UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT,
REGULATION AND ENFORCEMENT
PACIFIC OCS REGION

NTL No. 2010-P03

Effective Date: June 30, 2010
Expiration Date: June 29, 2015

NOTICE TO LESSEES AND OPERATORS OF FEDERAL OIL AND GAS LEASES IN THE OUTER CONTINENTAL SHELF, PACIFIC OCS REGION

Well Records Submittal

This Notice to Lessees and Operators (NTL) supersedes NTL No. 2006-P04, Well Records Submittal; Elimination of Paper Copy Data Submittals. In this NTL, the Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE), formerly Minerals Management Service (MMS), Pacific OCS Region (POCSR) defines the procedures on how lessees/operators submit well records required by 30 CFR 250.468 and 469 and clarifies the specific well records you must submit, the required submittal dates of the various well records, and the correct locations where you must send these well records. Additionally, this NTL now requires that Lessees and Operators submit digital Nuclear Magnetic Resonance (NMR) well log data.

The BOEMRE collects, verifies, and stores data by the well's unique 12-digit American Petroleum Institute (API) number we assign. The BOEMRE POCSR uses the data collected to make informed regulatory decisions based on your timely submittal of complete and accurate well records. We define "submittal date" as the original date the data are due to the appropriate office. This NTL applies to all wells that reach total depth after the effective date of this NTL.

I. Well Records to Submit

In 30 CFR 250.468(a), "you must submit copies of logs or charts of electrical, radioactive, sonic, and other well-logging operations; directional and vertical well surveys; velocity profiles and surveys; and analysis of cores to MMS." Also, in 30 CFR 250.469, the BOEMRE may also require well reports as specified in 30 CFR 250.466 and records of operations as specified in 30 CFR 250.467. Under these authorities, the well records that you must submit to the BOEMRE POCSR include the following:

A. Well Log Data

1. Log Curve Requirements: Submit the following curve types and log images in final form, if the data were obtained in the open-hole portion of a wellbore, sidetrack, or bypass:

- Acoustic or Sonic
- Conductivity
- Gamma Ray
- Bulk Density
- Density Correction
- Resistivity/Induction
- Caliper
- Dipmeter (computed)
- Spontaneous Potential

- Nuclear Magnetic Resonance *
- Tension
- Equivalent circulation density
- Formation Tester**
- Slide Indicator
- Mudlogs
- Porosity
- Rwa
- Rate of Penetration
- Neutron
- Borehole Image
- Temperature
- Photoelectric

* Previously, NTL 2006-P04, Part I, Section A.1., did not require the submission of digital NMR log data; only the image files for these logs were required. This NTL requires the submittal of digital NMR vector curve data. The following curve types are to be submitted, and are not necessarily limited to:

- Quality Control Curves
- Computed Curves
- T2 Bin Distributions

Due to NMR file sizes and complexities, the BOEMRE now requires that digital and image NMR data be submitted on separate physical media (separate from other well log data) to its logging contractor, A2D Technologies. Also, NMR data file and tool code nomenclature should clearly identify these data as NMR-related. We encourage direct submittal of the completed log data set from the acquiring service company.

** Formation Tester is considered any logging tool that collects pressure data and/or fluid samples from the borehole. Summary Print log images, pressure gradient plots, and preliminary sample analysis must be submitted. All subsequent detailed reports (i.e., PVT Analysis) generated from the samples collected from the borehole must be submitted in a timely manner (see Attachment 1).

Submit all of the above-mentioned log curve types associated with the following generic log type, including:

- measurement or logging while drilling (MWD/LWD),
- wireline well logs, and
- high-resolution data, if acquired.

The offices where the data should be sent are listed in Attachment 1 of this NTL.

Note: Do not submit digital data for Formation Tester, Borehole Image, and Computed Dipmeter to A2D Technologies. For mudlog specifications, see section Part I, Section H of this NTL. You will be required to submit an image file for these types of logs to A2D Technologies. You do not need to submit well log data for workover or recompletion operations to the BOEMRE POCSR unless requested for a specific well.

Although API Recommended Practice (RP) 31A, *Standard Form for Hardcopy Presentation of Downhole Well Log Data,* is not incorporated by reference in our regulations, you may use it for guidance on providing complete and accurate well information.

