

## Parsons' Comments to DQOs March 2002

### Reviewers:

Katherine LaPierre, Karuna Mirchandani, Scott Pearson, Kimberly Riley, Susan Roberts, Brian Vanderglas

Page	Section	Comments or Suggested Revisions
1	Step 1. State the Problem, paragraph 2.	Based on the present knowledge (February 2002), there are two VOC plumes. CSSA has identified VOCs <u>at detectable levels</u> in on- and off-post drinking water and monitoring wells. <del>that</del> <u>These levels</u> are above and below the maximum contaminant levels for the VOCs of concern.
1	Step 1. State the Problem, paragraph 3.	<del>CSSA has not identified metals consistently across the installation; therefore it is not considered a COC for off post drinking water.</del> <u>Metals have not been consistently detected in on-post wells, nor have significant levels been identified in surface soils in the vicinity of Plume 1 or Plume 2, and therefore, metals have not been included as a COC for off-post groundwater.</u> Metals and TPH require further investigations at selected sites, and if present in soils at excessive levels, may need to be evaluated as <u>a potential threat to groundwater.</u>
1	The Planning Team	<i>Please add Ms. Susan Roberts, Client Service Manager, Parsons.</i>
2	Step 2. Identify the Decisions, 1)	<del>Establish that</del> <u>Determine whether</u> on- and off-post drinking water meets . . .
2	Step 2. Identify the Decision, 3)	<i>This decision would be more appropriate for inclusion with DQOs that address the TO 0058 treatability study and removal actions. There are no inputs or study boundaries mentioned in the remainder of the DQO document to respond to this decision statement. If Screening Level Samples discussed on page 8 refer to this decision, perhaps that should be clarified.</i>
2	Step 2. Identify the Decision, 4)	Determine if additional off-post drinking water well locations need to be sampled (TO 0042), <u>and if so, identify the most appropriate well locations to monitor the status of the plume.</u>
2	Step 2. Identify the Decision, 5)	<del>Determine</del> <u>Select</u> proper placement of future monitoring wells . . . <i>Again, this decision appears to address specific TO 0058 treatability study data</i>

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		<i>(geophysical survey data) that is not addressed in this DQO document.</i>
2	Step 2. Identify the Decision, 8)	Determine the effectiveness of the GAC units at public and private off-post wells, <u>and determine if CSSA must provide additional GAC units for treatment of the private or public water well supply as specified in CSSA's Off-post Monitoring Response Plan. (TO 0042).</u>
2	Step 2. Identify the Decision, 9)	<u>Determine whether groundwater sampling should be expanded or reduced for wells on- and off-post based on recently collected and historical data.</u>
2	Step 2. Identify the Decision, 10)	<u>Modify the VOC analyte list from all analytes to a reduced list long to short at all wells and reduce sampling frequency on selected wells based on historical test data.</u>
2	Step 2. Identify the Decision, 11)	<u>Determine whether Reduce- metals analyte list analysis in our on-post monitoring events should be continued and whether the metals testing frequency and/or the metals analyte list to detected chemicals of concern and reduce sampling should be reduced.</u>
2	Step 2. Identify the Decision, 12 and 13	<i>Insert two additional decisions:</i> 12) Determine which VOCs should be retained as primary contaminants of concern (COCs) and held to a 100% completeness requirement. 13) Identify data gaps in groundwater monitoring program.
2	Step 2. Alternative Decisions 1)	No action <u>(No additional groundwater monitoring required).</u>
2	Step 2. Alternative Decisions 2)	<del>Modify</del> <u>Should CSSA's Off-post Monitoring Response Plan be modified?</u>
2	Step 2. Alternative Decisions 3)	<del>Establish</del> <u>Determine if monitored natural attenuation is a viable remediation or response action alternative for reducing contaminant levels in existing plumes to acceptable levels within an acceptable timeframe.</u>
3	Step 3. Identify Inputs, 1)	<del>Evaluate</del> <u>Identify wells for which a reduction of analytes to short list for future events is appropriate and seek obtain approval from regulators to reduce the analyte list. (TO</u>

