

The International Ocean Discovery Program (IODP) Proposal Submission Guidelines

(Revised: 20 February 2014)

Introduction

Science in IODP is driven by community-generated proposals targeting the research themes outlined in the program's overall Science Plan, *Illuminating Earth's Past, Present, and Future* (www.iodp.org/program-documents). The program provides multiple drilling platforms (www.iodp.org/ships/platforms) that are expensive to operate: a two-month-long expedition with the riserless platform *JOIDES Resolution* costs USD 8-14 million, while operations with the riser vessel *CHIKYU* can be in the hundreds of millions of dollars. Because the level of investment goes beyond an individual researcher or research group, the proposal structure, review and planning processes are comprehensive and differ from those applied to typical grant applications. The biggest difference is that the IODP process is somewhat iterative and open to communication between the science proponents, the Advisory Panels, and the drilling platform operators. It is a process designed to transform exciting science into successful expeditions. The detailed technical planning, implementation, and financial responsibilities involved are managed within the program, so, except in specific circumstances, there is no budget section in an IODP proposal.

The International Ocean Discovery Program (IODP) receives drilling proposals or long-coring proposals to support drilling proposals, from the scientific community and evaluates those proposals through Advisory Panels and through external peer review. Proposals can be submitted to the Science Support Office at Scripps Institution of Oceanography (www.iodp.org) to two deadlines: 23:59 GMT on **1 April or 1 October**. Proponents must submit the required materials through the online submission system <http://proposals.iodp.org>. Required documents except the cover sheet and Site Summary Forms must be in one PDF file to upload, with all pages in A4 or U.S.-letter size (12-point font and 1.5 line spacing are recommended). Figures should have sufficient resolution to show all relevant details. Once the Science Support Office accepts the proposal and verifies its format compliance, upload access to the Site Survey Data Bank (SSDB) at <http://ssdb.iodp.org> will be granted. Questions regarding proposal submission and proposal handling should be directed to the Science Support Office (science@iodp.org).

There are some simple steps to follow to help guide you through the proposal process. This document specifies the requirements for submitting proposals and outlines the review process. Format requirements for IODP drilling proposals are summarized here; for complete information please refer to the Table of Proposal Requirements accessible from www.iodp.org/submitting-proposals.

Step 1: Submitting a Preliminary Proposal

You start by writing a proposal outlining science that addresses one or more of the four major themes of the IODP Science Plan and that requires scientific ocean drilling. The Science Plan is intended to provide a context for generating proposals, but is not intended to be prescriptive.

Proponents who have a new idea for scientific ocean drilling are strongly advised to initially submit a **Preliminary Proposal** (Pre-proposal) before engaging in the preparation of a lengthy Full proposal. *Note that a Preliminary Proposal is required if the riser platform CHIKYU is being requested.*

Proponents of proposals are encouraged to contact the appropriate Implementing Organization before submission in order to discuss drilling platform capabilities and the feasibility of the proposed drilling. This is particularly important for Mission-Specific Platform (MSP) proposals due the wide range of platform options.

A Preliminary Proposal can be up to 3000 words long (excluding references), with up to 8 figures and/or tables. It should describe a compelling hypothesis or idea supported by a conceptual drilling strategy. Proposals range from hypothesis-driven to question-driven, from very discipline-specific to very interdisciplinary, from simple to complex. They should address questions that are of interest to the global scientific community and will typically be linked to relevant parts of the Science Plan.

A well-prepared Preliminary Proposal should:

- state the scientific objectives and explain how those objectives relate to, or advance beyond, the IODP Science Plan 2013-2023, including the theme(s) and challenge(s) addressed
- justify the need for drilling to accomplish the scientific objectives
- present a conceptual strategy for addressing the scientific objectives through drilling, logging, or other down-hole measurements
- describe the proposed drilling sites, penetration depths, expected lithologies, discuss the availability, or plan to acquire, site-survey data, and discuss the recovery rates needed to achieve key goals
- describe any development of advanced and non-standard tools, special sampling techniques, downhole measurements, and/or borehole observatories
- identify any logistical problems, e.g. extreme weather, sea-ice, piracy, or others
- describe briefly any relationships to other international geoscience programs and /or initiatives.