If the original presentations are generated specifically in color (e.g., NMR, borehole imaging), submit color images. Include MWD/LWD, wireline generated well logs, and mudlogs. Consistent with current practice, you need to submit field prints and/or cased-hole logs only in special circumstances,

as requested by the BOEMRE POCSR.

We encourage direct submittal of the completed log data set from the acquiring service company.

2. Well Log Image File: For logs that require digital curve data, submit image files in one of the formats listed below of composite logs comparable to the digital curve data. For logs that do not require digital curve data (Formation Tester, Borehole Image, and Computed Dipmeter), submit an image file in the formats listed below. For Formation Tester type logs, the summary logs will suffice. For mudlog specifications, see Part I, Section H of this NTL. If logging data from more than one logging vendor are collected in a borehole, you may submit either an image of the logging data from all vendors composited into a single set of logs or a set of images of the composited logs from each individual vendor. Detailed 5-inch image logs must be composited, but individual runs do not need to be spliced.

For all vertical wells, as defined in 30 CFR 250.461, submit image files for:

- Measured depth (MD) 1-inch correlation and 5-inch formation evaluation logs and
- Any additional scales you obtained.

For all non-vertical wells, as defined in 30 CFR 250.461, submit image files for:

- True vertical depth (TVD) 1-inch correlation and 5-inch formation evaluation logs,
- Measured depth (MD) 1-inch correlation and 5-inch formation evaluation logs, and
- Any additional scales you obtained.

(a) Image File Formats: If the original log is in color, the submitted image file must also be in color.

(1) The following image file formats are preferred:

- Computer Graphic Metafile (CGM) version 1-4
- Baker Metafile
- Schlumberger PDS (PDS files are usually for one logging run; any borehole with multiple runs should submit composited file format)
- Halliburton CGM
- Weatherford DPK

(2) If the preferred formats listed above are not available, submit the image file in the Tag Image File Format (TIFF) with the following specifications:

Black and White TIFF Images:

- Header tags as per TIFF standard
- Resolution – 200 dpi
- Compression – CCITT group IV
- Tiling – No

Color TIFF Images:

- Header tags as per TIFF standard
- Resolution – 200 dpi
- Palette color – 256 colors
- File format LZW Compressed TIFF

- Tiling - No

Clearly label each well log image with its associated API number, bottomhole lease number, well name, well name suffix, log type, scale and depth domain (MD or TVD). Do not submit additional image copies, field print images, or images of separate interim runs unless requested by the BOEMRE POCSR.

3. Digital (Vector) Well Log Data: Submit composite digital curve data (one value per curve for each depth value) in the Canadian Well Log Society Log ASCII Standard (LAS), Version 2.0 format, Digital Log Interchange Standard (DLIS), or Log Interchange Standard (LIS) format. Ensure that the curve data are in an MD composite layout, including full headers for each wireline and MWD/LWD logging run and curve description for all curves. Ensure that all required log curves (see Part I, Section A.1 of this NTL) represented on the log image file are included in the digital curve file. If you collect logging data from more than one logging vendor in a single borehole, submit a separate set of composited log curves from each individual vendor. Do not splice digital curves from different vendors to form a set of composited log curves.

(a) Full header information, including the following:

- the 12-digit API number
- bottomhole lease number
- well name
- well name suffix
- the bottomhole area and block

(b) Information for each tool run, including the following:

- borehole fluids
- mud
- casing information
- depth interval
- filtrate resistivity and temperatures
- bottomhole or maximum recorded temperature

(c) Logging tool parameters (matrix values), position of logging tool (i.e., centered or eccentered), and logging engineer's comments; and adequate curve description and

(d) Tool-specific and service provider-specific curve and parameter mnemonics (names and abbreviations) maintained as originally acquired.

Submit digital and image logs on CD or DVD ROM (read-only memory). Digital and image logs may be submitted on the same CD or DVD.

B. Directional Surveys

Submit one digital copy of the final composite directional survey. Please refer to National NTL No. 2009-N10, Directional and Inclination Survey Data Submission Requirements (http://www.mms.gov/ntls/PDFs/09_N10.pdf), Attachment 1, for the acceptable directional survey digital format.