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		<p>0042 and DO5084). Insert a new Input number 2) to separate the TNRCC input:</p> <p>2) TNRCC collects VOC samples every three years per the State rules from drinking water wells. The TNRCC collects split samples from off-post well locations periodically. <i>(Re-number remaining list)</i></p>
3	Step 3. Identify Inputs, 3)	<i>Note: Sampling of off-post wells is not currently in the TO 0042 scope of work. DO5084 will fund off-post sampling for one more quarter (June 2002).</i>
3	Step 3. Identify Inputs, 3), (2) Public wells	<b>Public wells</b> LS-2 and LS-3 require GAC maintenance be performed every 470 days ( <u>18 months</u> ). . . . Also at a minimum, <u>post-GAC</u> confirmation samples will be collected every six months.
3	Step 3. Identify Inputs, 3), b) (1) (a)	If VOC contaminant levels are greater than 90% of the MCL <u>based on preliminary data received from the laboratory</u> (4.5 ppb for PCE and TCE) and the well is used as a potable water source, bottled water will be supplied within 24 hours <u>of receipt of the data and a A</u> -confirmation sample will be collected from the well.
3	Step 3. Identify Inputs, 3), b) (1) (b)	If VOC contaminant levels are greater than 80% of the MCL <u>during any single monitoring event based on preliminary data from the laboratory</u> (4.0 ppb for PCE and TCE) and the well is used as a potable water source, it shall be monitored monthly. <i>Also, we need to indicate here how many monthly sampling events with results below 80% of the MCL will be required prior to reducing the frequency of the sampling from quarterly to monthly.</i> <i>Under which DO/TO is this continued monthly sampling going to continue? RL 83 has been modified to cover additional laboratory costs, but TO 42 has not been modified to cover off-post events.</i>
3-4	Step 3. Identify Inputs, 3), b) (1) (c)	If any VOC contaminant of concern (COC) is detected at levels greater than the Method Detection Limit (MDL) <u>and less than 80% of the MCL</u> . . . . <del>This sampling will be completed in concert</del> <u>conducted concurrently</u> . . . .

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		<i>Note: Include with the statement that quarterly sampling will continue for one year the criteria that will be used to remove a well from future quarterly events. Two, three or four consecutive events at non-detectable levels?</i>
4	Step 3. Identify Inputs, 3), b) (1) (e)	When <b>off-post public supply systems</b> are <u>adversely impacted</u> " <i>We need to define adversely impacted more clearly. A detection greater than 80% MCL?</i> <i>Insert "Possible options include:" prior to numbered list.</i>
4	Step 3. Identify Inputs, 3), c) Sampling Regime	The following <b>public and private off-post drinking water wells</b> have had VOC detections and will be sampled at least quarterly <u>for the full list of VOCs</u> through September 2002:
4	Step 3. Identify Inputs, 3), c) Sampling Regime 2)	Locations of new wells to be sampled will be based on the inferred <u>delineation flow direction</u> of the off-post VOC plume . . .
4	Step 3. Identify Inputs, 4) On post monitoring wells, a)	A newly installed monitoring well will be sampled for the full list of VOCs, <u>the nine CSSA metals and selected groundwater quality parameters.</u>
4-5	Step 3. Identify Inputs, 4) On post monitoring wells, b) and c)	<i>In these two items, well CS-3 is indicated. Should this be well CS-2? Well CS-3 has not been sampled since December 1999. For item c) it is not clear why these two wells were selected for periodic monitoring. What will drive the decision to sample? "Periodic" is a somewhat arbitrary term.</i>
5	Step 3. Identify Inputs, 5)	Other factors contributing to removal or inclusion of a well from the monitoring schedule include: proximity of "sentry" well to public/private production wells, <u>construction detail, location of well relative to other nearby wells,</u> and value of the well to the overall program.
5	Step 3. Identify Inputs, 6)	As TO 0042 and TO 0058 work progresses, impacts from the open boreholes and faults to the CSSA gradient picture should be illuminated and included in production of

