in our meeting on August 9, 1993, additional soil vapor survey locations shall be added near Hammond Ditch and between Hammond Ditch and the San Juan River.

Response:

The text on page 11 has been revised to reflect the comment:

Four additional soil vapor survey points will be installed between Hammond Ditch and the San Juan River. These points will be installed in the area of the seep. The locations (approximate) are presented in Figure 2.

#10 Section 1.5, Data Acquisition Objectives, Phase I, page 11

The workplan states that only ten soil samples will be collected during the soils gas survey. Provide the rationale and justifications for collecting only ten soil samples during the soil gas survey.

Response:

Soil sample collection and analysis has been deleted from the soil vapor survey task and pages 9, 11 and 33 reflect the change. As explained in comment #7, the elimination of laboratory soil analysis during this task will not diminish the objectives of the soil vapor survey.

#11 Section 1.5, Data Acquisition Objectives, Phase II, page 11

The workplan states that three soil samples will be analyzed for physical parameter testing. Due to the size of the facility, additional samples may be required to characterize the lithologic conditions across the site. Provide the rationale and justification for selecting only three soil samples.

Response:

During the last 10 years, several investigations have been conducted at the site. These investigations have involved the installation of soil borings and monitoring wells at locations across the site. Logs of these borings indicate uniform lithologic sequences across the site. Therefore, collection and analysis of three (3) additional samples for physical parameters combined with existing data will provide adequate definition of the site's physical characteristics.

#12 Section 1.5, Data Acquisition Objectives, page 12

The workplan states that stream sediment and surface water samples will be collected during low flow conditions. The workplan does not provide the number of samples that will be collected, or their prospective location. This information must be provided.

Response:

A total of 17 sediment and 17 surface water samples will be collected during the investigation. Three sediment and three surface water samples will be collected from the San Juan River while 14 surface water and sediment samples will be collected from Hammond Ditch. Page 12, Figure 2 and subsections 3.2.5 and 3.2.6 have been revised in response to the comment. The samples will be spaced at approximately 500 foot intervals, however, sample density will increase in the area of the seep.

#13 Section 2.1, Technical Approach page 13

The workplan states "the objectives of the RFI are to investigate the sources of contamination and determine the nature and extent of contamination." It should be noted that the purpose of the RFI is to characterize the site and fully delineate, both horizontally and vertically, the complete extent of contamination.

Response:

The text in question has been revised as requested in the comment. The text now reads as follows:

The objectives of the RFI are to characterize the site, delineate both horizontally and vertically the extent of contamination and obtain information necessary to evaluate and design corrective measures that will reduce environmental contamination to levels that pose minimum threats to human health and the environment as appropriate for the site.

#14 Section 2.1.1, Phase I: Soil Vapor Survey/Soil Sampling, page 14

The detection limits listed for the soil gas survey are in the low part per trillion (ppt) range using an FID detector. The detection limits appear to be too low for an FID. The numbers should be revised to reflect actual detection limits.

Response:

The detection limits listed on page 14 are accurate for water using a FID, according to Tracer Research Corp. These limits are noted to be "typical". Practical quantification limits may be higher depending on matrix effects.

#15 Section 2.1.1., Phase I: Soil Vapor Survey/Soil Sampling, page 15

The workplan states that soil samples will be collected during the soil vapor survey for laboratory analysis of VOCs. It is understood that the soil gas survey will be utilized for determining VOC concentrations in soil gas. However, soil samples collected as part of this phase should be analyzed for the required Appendix IX constituents. BRC shall provide the rationale of only analyzing the soil samples for VOCs. The workplan states that only ten soil samples will be collected during the soil gas survey. Provide the rationale and justification for collecting only soil samples from only 10 percent of the sampling locations during the soil gas survey.

Response:

Please refer to the response for comment #7.