- Submit on CD or DVD ROM, these survey results coded in ASCII.
- According to 30 CFR 250.461(d)(2), "[y]ou must correct all surveys to Universal-Transverse-Mercator-Grid-north or Lambert-Grid-north after making the magnetic-to-true-north correction."

Do not submit copies of separate interim runs to the BOEMRE POCSR. Send final composites only. If your use of more than one vendor prevents the consolidation of the separate surveys within a well, submit the final composite survey from each vendor.

We encourage direct submittal of the completed survey from the acquiring service company.

C. Velocity Profiles and Surveys

1. Vertical Seismic Profiles (VSP): Submit the results from all borehole seismic data (in cased or uncased holes), as well as concurrently run directional surveys for both vertical and directional wells, if they are different from directional surveys referred to in Part I, Section B of this NTL. Submit on CD or DVD ROM, digitally recorded data in industry standard formats (LAS, DLIS, ASCII, CGM, TIFF, JPG, SEGY, DOC) that include, but are not limited to,

- the Normal Incidence VSP;
- the Acoustic Log Calibration Report;
- final VSP and Corridor stacks for 2D data and final stacked and migrated volume for 3D VSP data;
- the composite plot with VSP, Corridor stacks, synthetic seismogram, and well logs;
- any referenced information within the report correlative with the acquisition, such as 2-way time indexed depths and velocities, survey parameters, digital images, and computed survey data and directional; and
- if acquired, BOEMRE format time/depth pairs.

We encourage direct submittal of the completed survey from the acquiring service company.

2. Velocity Surveys (Time-Depth Pairs/Checkshots): Submit on CD or DVD ROM, one digital copy coded in ASCII BOEMRE format (see Attachment 2 of this NTL). The report should include or be annotated with the following:

- API number
- well name and number
- well name suffix
- contractor or service provider
- contact name (phone number or e-mail address)

Note that the digital format has been modified to expand the columns for True Vertical Depth and One-Way Travel Time from 5 to 8 to include two decimal places for each column.

We encourage direct submittal of the completed survey from the acquiring service company.

D. Analysis of Percussion Sidewall Cores, Wireline Formation Tests, and Drill Stem Tests

If you conduct any of the following:

- percussion sidewall core analysis or equivalent,
- wireline formation tests - include any logs (summary logs are acceptable) and associated lab results, or
- drill stem tests,

Submit on CD or DVD ROM, one copy of the percussion sidewall core, wireline formation tests, and drill stem tests reports in the original digital format (i.e., WordPerfect, Word, Excel, Lotus 1-2-3). Any data acquired in a log format should be submitted as a log image.

We encourage direct submittal of the completed percussion sidewall core analysis, wireline formation tests, and drill stem tests from the acquiring service company.

E. Geochemical Analyses/Reports and Information

Submit one copy of the Geochemical Analyses/Reports and Information in the original digital format (i.e., WordPerfect, Word, Excel, Lotus 1-2-3, JPEG, CGM, TIFF) if you conducted any geochemical analyses/reports, including internal company or external contractor interpretation reports on:

- cuttings,
- sidewall or conventional cores, and
- fluid samples from the well.

The term "sample" encompasses:

- hydrocarbon gases, specifically methane through pentanes and C6+ hydrocarbons;
- non-hydrocarbon gases (carbon dioxide, hydrogen sulfide, argon, helium, and radon); and
- any liquid hydrocarbons (such as condensate, crude, and bitumen) encountered by the well in cuttings or shows and from any other well sampling or fluid testing.

The analyses, reports, and interpretations to be submitted include, but are not necessarily limited to, the following types of data:

- Total organic carbon
- Rock-eval pyrolysis
- Thermal chromatography-gas chromatography
- Bulk pyrolysis & hydrous pyrolysis
- Gas chromatography
- Pyrolysis/gas chromatography
- Complete saturated biomarker &
- Polynuclear aromatic hydrocarbons
- Stable isotope analyses of carbon & hydrogen
- Compound-specific isotope ratio mass spectrometry
- Isotope ratio mass spectrometry
- Kerogen isolation & bitumen separation
- Organic petrography
- Vitrinite reflectance

- Elemental analysis of kerogen

In addition, submit all data and reports on geochemical characterization of produced oils, including:

- all whole-oil GC, GC MS on oils,
- SARAH (or SARA),
- isotopes on the fractions,
- molecular and isotopic analyses of C1-C5 hydrocarbons metals data, and
- any other geochemical data used from production samples intended for reservoir characterization studies.