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		<p><u>potentiometric maps.</u> Once the impacts of these factors become clear, more effective <u>evaluations-accurate interpretations</u> of the various gradients can be performed.</p>
5	Step 3. Identify Inputs, 7) New monitoring wells, b)	<p>The rationale for placement of these wells is <del>beside the well name</del> <u>included on the attached table.</u>  <i>Note: It appears that the attached table has one additional well and one additional well upgrade than is available in the TO 0042 scope of work.</i></p>
5	Step 3. Identify Inputs, 7) New monitoring wells, c)	<p>Wells <del>where necessary</del> will be installed as two and three well clusters. A cluster includes two or three wells located within proximity to each other (~30 feet) and completed in the <del>various different</del> formations being studied (i.e. Lower Glen Rose, Bexar Shale and Cow Creek). This will <del>aid in determining</del> <u>allow evaluation of VOC contaminants in that each cluster location and provide data for determining possible impacts to each the aquifer formation being sampled.</u>  <i>Note: How is the determination made to install a well as either a two or a three well cluster? Is this rationale mentioned/covered?</i></p>
5	Step 3. Identify Inputs, 7) New monitoring wells, d)	<p>Therefore, as a general rule <del>we will not take soil/rock samples will not be collected for testing during this subsequent well installations at CSSA project.</del> However, if a PID reading, discoloration, or an odor indicates potential contamination then <del>a sample will be taken</del> <u>the supervising geologist may decide to collect a sample for VOC testing to determine the type(s) of contaminants present and whether concentrations are indicative of free-phase deposits.</u></p>
5	Step 3. Identify Inputs, 7) New monitoring wells, f)	<p>Coring at each well site has provided a wealth of information and helped correlate data from electrical geophysical logging. <u>Detailed logging of well cores will be continued in at least one well per cluster.</u> <del>Information such as aquifer unit, fractures, and resistivity is very necessary, and photographing labeled core boxes has eased data review</del></p>
5	Step 3. Identify Inputs, 7) New monitoring wells, g)	<p><u>At a minimum,</u> camera surveys will be performed at the locations where Westbay<sup>®</sup> devices are to be installed <u>to help identify appropriate intervals for placement of Westbay<sup>®</sup> sampling devices.</u></p>

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6	Step 3. Identify Inputs, 7) New monitoring wells, h)	<p><del>Geophysical logging is very necessary to gain the additional knowledge gained from the tool. Past experience at CSSA has shown that borehole geophysical logging is a valuable tool for confirming subtle lithologic changes, comparison of cross-borehole characteristics (stratigraphy), and even inferring fault planes. Resistivity, spontaneous potential (SP), gamma ray, and caliper logging shall be collected with this tool from each new borehole. This data will complement the borehole coring and previous surveys will be evaluated to compare apparent similarities and differences of stratigraphy and geophysical properties between well locations and depth profiles.</del></p>
6	Step 3. Identify Inputs, 7) New monitoring wells, i)	<p>Based on previous sampling results, it has been determined that all wells installed under TO 0042 <u>should will</u> require single cased completions only. <i>Note: MW16-CC needs casing due to contaminant levels. Discuss casings at MW1 and MW2 cluster wells to avoid creating a pathway for this contamination down into the Cow Creek.</i></p>
6	Step 3. Identify Inputs, 7) New monitoring wells, j)	<p><i>Note: It appears that this section calls for 14 (with the option of 16) transducers with telemetry. These units are not provided for in the scope of work. Eleven standard dataloggers/transducers are scoped. Is the reference to "two additional units" referring to transducer and telemetry at one well as a unit? Existing CSSA transducers do not provide conductivity, nor do the transducers included in the proposal SOW. Add the sentence "Telemetry will be employed at these wells to provide up to date data on demand." What is the primary purpose of the data? Do we need to add a decision statement to ask the question that this input (data) will be used to answer?</i></p>
6	Step 3. Identify Inputs, 7) New monitoring wells, l)	<p><i>What types of data or inputs are being listed here? What types of input are required to establish the study area boundaries? Should development of the CSM be listed as a decision statement in Step 2?</i></p>
6	Step 3. Identify	<p><del>We need to identify data gaps for the groundwater monitoring program both on and</del></p>