#16 Section 2.1.2., Phase II: Soil Borings/Soil Sampling and Analysis, page 16

The workplan states that three soil samples will be analyzed for physical parameter testing. Due to the size of the facility, additional samples may be required to characterize the lithologic conditions across the site. Provide the rationale and justification for selecting only three soil samples.

Response:

Please refer to the response for comment # 11.

#17 Section 2.1.3., Phase III: Groundwater Monitoring Well Installations, page 17

Specific information on the ground water monitoring wells, including screen length is not presented in the workplan. The specific information must be provided. It is recommended that screen lengths not exceed ten feet. Additional information on the design and appropriateness of fiberglass reinforced well casing and screen should also be provided. Soil cuttings shall be disposed of in accordance with all applicable Federal and State regulations.

Response:

The comment requires multiple responses. Subsection 3.2.3.1 provides details concerning well construction materials. This section has been modified for clarity in response to the comment.

Screen Length Subsection 3.2.3.1 provides the details of well construction. Screen lengths will be 15 feet. Previous experience has determined that a 15 feet screen section is adequate to intersect the entire saturated zone and provide sufficient length for fluctuation of the water table. The screens will intersect the water table so that NAPLs (if present) can be measured. Therefore, given the seasonal fluctuation of the water table, a screen longer than 10 feet will be necessary.

Fiberglass Reinforced Epoxy (FRE) Well Material FRE well materials are light-weight, strong and corrosion-resistant. Further, the materials are resistant to petroleum products (in fact they are often used for underground storage tanks and piping). FRE is stronger and more resistant to chemical attack than polyvinylchloride (PVC) well materials commonly used for well construction.

Soil Disposal Page 38 of the workplan has been modified to reflect this comment.

#18 Section 2.1.2., Phase III: Groundwater Monitoring Well Installations, page 18

The workplan states that two groundwater samples will be analyzed for water quality parameters. BRC must provide the justification and rationale for only analyzing two samples for water quality parameters.

Response:

Water quality parameters have been tested many times during the course of investigations at the BRC site. Two additional samples for comprehensive water quality parameter analyses will be sufficient to provide current data to use in concert with existing data.

The paragraph in the text of the workplan has been revised to reflect this comment as follows:

Select groundwater samples (maximum of two) will also be analyzed for water quality parameters (including pH, temperature, dissolved oxygen, total dissolved solids, total organic carbon, alkalinity, hardness, and specific cations [e.g., iron, manganese]). The samples will be collected from wells in areas (if any) which might require corrective measures. These parameters provide valuable design information (such as the potential for scaling which is a known phenomenon at the site) that must be accounted for in any corrective measure.

Further, pH, temperature and specific conductance will be measured at the well head during sample collection activities.

#19 Section 2.1.4., Phase IV: Field Studies, page 21

The workplan states that six vapor samples will be collected during the pilot air sparging test, three during the vapor extraction test, and three during the air sparge test. Given the variables involved during air sparging, additional samples will probably be required. BRC should be prepared to modify the frequency of sample testing during the pilot tests.

Response:

The collection and laboratory analysis of six (6) soil samples will provide adequate information for construction and permitting of an AS/SVE system. In addition, several measurements of soil vapors will be performed (in the field) during testing activities.

#20 Section 3.2.3.1., Well Materials, page 40

The workplan states that 20-foot, 0.020-inch slotted screen and global No. 5 silica sand filter material will be used for installation of the groundwater monitoring wells. In the next paragraph, the workplan states that 0.036-inch slotted screen will be utilized. It is recommended that at screen length be limited to ten feet in length. The screen slot size and filter material should be based upon aquifer characteristics. It is recommended that sieve tests be conducted in the field to determine the appropriate monitoring well design specifics. The discrepancy between slot sizes must be clarified.

Response:

The referenced text on page 40 has been revised to reflect the comment.