Preliminary Proposals must also include the following items that do not count against the word count limit:

- an official proposal cover sheet, complete with an abstract of 400 words or less, a statement of the scientific objectives, and a list of the proposed drilling sites
- an initial site summary form for each proposed drilling site. Site names **must** conform to the established system (**see Appendix for details**)
- a list of all proponents, specifying the name, affiliation, and expertise of each proponent.

What is Next: Review by the Proposal Evaluation Panel

The Science Support Office sends the Preliminary Proposals to the Science Evaluation Panel (SEP). The SEP consists of members of the scientific community who volunteer to

serve IODP by reviewing proposals. It is also a rich advisory resource for proponents in providing guidance and critical advice about the science and feasibility of their proposals.

The SEP Chairs assign watchdogs to examine and present your proposal to the panel. The SEP assesses each proposal in terms of its relevance to the IODP Science Plan 2013-2023, the suitability of the study area, study sites, and platform for addressing the proposed scientific objectives, and whether the achievement of those objectives would likely result in fundamental scientific advances. The SEP seeks advice on technical aspects of the drilling proposal through a representative of the appropriate Implementing Organization (i.e. Platform Operator).

The mechanism for receiving feedback from this review depends on the drilling platform being requested.

For proposals planning to use only either the JOIDES Resolution or a Mission-Specific Platform (MSP), proponents receive a written summary of the SEP review after the meeting. The feedback you will receive will likely be summarized by one of the following statements:

- 1) Great idea, in line with the science vision of the program, likely achievable by scientific ocean drilling
- 2) Interesting concept with potentially high impact, but difficult to see how the problem is addressed by scientific ocean drilling
- 3) Idea not as interesting or transformative as others received, and thus not likely to move forward as a drilling proposal in its current state

Most importantly, though, you will receive a decision as to whether the panel:

- (1) recommends that you develop a Full Proposal and/or pursue workshop funding to further develop your idea, and potentially coordinate your efforts with other closely-related proposals, or
- (2) deactivates the Preliminary Proposal. The SEP deactivates the Preliminary Proposal if the science objectives are not well described or are not compelling enough, if the conceptual drilling strategy doesn't adequately support the science questions, and/or if the proposed drilling program is simply not feasible.

The recommendation will include the contact information for the proposal watchdogs, and you should contact one or more of the watchdogs to discuss their recommendation and to gain more insight into the next steps for your proposal.

For proposals that plan to use the CHIKYU, the SEP review is forwarded to the CHIKYU IODP Board for their consideration and for their preliminary assessment of the technical and financial feasibility of the project. Proponents will then receive a summary of both the SEP and CIB reviews directly from the CIB. This summary will include either an invitation to submit a workshop proposal (as a predecessor to submission of a Full Proposal) or notification that the Preliminary Proposal is being deactivated.

Step 2: Submitting a Full Proposal

Proponents who have previously submitted a Preliminary Proposal may submit a Full proposal if advised to do so by the SEP or the Chikyu IODP Board. Proponents may

consider skipping the Preliminary Proposal stage (only for JR or MSP proposals) and moving immediately to submission of a Full Proposal. However, this is not generally advised as it limits feedback from the Advisory Panels at an early stage of proposal review. Contact the Science Support Office for additional advice about whether submission of a Preliminary or Full Proposal is appropriate.