Submit on CD or DVD ROM, digitally recorded data in industry standard formats. We encourage direct submittal of the Geochemical Analyses/Reports and Information from the acquiring service company.

F. Detailed Paleontological Reports and Information

As soon as the final and/or revised paleontological information and/or data become available to you, submit one copy in digital format of the entire, detailed paleontological report(s), chart(s), striplog(s), checklist(s), and any other paleontological records. In certain situations, the BOEMRE POCSR may require that you submit preliminary or interim reports. Include the following:

- the range of samples taken,
- a sample analysis identifying fossils and lithology by MD,
- a summary and interpretation (based on identification of foraminifera, nannofossils, or other microfossils) of all biostratigraphic markers, zones, tops, or local markers,
- a description of paleontological ecological zones with water depth at the time of deposition (e.g., Middle Shelf/Neritic 20-100 meters, Outer Shelf/Neritic 100-200 meters),
- sequence analysis interpretations based on histograms of faunal abundance,
- identification of all rock units by depth to the top of relative chronostratigraphic stages (e.g., Upper Pleistocene, Middle Miocene, or Lower Oligocene), and
- a biostratigraphic chart noting the relative ages of the biostratigraphic zones you used in the detailed paleontological reports.

Submit on CD or DVD ROM, one copy of the detailed paleontological report in the original digital format (i.e., WordPerfect, Word, Excel, Lotus 1-2-3, JPEG, CGM, TIFF). We encourage direct submittal of the detailed paleontological report from the acquiring service company.

G. Detailed Analysis of Rotary Sidewall and Conventional Cores/Reports and Information

As soon as the final and/or revised conventional core reports and/or data become available to you, send one digital copy of the entire, detailed report. Such reports include, but are not limited to, the following:

- standard analyses for porosity,
- compaction analyses

- capillary pressure studies
- scanning electron microscopy
- thin section description, analysis, and interpretation
- x-ray diffraction analyses
- laser grain size analyses
- stressed brine porosity and permeability analyses
- rock mechanic studies
- water extraction and core gamma logs
- core photos

In addition, provide one copy of all studies you performed on the core(s) for the purpose of describing and characterizing the reservoir architecture through detailed stratigraphic or depositional analyses. In certain situations, the BOEMRE POCSR may require that you submit preliminary or interim reports.

Submit on CD or DVD ROM, one copy of the rotary sidewall and/or conventional core reports in the original digital format (i.e., WordPerfect, Word, Excel, Lotus 1-2-3, JPEG, CGM, TIFF). We encourage direct submittal of the reports from the acquiring service company.

H. Mudlogs and Reports

Submit one image copy of the following types of Mudlogs, if acquired:

- Physical Formation Log
- Pore Pressure Log
- Engineering Log
- Show Report Log

(1). Image File Formats for Mudlogs: If the original log is in color, the submitted image file must also be in color.

(a) The following image file formats are preferred:

- Geologix - geo draft file (.gdf)
- Geologix - output data file (.odf)

(b) If the preferred formats listed above are not available, submit the image file in the Tag Image File Format (TIFF) with the following specifications:

Black and White TIFF Images

- Header tags as per TIFF standard
- Resolution – 200 dpi
- Compression – CCITT group IV
- Tiling – No

Color TIFF Images

- Header tags as per TIFF standard
- Resolution – 200 dpi
- Palette color – 256 colors
- File format LZW Compressed TIFF

- Tiling – No

Submit one copy of the following types of Mudlogs reports, if collected:

- Show reports – composite into one file
- Mud reports – composite into one file
- End of Well reports – composite into one file
- Daily Drilling reports – composite into one file

Submit on CD or DVD ROM, digitally recorded data in industry standard formats. We encourage direct submittal of the reports from the acquiring service company.

I. End of Operations Report (Form MMS-125) and Attachments

Pursuant to 30 CFR 250.465(a), you must submit an End of Operations Report (Form MMS-125) and the required attachments.

J. Additional Information

Pursuant to 30 CFR 250.469(d), the BOEMRE POCSR may require that you submit additional well reports or records for a specific well(s).