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	Inputs, 7) New monitoring wells, m)	<p><del>off-post.</del>—Data gaps will be identified in the CSM and all future updates to that <u>document</u>.</p> <p><i>The statement to "Identify the data gaps" was moved to the Identify the Decisions section. This may need to be elaborated. The input responsive to this decision would be the CSM and future updates.</i></p>
6	Step 3. Identify Inputs, 8) Metals, a)	<p>Prior to the June 2002 sampling event, a review will be conducted to determine <u>appropriate</u> frequency and analytes of concern for future sampling events (i.e. quarterly, semi-annually, or annually). Upon completion of the review, our findings and <u>recommendations for future testing</u> will be forwarded to EPA and TNRCC for concurrence.</p> <p><i>Note: This duplicates step 3, number 2 (page 3)</i></p>
7	Step 4. Define Study Boundaries, para. 2	<p>At a minimum the following factors will be evaluated:</p> <ol style="list-style-type: none"> <li>1) Wet and dry seasonal variations;</li> <li>2) <u>Rainfall impacts on plume or potential plume migration and groundwater recharge;</u></li> <li>3) Remediation alternatives (<u>P&amp;T containment</u>, SVE, MNA); and</li> <li>4) Fault and fracture <u>location and size</u>, and orientation from geophysical surveys that promote or retard plume migration.</li> </ol>
7	Step 4. Define Study Boundaries, para. 3	<p>CSSA will continue to monitor wells for the foreseeable future <u>to make technically sound judgments in the following areas:</u></p> <ol style="list-style-type: none"> <li>1) Decisions to sample additional wells or exclude them from our sampling set will be determined and evaluated quarterly;</li> <li>2) All data collected during the previous year, as well as historical trends will be <u>reviewed</u> annually; and</li> <li>3) Throughout the entire process, data gaps will be identified. As <u>data gaps surface</u> a list will be compiled for periodic review, <u>at least during the annual historical data review.</u></li> </ol>

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		<p><i>Note: Item 2) is extremely broad, i.e., In what context will the data be reviewed annually. What type of format is planned for the review? Will decisions be made following review? What specifically will be covered by the review?</i></p>
7	Step 4. Define Study Boundaries, last paragraph on page	<p><del>All</del><i>The following schedule constraints <del>dates</del> referenced in the project schedule provided below are calendar (not working) days.</i></p>
8	4. Define Study Boundaries, Drinking Water Samples, 1)	<p><i>The sentence stating, "Drinking water analytical data is to be provided by the laboratory to the prime contractor within 21 days of the sampling event." needs additional clarification. Parsons suggests the following:</i></p> <p>Draft Off-post drinking water analytical data generated by APPL Labs (March 2002 and June 2002) will be provided by APPL in 21 calendar days and distributed to CSSA immediately thereafter. The laboratory will provide the final hard copy of the analytical data in 30 calendar days.</p> <p>Off-post drinking water analytical data generated by Severn &amp; Trent Labs: (September 2002 &amp; onward) will be provided by STL in 21 calendar days and distributed to CSSA immediately thereafter.</p> <p>On-post drinking water analytical data generated by Severn &amp; Trent Labs (March 2002 and onward) will be provided by STL in 21 calendar days and distributed to CSSA immediately thereafter.</p>
8	4. Define Study Boundaries, Drinking Water Samples, 2)	<p><i>The sentence stating, "Validated drinking water data, the draft Drinking Water Quarterly Groundwater Monitoring Report (including all off &amp; on-post drinking water wells) and letters to off-post well owners will be provided to the government after 45 days of the sample date." needs additional clarification. Parsons suggests the following:</i></p>

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		<p>Off-post analytical data - For up to 30 samples collected, data packages will be validated and submitted to AFCEE for approval within 30 calendar days of receipt of the data packages from the laboratory. If more than 30 samples are collected, Parsons will contact Brian Murphy and discuss acceptable turn-around times for data validation.</p> <p>On-post analytical data - For up to 40 samples collected, data packages will be validated and submitted to AFCEE for approval in 40 calendar days of receipt of the data packages from the laboratory. If more than 40 samples are collected, Parsons will contact Brian Murphy and discuss acceptable turn-around times for data validation.</p> <p>Draft On and Off-post Monitoring Reports and draft letters to well owners can be provided to CSSA 65 calendar days following the sample date using preliminary data that may not have AFCEE approval.</p> <p>Final On and Off-post Monitoring Reports and draft letters to well owners can be provided to CSSA 85 calendar days following the sample date.</p>
8	4. Define Study Boundaries, Monitoring Well Samples, 1)	<p><i>For additional clarification to the laboratory turnaround time Parsons suggests the following:</i></p> <p>On-post monitoring well data generated by Severn &amp; Trent Labs (March 2002 and onward) will be provided by STL within 21 calendar days and distributed to CSSA immediately thereafter.</p>
8	4. Define Study Boundaries, Monitoring Well Samples, 2)	<p><i>As indicated above for drinking water samples, Parsons suggests including the following:</i></p> <p>On-post analytical data - For up to 40 samples collected, data packages will be</p>