A Full Proposal can be up to 7800 words long (excluding references), with up to 12 figures and/or tables. It should describe extensively all aspects of the full scientific experiment, detailed drilling plans, and the operational information necessary to determine feasibility, data availability, and site assessment needs. Think of it as a step from a great idea to one that can be implemented in the real world, with present technology and within a reasonable length of time. Prior reviews and/or workshop input should be carefully considered and be addressed in a Full Proposal. Excellent Full Proposals - whether complicated and extremely interdisciplinary, or simple and discipline-specific - share a number of elements in common:

- 1) They have strong and compelling science questions that require ocean drilling
- 2) They are responsive to the input from SEP
- 3) They are innovative, and have an acceptable balance between risk and potential for achievement.

A well-prepared Full Proposal should:

- state the scientific objectives and explain how those objectives relate to, or advance beyond, the IODP Science Plan 2013-2023, including the theme(s) and challenge(s) addressed
- justify the need for drilling to accomplish the scientific objectives
- present a well-defined strategy for addressing the scientific objectives through drilling logging, or other downhole measurements
- provide detailed estimates of, and justification for, the time required for drilling, logging, or other downhole measurements. In addition, discuss required recovery rates (general) as a function of depth and highlight particular target zones including required recovery rates for these in order to achieve key goals, and finally comment on the impact on the science if such recovery rates are not fully achieved.

Note: It is now possible to submit a proposal for operational time of a few weeks only rather than a two-month expedition. Such shorter scientific efforts will be implemented in hybrid expeditions.

- describe the available site-survey data and/or any plans for acquiring additional data, and discuss how the drilling targets relate to those data. In addition, the proponents are reminded to upload the available site survey data into the Site Survey Data Bank, or as soon as possible after collection of new data.
- discuss the expected scientific outcome of drilling and any subsequent work required to complete the overall project.
- describe any development of advanced and non-standard tools, special sampling techniques, downhole measurements, borehole observatories or others, and include an out-year plan for observatory data recovery, maintenance, and ultimate termination
- describe any external funding for non-standard tools
- identify any logistical problems, e.g. extreme weather, sea-ice, piracy, or other

- describe briefly any relationships to other international geoscience programs and/or initiatives.

All Full Proposals must also include the following items that do not count against the word count limit:

- an official proposal cover sheet, complete with an abstract of 400 words or less, a statement of the scientific objectives, and a list of the proposed drilling sites
- the appropriate set of site summary forms for each proposed drilling site. Site names **must** conform to the naming format, and the names **must** be updated whenever sites are relocated. (see **Appendix for details**)
- a list of all proponents, specifying the name, affiliation, and expertise of each proponent, plus a two-page curriculum vitae or biographical sketch for one or more of the lead proponents
- a list of at least five potential reviewers external to the Advisory Panels.

What is Next: Review by the Science Evaluation Panel

The Science Support Office sends all new and revised Full Proposals (regardless of the platform requested) to the SEP. The SEP seeks advice on technical aspects of the new and revised Full Proposals through a representative of the appropriate Implementing Organization (i.e. Platform Operator).

The SEP evaluates new Full Proposals. A written review is prepared and sent to the proponents with one of the following actions:

- 1. Notification that the proposal has reached a sufficient state of development to be sent for external peer review*

External reviews are managed through the Science Support Office. The reviewers are asked to comment on the importance of the scientific objectives toward the advancement of the IODP Science Plan 2013-2023, the suitability of the study area for addressing the scientific objectives, the likelihood of achieving the scientific objectives with the proposed drilling and logging strategy, and the scientific competence of the proponents, keeping in mind that many scientists besides the proponents ultimately participate in planning and executing an IODP expedition. The external reviewers remain anonymous outside of the Science Support Office at all times.

Proponents receive the external reviews of their proposal from the Science Support Office and may submit a brief Proponent Response Letter (PRL) before the next SEP meeting. PRLs can be up to 1600 words long (excluding references), with up to 5 figures and/or tables, and they must address only the specific comments or questions posed by the reviewers. Occasionally, SEP may request an additional PRL during subsequent stages of the review process. The Science Support Office will set an appropriate deadline for receiving such PRLs, typically at least four to six weeks in advance of the next relevant panel meeting.