II. When to Submit Well Records

Operators should submit one copy of the digital data on a CD or DVD in a read-only format. Each CD or DVD should be properly labeled with the Area, Block, OCS, Well Number, Well Suffix, API, and the data type (i.e., Paleo Report, Conventional Core Report, Vertical Seismic Survey, etc.). Additionally, as stated in Part I, Section.A.1. of this NTL, digital and image NMR data must be submitted on separate physical media and nomenclature for NMR data files and tool codes should clearly identify them as NMR datasets.

The BOEMRE POCSR recognizes that you need adequate time to submit complete and accurate well records. If you request it, BOEMRE POCSR may grant you a departure under 30 CFR 250.142 for a new required date for submitting the data pertaining to that wellbore. Well records are divided into four groups for the timely submittal of the data.

A. Well Log Data, Directional Surveys, Velocity Surveys, Analyses of Percussion Sidewall Cores, Wireline Formation Test Logs, Drill Stem Tests and Mudlogs/Reports

Submit within 30 days of the "Date Operations Completed" of the last logging run (MWD/LWD or wireline) that you report in Item 7 of the Open Hole Report (Form MMS-133S) for each 12-digit wellbore, sidetrack, and/or bypass:

- well log data,
- directional surveys,

- velocity surveys (time/depth pairs),
- percussion sidewall analysis of cores,
- wireline formation tests logs (summary log), and
- drill stem tests (initial report).

. Note: "Date Operations Completed" for MWD/LWD is when the data is retrieved from the drill string.

The BOEMRE POCSR recognizes that in certain situations (e.g., hole or mechanical problems) it is not practical to submit individual sidetrack or bypass data for short penetrated intervals. In those cases, you may request a departure from us by fax or e-mail for the timely submittal of such data. If you request it, the BOEMRE POCSR may grant you a departure, under 30 CFR 250.142, for a new required date for submitting the data pertaining to that well.

B. Detailed Paleontological, Detailed Rotary Sidewall and Conventional Core Analyses, and Vertical Seismic Profile Reports and Information

For each wellbore in which these data were collected, submit no later than 90 days after the "TD DATE" you report in Item 10 of the Well Activity Report (Form MMS-133):

- detailed paleontological reports and information,
- detailed rotary sidewall and conventional core analyses/reports and information, and
- detailed vertical seismic profile reports.

If you request it, the BOEMRE POCSR may grant you a departure, under 30 CFR 250.142 for a new required date for submitting the data pertaining to that wellbore. Submit these well records when the report is completed, even if the report is generated by you and/or third party (i.e., academic partners, non-lessee partners and/or consultants) years after the wellbore is completed.

C. Geochemical Analyses and PVT Analysis of Fluid Samples

For each wellbore in which these data were collected, submit geochemical analyses and/or PVT Analysis of Fluid Samples no later than 120 days after the "TD DATE" that you report in Item 10 of the Well Activity Report (Form MMS-133). Submit these well records when the report is completed, even if the report is generated by you and/or third party (i.e., academic partners, non-lessee partners and/or consultants) years after the wellbore is completed.

D. End of Operations Report (Form MMS-125)

For each wellbore, submit an End of Operations Report (Form MMS-125) and all its attachments no later than 30 days after the "END DATE" you report in Item 10 of the Well Activity Report (Form MMS-133).

The BOEMRE POCSR uses the Well Activity Report (Form MMS-133) and Open Hole Report (Form MMS-133S) to track well activity; therefore, it is crucial that you submit a complete and accurate report to the BOEMRE POCSR California District in a timely manner. We will treat delinquent and/or

incomplete reports in the same manner as delinquent and/or incomplete well data, and such violations may result in the BOEMRE POCSR pursuing an appropriate remedy, such as issuing an Incident of Noncompliance (INC).

The BOEMRE POCSR may request that you submit well logging data, directional surveys, velocity profiles and surveys, percussion sidewall analyses of cores, wireline formation tests, and drill stem tests before the 30-day limit when we determine that circumstances warrant such action. When we determine that circumstances so warrant, we may also request that you submit preliminary reports of analytical data before the respective 90-day or 120-day limits:

- geochemical analyses/reports and information,
- PVT analyses of fluid samples,
- detailed paleontological reports and information,
- detailed rotary sidewall core analysis and information, and
- detailed conventional core analysis and information

III. Where to Submit Well Records

Operators will submit digital well records for all wells (12-digit API number) that reach total depth on or after the effective date of this NTL to either the BOEMRE or A2D Technologies, as specified in Attachment 1.

