

Direct Sensing Checklists

Direct Sensing Proposal Considerations		
1	Do the data quality objectives and scope of work meet the project objectives?	
2	Does the proposal specify the equipment and order of tools to be used (for example, equipment model, software version)?	
3	Is the tool appropriate for the site?	
	Has the tool matrix (resolution, scale, targets, weaknesses/limitations of tool) been reviewed to determine tool applicability?	
	Has the considerations for the tool checklist been evaluated to determine tool applicability?	
	Can the tool measure for the target analyte type, phase, concentrations?	
	Have target analyte sample(s) been bench tested on the instrument?	
	What site conditions may prove challenging for implementation?	
	What potential is there for false positive signals? What are they and have they been tested for response?	
	What is the methodology for QA/QC in field and during post-processing?	
	Are there any deviations or recommendations from a requested suite of tools with supporting justification?	
4	Has a rationale for survey design been provided?	
	Has (or will) the proposer reviewed background information for the site (for example, geologic and hydrogeologic maps, previous studies, geography, aerial photographs, site history, historic fire insurance maps)?	
5	Does the proposal provide a description of the workflow process?	
	How the tool will be implemented?	
	What method will be used to ensure data location accuracy?	
	Does the proposal address several "what if" scenarios to deal with special issues?	
	Is there flexibility in the proposed work to expand the footprint and depth of the investigation?	
	Is there a plan and budget for targeted confirmatory sampling when unexpected, interesting, or questionable responses are observed?	
6	Does the proposal comply with safety requirements for the site?	
	What safety concerns may make the site unusual?	
	Are field personnel properly trained?	

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7	Does the proposal specify the data deliverables?	
	Will raw data digital files be provided?	
	Will locational data be provided (for example, will I be able to relocate the area at a later time?)	
	Will copies of field notebooks be provided?	
	Will a report or memo summarizing the investigation and data interpretation be provided?	
8	Does the proposal provide detailed costs?	
	Are subcontractors identified?	
	Are proposed hours appropriate?	
	Are equipment costs appropriate?	
	Are commodities/supplies appropriate?	
	Has a comparison of costs per day versus production (feet/day) per day been conducted to see which is likely to be more cost effective?	
9	Does the proposal provide a clear project timeline?	
10	What is the contractor's level of experience?	
	Are resumes provided?	
	Are references and other projects of similar scope provided?	
10	Are any permits required?	
12	What are the insurance requirements?	

Direct Sensing Checklists

Direct Sensing Report Checklist		
1	Is there a summary of the tools and methods utilized?	
2	Does the report include limitations that constrained the study physically (for example, interferences, safety considerations, access) or due to other reasons beyond control of the contractor?	
3	Was the solicited scope of work followed as requested or were there deviations from the scope that were performed? If so, is there adequate justification for the deviations and was the user aware of them/approving of them in advance?	
4	What type of post processing was performed on the data? Does the report summarize the methods and assumptions used?	
5	What type of QA/QC was performed? Were there QA/QC steps in the field that were adequately followed? Was there data processing/interpretation QA/QC performed and is it described? Were there any deviations from the QA/QC plan?	
6	Is there a narrative summary of the findings and results?	
	Is there a description of the types of responses observed, their potential origins, and whether they were confirmed with sampling?	
	Is there a description of lines of evidence observed to support/refute on-site interpretations?	
	Were there any limitations of the technology (were there any suspected false negatives)?	
	Are there recommendations for follow-up sampling locations if definitive confirmation was not accomplished during the investigation?	
7	Are raw data files provided?	
	Are summary tables of logs provided?	
	Are logs presented in at least two appropriate scale factors (typically very low for absence/presence determinations and high for semi-quantitative site-wide comparisons of impact)?	
8	Is there at least one plan view figure of the study area and the transects?	
9	What types of graphics are provided to illustrate the findings? Are there 2D or 3D profiles of responses with adequate scale, color ramp definitions?	