In addition, proponents of Full Proposals that have been externally reviewed may submit an Addendum to provide an update on relevant scientific research including new data, to

fulfil a specific request for more information, or perhaps to present an offer of support from another scientific program or agency. However, if the supplementary material implies a significant change to the objectives or strategy of the original proposal, the proponents must submit a new proposal instead of an Addendum. (See “Addenda” in page 9 for further details.)

The SEP then reviews the proposal again, together with the external reviews, the PRL, and any Addendum. They also review all available site survey data (in the SSDB) to characterize the completeness and adequacy of the data. The SEP then decides whether the proposal should advance to a Facility Board for possible implementation by the appropriate Implementing Organization. If recommended for implementation, the SEP writes a final review assessing the priority of the proposal with respect to the IODP Science Plan 2013-2023, and the SEP rates the proposal according the criteria described above.

The final decision whether a proposal is actually implemented is made by the Facility Board overseeing the scheduling of the platform in question. At this stage, the Full Proposal will have been through Environmental Protection and Safety Panel review, and must satisfy all their requirements before it can be implemented.

2. Advice on how to improve and revise the Full Proposal

Full Proposals can be revised only once. There is no time limit for resubmission as time may be required for the proponents to seek essential advice on technical and funding aspects from the Implementing Organization to improve the overall feasibility of the drilling proposal, or to collect additional site survey data. Proponents are advised that all necessary data for site characterization **must** be uploaded to the Site Survey Data Bank prior to SEP review of a revised Full Proposal.

Once the SEP receives the revised Full Proposal, it can either recommend that it go out for external review (see 1. above) or that the proposal be deactivated if it hasn’t reached a sufficient state of development (see 3. below).

3. The proposal is deactivated.

This occurs if the science objectives, drilling plan, and site survey data are not sufficiently compelling, and means that the proposal will no longer be kept on active status in the system.

Reasons that a proposal might not advance in IODP include:

- 1) Science to be addressed is incremental (i.e., makes only a small step forward).
- 2) Science to be addressed is one-sided (i.e., doesn’t account for alternative hypotheses).
- 3) Proponents are unresponsive to review comments.
- 4) Proposal displays little effort on the part of the proponents to understand what makes science drillable (i.e., pursues science that is simply undrillable).
- 5) Proposal does not critically select drilling targets to answer well-defined questions.
- 6) Proposal does not clearly state how the proposed measurements will be used to answer the scientific questions/hypotheses.

- 7) Proposal has scientific objectives that conform poorly with the overall goals of the program's Science Plan, and that do not bring added value to the science plan.
- 8) The data that are needed to characterize the drill site (location, target depth, stratigraphic and structural framework), and place it in a proper context are not sufficient to underpin the science or to conduct operations safely.

4. Placement in the Holding Bin

Proposals may be placed in the Holding Bin if the SEP finds that the science of the proposal is mature enough to forward to the Facility Board, but the proposal still needs to complete site survey data requirements or address a specific operational issue. The proposal is released from the Holding Bin when the SEP agrees that the proposal meets all the requirements.

Other Proposal/Project Types for Special Circumstances

1. Complementary Project Proposals

A Complementary Project Proposal (CPP) is a Full Proposal that has a commitment from a third party source outside IODP for a substantial amount of financial support. It is important to contact the Chair of the appropriate Facility Board to enquire about the amount of outside funding required (usually 70% of the total costs of a drilling program). Because of the specialized nature of these programs, it is highly advisable to discuss potential plans for developing a CPP with staff at the Science Support Office or appropriate IO before a proposal is written.

Expeditions arising from such proposals will follow the normal IODP rules for designation of co-chief scientists, scientific staffing, and the IODP Sample, Data and Obligations Policy that defines the data moratorium, data access, and publication responsibilities.