#21 Section 3.4.2., Ground Water Sampling Procedure, page 43

The Workplan states that ground water samples will be collected for laboratory analysis when temperature, pH and conductivity have stabilized, or when three well volumes have been removed from the well, whichever comes first. If the parameter measurements have not stabilized after three well volumes have been purged, additional amounts of water must be purged. The intent of the groundwater sampling is to provide representative results of the ground water conditions. It is important that the parameters have stabilized prior to collecting samples. BRC must clarify the statement.

Response:

The subject paragraph has been revised as follows:

During purging, measurements will be made periodically of pH and temperature using a Cole-Parmer Model 5985-80 Digi-Sense pH meter while specific conductance will be measured using a YSI 33 S-C-T Meter. Minimum of three standing well volumes will be purged prior to sampling. During purging, measurements of pH, temperature and specific conductance will be collected. Purging beyond three standing volumes will proceed until stabilization of these parameters has occurred. Stabilization will be reached when three consecutive measurements of pH, temperature and specific conductance are within 10 percent.

#22 Section 3.2.4.2., Ground Water Sampling Procedures, page 43

The workplan states that a submersible pump may be used to collect ground water samples. Due to the turbulence that a submersible pump creates, a submersible pump shall not be used to collect samples in ground water monitoring wells.

Response:

The paragraph has been revised to reflect this comment as follows:

Groundwater samples will be collected using dedicated, disposable bailers and monofiliment cord or a pneumatic driven bladder pump (stainless). If the pump is used for sampling and/or purging, it will be operated in a continuous manner during purging and sampling. While sampling for volatile constituents, the pumping rate will not exceed 100 milliliters per minute. Sampling equipment will be decontaminated between uses by scrubbing with an Alconox solution followed by rinses with tap water and distilled-deionized water. All purged water and decontamination solutions will be containerized and placed in BRC's oil/water separator for treatment.

#23 Section 3.2.4.2., Ground Water Sampling Procedures, page 44

The Workplan states that samples collected for metals analysis will be filtered in the field. The metals samples should be analyzed for total metals content, not just the dissolved portion. Therefore, samples for metals analysis shall not be filtered.

Response:

The metals aliquot of the sample will not be field filtered. The subject text has been modified to reflect this comment.

#24 Section 3.2.5.2., Sampling Procedures, page 47

The workplan states that samples collected for metals analysis will be filtered in the field. The metals samples should be analyzed for total metals content, not just the dissolved portion. Therefore, samples for metals analysis shall not be field filtered.

Response:

The metals aliquot of the sample will not be field filtered. The subject text has been modified to reflect this comment.

#25 Section 3.2.5.3., Sample Containers and Preservation, Table 5, page 49

The workplan states that BNAs should be preserved with HNO_3 to a pH <2.0. SW-846 states that BNAs are not preserved with HNO_3 but merely cooled to 4°C.

Response:

The subject table has been modified to reflect this comment.

#26 Section 5.5, Fact Sheet and Public Meeting, page 70

The workplan states "a public meeting will be held upon request from a number of citizens or if EPA and BRC deem a public meeting is appropriate based upon public concern and misunderstandings." This sentence should be deleted. Upon completion of the CMS report, EPA will review the information and develop a Statement of Basis. A public meeting will be held, if determined by EPA to be necessary, to inform the public of the proposed remedy that will be implemented at the facility. EPA will conduct the meeting.

Response:

The subject paragraph has been revised to reflect the comment as follows:

A public meeting will be held upon request from a number of citizens or if USEPA deems a public meeting appropriate based on public concern and misunderstandings. The objective of a public meeting is to give the public the opportunity to discuss the corrective measures with USEPA, and for USEPA to further describe and explain the remediation technologies that were evaluated. USEPA will lead the public meeting effort, identifying the location, date, notice of the meeting, agenda, and written summary.

#27 Appendix D, Section 9.0, Analytical Procedures, pages 26-29

The detection limits listed for the various constituents are different from the PQL's listed in SW-846. These numbers should be corrected.

Response:

The laboratory's Quality Assurance Project Plan has been revised in accordance with the comment.