Submit complete sets of documents and data to the appropriate designated locations.

A "Well Records Submission Summary" in Attachment 1 of this NTL provides an overview of the various well records, including which entity receives which well records and the addresses and contact numbers of the BOEMRE POCSR Office of Field Operations, California District and A2D Technologies. We strongly recommend that you provide a transmittal letter when you submit any well records. This transmittal should contain the following information:

- Operator's Name
- Operator's Contact Name and Telephone Number
- Bottomhole Location: Area/Block/Lease/Well Name and Number/API Number
- Date Well Records Sent
- Detailed List of Well Records

It is your responsibility to ensure that the BOEMRE POCSR and A2D Technologies receive all well data and information within the specific periods. If we notify you of delinquent data, we will initiate an appropriate remedy, such as issuing an Incident of Noncompliance (INC). If you choose to use a third party to submit well data, it remains your responsibility to ensure that the data are timely received by the BOEMRE POCSR and A2D Technologies. Because you may need time beyond the specified deadlines to prepare unique data or information, we will address the submission of such data or information on an individual basis. We will address any INC's issued by the BOEMRE POCSR for delinquent data submittal at your yearly performance review or through other appropriate and timely measures.

IV. Well Naming and Numbering

Show the API Number and well name assigned by the BOEMRE POCSR California District on all well records you submit to us. You can find these on the approved Application for Permit to Drill (Form MMS-123) for the original hole, sidetracks, and/or bypasses.

Guidance Document Statement

The BOEMRE issues NTL's as guidance documents in accordance with 30 CFR 250.103 to clarify, supplement, and provide more detail about certain BOEMRE regulatory requirements and to outline the information you provide in your various submittals. Under that authority, this NTL sets forth a policy on and an interpretation of a regulatory requirement that provides a clear and consistent approach to complying with that requirement. However, if you wish to use an alternate approach for compliance, you may do so, after you receive approval from the appropriate BOEMRE office under 30 CFR 250.141.

Paperwork Reduction Act of 1995 Statement

The collection of information referred to in this NTL provides clarification, description, or interpretation of requirements contained in 30 CFR 250, subpart D. The Office of Management and Budget (OMB) approved the information collection requirements and assigned OMB control number 1010-0141 for the subpart D regulations. This NTL does not impose additional information collection requirements subject to the Paperwork Reduction Act of 1995.

Contact

If you have any questions on this NTL, you may contact the Regional Supervisor for the Office of Production, Development, and Resource Evaluation by e-mail at drew.mayerson@mms.gov or by telephone at (805) 389-7705.

Ellen G. Aronson
Regional Director

June 30, 2010
Date

Attachments

bcc: File: 0202-03c NTL's

Attachment 1

Well Records Submission Summary

Record types to be submitted to the Minerals Management Service Pacific OCS Region and A2D Technologies.	BOEMRE POCSR		A2D	Submit required information within:
	OPDRE	District		
Image File of the Final Composite Well Logs Comparable to the Digital Copy.			X	30 days after "DATE OPERATIONS COMPLETED" on Form MMS-133S
Image File of the Final Composite Borehole Image, Nuclear Magnetic Resonance, Computed Dipmeter and Formation Tester Logs.			X	30 days after "DATE OPERATIONS COMPLETED" on Form MMS-133S
Image File of the Final Composite Mudlog and One Digital Copy of the Final Composite Reports			X	30 days after "DATE OPERATIONS COMPLETED" on Form MMS-133S
Digital Data of the Final Composite Well Logs (including Nuclear Magnetic Resonance)			X	30 days after "DATE OPERATIONS COMPLETED" on Form MMS-133S
One Digital Copy of the Final Composite Directional Survey.	X			30 days after "DATE OPERATIONS COMPLETED" on Form MMS-133S
One Digital Copy of the Final Composite Velocity Survey.	X			30 days after "DATE OPERATIONS COMPLETED" on Form MMS-133S
One Digital Copy of Percussion Sidewall Core Analysis Reports, Wireline Formation Tests Results, and Drill Stem Test.	X			30 days after "DATE OPERATIONS COMPLETED" on Form MMS-133S
One Digital Copy of the Final Vertical Seismic Profile Report.	X			90 days after "TD DATE" on Form MMS-133
One Digital Copy of Detailed Paleontological Reports.	X			90 days after "TD DATE" on Form MMS-133
One Digital Copy of Detailed Conventional Core or Rotary Sidewall Core Analysis Report.	X			90 days after "TD DATE" on Form MMS-133
One Digital Copy of the Final PVT or Fluid Sample Analysis Report.	X			120 days after "TD DATE" on Form MMS-133
One Digital Copy of Geochemical Analyses and/or Reports.	X			120 days after "TD DATE" on Form MMS-133
One Public Information Copy and Two Complete Copies of the End of Operations Report (Form MMS-125)		X		30 days after "END DATE " on Form MMS-133