CPPs should be prepared as regular IODP Full Proposals but, in addition, must include a description of the formal financial arrangement from a third party, or must include a description of the to-be-arranged financial commitment, including potential pathways of securing additional funding to support the estimated platform operating costs for the proposed expedition(s).

CPPs can receive fast-track consideration by the SEP if required by the situation (e.g., funding source, operational plans, etc.). The SEP assesses CPPs based on the same criteria as regular Full Proposals. If fast-track consideration is required, the SEP may conduct an internal science review, and then forward the proposal directly to the relevant Facility Board. If fast track is not required, SEP follows the normal procedures as outlined above for Full Proposals.

The final decision regarding implementation of a proposal is made by the Facility Board overseeing the scheduling of the platform in question. The FB may negotiate with the proponents on details of the external funding. At this stage, the Full Proposal must satisfy

all Environmental Protection and Safety Panel (EPSP) requirements before it can be implemented.

2. Multi-phase Drilling Project (MDP)

A multi-phase drilling project (MDP) can take different forms, but the unifying concept is that the project cannot be done in a single drilling expedition. Examples of an MDP include, but are not limited to, a project that requires a long site occupation in one location, a series of scientifically related projects located in close proximity, or a project that addresses (a) large, overarching scientific question(s) requiring data from geographically distant sites.

An MDP takes a unique path through the review system. The initial proposal, or the umbrella proposal, should define the overall scientific objectives of the entire project and justify the need for a multi-platform or multi-phased drilling strategy to achieve those objectives; this may not require site-specific information beyond some generic site description. The umbrella proposal should follow the Full Proposal format for word count and the number of figures/tables, but Site Survey Forms and site survey data are not required.

The SEP reviews the umbrella proposal and may endorse it, may recommend revision, or may deactivate it if the science objectives and drilling plans (multiple platforms) are not sufficiently described.

After endorsement of the umbrella proposal, the SEP will ask the proponents to develop a set of closely interrelated proposals that describe the individual steps or phases in detail, and to identify actual drill sites in each individual component proposal. SEP evaluates each proposal (either Preliminary Proposal or Full Proposal) within the broader context provided by the umbrella proposal. All individual component proposals of a MDP must otherwise fulfil the normal requirements for Preliminary Proposals and Full Proposals, or Ancillary Project Letters (see below), and follow the normal review process. The SEP decides whether a component proposal of the MDP has reached a sufficient stage of development for external peer review and whether it should be recommended to the appropriate Facility Board for possible scheduling. The Science Support Office will ask the reviewers to assess the individual proposal as a component of the MDP within the context of the umbrella proposal.

Ancillary Project Letters (APLs)

An individual scientist or group of scientists may wish to request additional data/samples from an already scheduled expedition in order to achieve valuable science objectives with minimum additional time allocated from an already scheduled expedition. The mechanism to request additional coring or logging is through an Ancillary Project Letter (APL). Projects proposed through an APL must require less than 10-15% of dedicated platform time in an expedition, including transit. APLs can require an investment of drilling, logging, and technician time, as well as a platform berth; therefore, the IODP will strive to integrate such projects with an appropriate drilling proposal as early as possible in the normal planning process. For Mission-Specific Platforms, the submission of APL(s) will rely on a call for applications because the implementation of APLs by

MSPs will primarily depend on the available budget. This call will include the scale of the APL in terms of possible added platform time and facilities.

Investigators must submit an APL to the Science Support Office in accordance with the normal proposal deadlines, and they are reviewed by SEP. An APL can be up to 1600 words (excluding references), with up to 5 figures and/or tables.

A well-prepared APL should:

- describe the project and its overall scientific goals
- identify the locations of interest for drilling and explain, in the context of the site survey data, how the proposed site will provide the data necessary to meet their goals
- explain the proposed types of shipboard measurements and data collection
- define the requirements for ship time and shipboard personnel
- identify any feasibility issues: weather windows, piracy, etc.