Direct Sensing Checklists

MIP-Quality Control Checks to Expect to See During Site Work		
1	Proper calibration with relevant standards during response testing, before and after each boring.	
2	Rods are in very good condition with threads properly maintained (reduces costs due to breakage).	
3	Ensure there is a consistent hold period at predetermined intervals (this depends on the response test).	
4	Check condition of probe and associated ports/detectors for plugging or damage upon probe retrieval from ground.	
5	Conduct occasional duplicate borings or compare other nearby logs to ascertain localized heterogeneity.	
6	Spares - additional trunk-lines and probes are on hand and at the ready in case they are needed.	
7	Comprehensive field notes are being taken.	

Direct Sensing Checklists

OIP-Quality Control Checks to Expect to See During Site Work		
1	Proper response testing before and after each boring.	
2	Rods are in very good condition with threads properly maintained (reduces costs due to breakage).	
3	Check sapphire window for fogging or damage and check associated ports/detectors for plugging or damage upon probe retrieval from ground.	
4	Conduct occasional duplicate borings or compare other nearby logs to ascertain localized heterogeneity.	
5	Spares - additional trunk-lines and probes are on hand and at the ready in case they are needed.	
6	Comprehensive field notes are being taken	

Direct Sensing Checklists

LIF-Quality Control Checks to Expect to See During Site Work		
1	Proper reference emitter and background waveforms are achieved/recorded (background should not exceed 1% RE, if possible).	
2	If used, electric conductivity probe is tested and found to be functioning properly.	
3	Rods are in very good condition with threads properly maintained (reduces costs due to breakage).	
4	Push rate - assure that depth recording is accurate, and rate is not too fast (~1 inch/sec).	
5	Condition of sapphire window checked for fogging or damage and fluid port is checked for plugging or damage upon probe retrieval from ground.	
6	Pre-mob or on-site screening of site-specific NAPLs and false positives to generate a site- specific library of in-situ signals for proper interpretation.	
7	Conduct occasional duplicate borings or compare other nearby logs to ascertain localized heterogeneity.	
8	Confirmatory soil borings are both budgeted for and performed when unexpected, interesting, or questionable responses are observed (almost universally the case).	
9	Spares - additional fiber/probe setups are on hand and at the ready in case they are needed.	
10	Comprehensive field notes are being taken.	

Direct Sensing Checklists

CPT-Quality Control Checks to Expect to See During Site Work		
1	Functional checks before and after each boring using zero load as a baseline.	
2	Inspection of the cone by operator after each advancement checking for possible damage.	
3	Decontamination of equipment between boreholes where contamination is (or is suspected to be) present to prevent cross contamination.	
4	Careful observation of screens during CPT advancement to determine any potential problems.	
5	Monitoring advancement rate.	
6	Collection of confirmatory samples to compare to CPT results.	
7	Comprehensive field notes are being taken.	

Direct Sensing Checklists

HPT-Quality Control Checks to Expect to See During Site Work		
1	Proper calibration, before and after each boring.	
2	Rods are in very good condition with threads properly maintained (reduces costs due to breakage).	
3	For applicable dissipation tests, ensure there is a consistent hold period to reach equilibrium in a semi-permeable zone.	
4	Check condition of probe and associated screens for plugging or damage upon probe retrieval from ground.	
5	Conduct occasional duplicate borings or compare other nearby logs to ascertain localized heterogeneity.	
6	Spares - additional trunk-lines and probes are on hand and at the ready in case they are needed.	
7	Comprehensive field notes are being taken.	

Direct Sensing Checklists

EC-Quality Control Checks to Expect to See During Site Work		
1	Proper calibration during response testing, before and after each boring.	
2	Rods are in very good condition with threads properly maintained (reduces costs due to breakage).	
3	Check condition of probe for damage upon probe retrieval from ground.	
4	Conduct occasional duplicate borings or compare other nearby logs to ascertain localized heterogeneity.	
5	Spares - additional trunk-lines and probes are on hand and at the ready in case they are needed.	
6	Comprehensive field notes are being taken.	