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		<p>validated and submitted to AFCEE for approval in 40 calendar days. If more than 40 samples are collected, Parsons will contact Brian Murphy and discuss acceptable turn-around times for data validation.</p> <p>The Draft On-post Monitoring Report can be provided to CSSA 65 calendar days following the sample date using preliminary data that may not have AFCEE approval. The Final On-post Monitoring Report can be provided to CSSA 85 calendar days following the sample date.</p>
8	4. Define Study Boundaries, Screening Level Samples, 1)	<p>Add sentence: <u>DHL will fax preliminary data within 24-hrs, 3 days or 7 days depending upon the priority requested on the Chain-of-Custody. Hard copy reports will be provided within 14 days.</u></p>
8	4. Define Study Boundaries, Screening Level Samples, 2)	<p><i>Parsons does not concur. Propose:</i> Prime contractor will review and provide approved discrete interval data to the government within <u>two working days of receipt of the laboratory data package from the laboratory, following the 14 days necessary to get the laboratory hard copy data package.</u></p>
8	4. Define Study Boundaries, Screening Level Samples, 3)	<p><i>Parsons does not concur. The same laboratory turnaround times apply to IDW analytical data. Hard copy reports will be provided within 14 days.</i> <i>Propose:</i> IDW analytical data is to be provided by the laboratory to the prime contractor within <u>14 days of sampling event.</u></p>
8	4. Define Study Boundaries, Screening Level Samples, 4)	<p>Prime contractor will review and provide approved IDW data to the government within 14 days of the <del>sample date</del> <u>receipt of the data package from the laboratory.</u></p>
9	Step 6. Specify tolerable limits	<p><i>Parsons concurs that both the AFCEE QAPP version 3.0, version 3.1 and CSSA QAPP specify tolerable limits for decision errors. However, Parsons is only utilizing AFCEE</i></p>

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		<i>QAPP version 3.1. The CSSA QAPP does not apply to existing delivery and task orders, only to new delivery orders. This section should be revised to clearly state that Parsons is bound by the AFCEE QAPP, v 3.1, only.</i>
14	Plume 1 heading	<b><u>Plume 1 (10 New Wells, 5 Well Upgrades in the Plume 1 area)</u></b>
14	CS-H-LGR Purpose	<i>The well replacement at CS-H is not currently funded under any existing TO.</i>
14	CS-MW12-LGR	<i>Estimated core of 370 feet does not really add up. We would expect the Cow Creek to be 130 feet deeper than the Lower Glen Rose.</i>
15	CS-MW1-BS	<i>Existing CS-MW1-LGR was only cored for a small portion. Parsons suggests coring the entire section at this location? Additionally, surface casing may be prudent to avoid cross-contamination downward from the LGR, due to contaminant concentrations in CS-MW1-LGR.</i>
16	CS-MW12-BS	<i>Add: Contaminant levels are expected to be low in concentration therefore protective casing is not anticipated.</i>
16	CS-MW1-CC	<i>Additionally, surface casing may be prudent to avoid creating a pathway downward from the LGR, due to contaminant concentrations in CS-MW1-LGR.</i>
16	CS-MW2-CC	<i>Existing CS-MW2-LGR was only cored for a small portion. Parsons suggests coring the entire section at this location? Additionally, surface casing may be prudent to avoid cross-contamination downward from the LGR, due to contaminant concentrations in CS-MW2-LGR.</i>
16	CS-MW12-CC	<i>Add: Contaminant levels are expected to be low in concentration therefore protective casing is not anticipated.</i>
16	CS-MW16-CC	<b>No core has been obtained from CS-16. Parsons suggests coring the entire section at this location?</b>
17	Plume 2 heading	<b><u>Plume 2 (15 New Wells in the area of Plume 2)</u></b>

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17	CS-MW13-LGR-T, Purpose	<i>Note: Long-term monitoring may get expensive with rental of equipment.</i>
17	CS-MW13-LGR-M CS-MW13-LGR-B CS-MW14-LGR-T CS-MW14-LGR-M CS-MW14-LGR-B CS-MW20-LGR-T CS-MW20-LGR-M CS-MW20-LGR-B CS-MW21-LGR-T CS-MW21-LGR-M CS-MW21-LGR-B	<i>No coring at any of these locations are currently scoped under TO 0042.</i>
18	CS-MW15-LGR	<i>Consider the WestBay option for off-post as well, could monitor many zones, have little impact to off-post property and minimize IDW to be transported and treated.</i>