All APLs must include the following items that will not count against the word count limit:

- an official proposal cover sheet, complete with an abstract of 400 words or less
- the appropriate set of site summary forms for each proposed drilling or logging site. Site names **must** conform to the naming format, and the names **must** be updated whenever sites are relocated (see Appendix for details)
- a list of all proponents, specifying the name, affiliation, and expertise of each proponent.

The SEP may advise the investigators to develop their ideas into a Preliminary Proposal or collaborate with the proponents of an existing proposal. If the latter, the Science Support Office or the SEP Chair can initiate contact between the two groups of investigators. The SEP may also decide to recommend an APL directly to the Facility Board, particularly if it relates to a drilling proposal that has already undergone external review.

Addenda

Proponents of Full Proposals that have been forwarded to external review or APLs that have been forwarded to Holding Bin may submit an Addendum in the following cases:

- The SEP or Facility Board requests the proponents to provide an update on relevant scientific research or provide more information.
- The SEP or Facility Board requests the proponents to relocate the proposed drilling sites or add new sites. (In this case, the proponents **must** submit an Addendum before submitting site survey data to the SSDB.)*

Addenda can be up to 2700 words long excluding references, with up to 8 figures including tables. Addenda must also include the following items that do not count against the word count limit:

- an official proposal cover sheet, complete with an abstract of 400 words or less, a statement of the scientific objectives, and a list of the proposed drilling sites,

– the appropriate set of site summary forms for each proposed drilling site. Site names must conform to the naming format, and the names must be updated whenever sites are relocated. (see Appendix for details).

* The current electronic submission system requires an Addendum as the mechanism to make any change in the site location/name, even a small refinement, and revise the relevant Site Summary Forms. In the case of such small changes, the main text of the Addendum can be very brief and just state the reason for the site changes and the proposal cover sheet and abstract can be unchanged.

APPENDIX

Proposed Drilling Site Names

The IODP follows a uniform system for naming proposed drilling sites whereby any seafloor site ever considered for possible drilling receives a unique name. **Incorrect site names are the single largest reason that proposals fail compliance check.** Site names must conform to the general format AAAAA-nnX, where AAAAA represents a string of up to five alphanumeric characters (first character alphabetic only) referring to the geographic area of the proposed drilling site, nn represents the specific site number within that area, and X represents an alphabetic character that indicates the version of a specific site. For all newly proposed sites, X=A. Whenever proponents relocate a proposed drilling site, they must also rename it by incrementing X, changing nn, or changing AAAAA, depending on the relative geographic proximity and similarity of the scientific objectives compared to the original site. Designated site names should not encode any indicators of relative priority because site priorities often change as a proposal develops and matures. Alternate sites therefore must have unique site numbers.

Example: PIG-3B refers to the second (hence “B”) proposed location of Site 3 in Pigafetta Basin. PIG-4A could represent a newly proposed alternate site for PIG-3B.

The Site Survey Data Bank (SSDB)

The SSDB is the official repository for all site survey data related to a particular proposal or expedition. The SSDB is accessed at: ssdb.iodp.org. File formats for uploading data are explained on the website, and are also defined in the IODP Site Characterization Data Guidelines (www.iodp.org/drilling-proposals).

Site Summary Form 6

For Full Proposals and APLs, Site Summary Form 6 summarizes the supporting data that exist in the Site Survey Data Bank (SSDB), or that will in the near future be submitted to the SSDB, for each proposed drilling site. This required form does not substitute for submitting data to the SSDB. Proponents must create Site Summary Form 6 as a single-page PDF document (see attached example) that contains the following four elements, depending on data availability:

- A label identifying the document as Site Summary Form 6 and indicating the proposal number (first three digits only) and site name,
- A list of the file names of the relevant site-survey data that exist in the SSDB, i.e., the file names corresponding to the seismic data (images and SEG-Y) and navigation data presented on this form; for any displayed data that have not been submitted to the SSDB, the form should specify when the data will be submitted,
- A clearly annotated map showing all relevant details around the proposed drilling site, including seafloor bathymetry, with labelled contours or a depth scale; the exact site location; track charts for the key seismic lines, annotated at regular intervals with the same horizontal unit (e.g., CDP, shot-point number, etc.) as the accompanying seismic profiles; and a distance scale if not apparent from the horizontal and vertical annotation,

- Two profiles for each seismic line that crosses the proposed drilling site where appropriate. One profile should include an annotated vertical line showing the location (e.g., Site ABC-1A, CDP 4871) and penetration depth (or time using best depth-to-time conversion) of the proposed drilling site. This profile may also show an interpretation of the seismic data. The second profile should show the same image as the first profile, but without showing the drilling site or any interpretation. Each seismic profile should indicate the name and orientation (e.g., NW–SE) of the survey line, have well-annotated horizontal and vertical axes, including a horizontal scale bar (in km), and have sufficient resolution to show the relevant structure imaged by the data.

Useful Site Survey Data Links

Detailed instructions about site survey data can be found at the following web sites.

IODP Site Characterization Data Guidelines

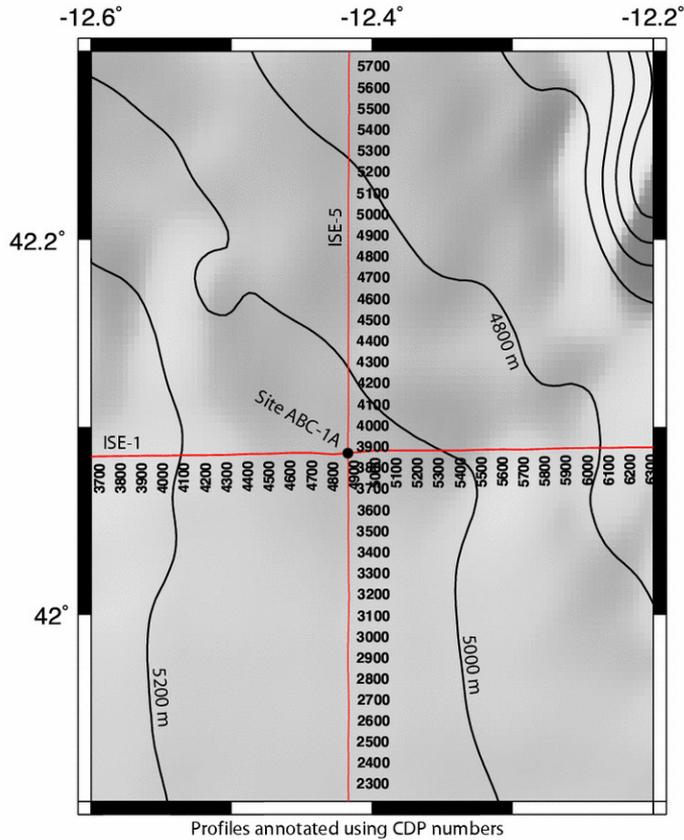
<http://www.iodp.org/drilling-proposals>

SSDB User Guide for Proponents

<http://ssdb.iodp.org/documents/proponent-guide.php>

Proposal 999 Site ABC-1A

Site Summary Form 6



Profiles annotated using CDP numbers

Site ABC-1A
CDP 4871 on ISE-1WW
CDP 3870 on ISE-5

Interpretation

- Orange - Base postrift sediment
- Magenta - Top continental basement
- Green - S-reflector and top mantle
- Blue - Normal Fault

SSDB locations of these graphics and supporting data

- Location map above - ABC1A_site_sum_fig_map.pdf
- Seismic data figures -
 - ABC1A_site_sum_fig_ise1WW.pdf
 - ABC1A_site_sum_fig_ise5.pdf
- SEG Y data -
 - ISE1WW_mig.sgy and ISE5_mig.sgy
- Navigation data -
 - ISE1WW_cdplocs.asc and ISE5_cdplocs.asc