All digital data is to be submitted on CD or DVD ROM.

Note: "Date Operations Completed" for MWD/LWD is when the data is retrieved from the drill string.

Addresses	
BOEMRE District Office: Bureau of Ocean Energy Management, Regulation, and Enforcement Pacific OCS Region Office of Field Operations California District 770 Paseo Camarillo Camarillo, CA 93010 Phone: (805) 389-7775 Fax: (805) 734-389-7784	**BOEMRE Regional Office:** Bureau of Ocean Energy Management, Regulation, and Enforcement Pacific OCS Region Office of Production, Development, and Resource Evaluation 770 Paseo Camarillo Camarillo, CA 93010 Telephone: (805) 389-7700 Fax: (805) 389-7737 E-mail: PacificProductionVerification@mms.gov **A2D Technologies** **d/b/a TGS Geological Products and Services** 1010 Common Street Suite 2040 Attn: BOEMRE Well Records New Orleans, LA 70112 Telephone: (504) 524-3450 Fax: (504) 524-3454 **A2D Technologies** is contracted by BOEMRE to verify and store digital Wireline/ MWD/LWD well log data on behalf of BOEMRE as per 30 CFR 250.468(a).

Attachment 2

Velocity Surveys Digital Exchange Format

Definition of terms

1. A record consists of 80 bytes, including the carriage-return and line-feed (HEX 'ODOA').

2. A file is a group of header records and data records physically separated by an inter-record gap (a blank record) and terminating with a control Z (HEX '1A').

Specifications for digital reporting of data on CD or DVD ROM.

1. Suitable for any IBM PC computer or compatible.

2. ASCII mode standard.

3. A file cannot span multiple discs.

4. A disc may contain numerous velocity surveys.

5. The CD/DVD label should identify each wellbore with a 12-digit API number, Lease Number, Well Name/Number, and Well Name Suffix.

6. The label should identify the name, address, and telephone number of the person to contact if problems occur when the data are loaded.

Subdivision of contents

1. A velocity survey will contain header record(s), data record(s), and terminate with an end-of-file marker.

2. Header records should precede the first data record in the file. There should be a set of header records for each borehole with a unique 12-digit API number.

3. As many data records as necessary may be used within a file.

Format for headers

The header records format should consist of the following items. Identify each header record with an "H" as the first character of the record, a blank space, then the relevant data. There should be a set of header records for each borehole with a unique 12-digit API number. Header lines should not exceed 80 columns (characters). Also, enter a <carriage return> after the last column used in each header record in lieu of blank spaces.

Header #1 - This is a mandatory formatted first header record.

1. Header Record ID - The letter H to identify the record as a header record in column 1, followed by a space in column 2.

2. API Number (12 numeric characters available beginning in column 3) - The 12-digit unique identifier to a wellbore assigned by the BOEMRE District Office. The full 12-digit identifier that identifies the well and the wellbore, as prescribed by the American Petroleum Institute D-9 Committee, appears in Bulletin D-12 published April 1966. This data element occupies columns 3 through 14, followed by a space in column 15.

3. Date Survey Conducted (6 numeric characters available beginning in column 16) - The year, month, and day (in format YYYYMMDD) the final survey was conducted. This data element occupies columns 16 through 23. End with a <carriage return>.

An example header record on line 1 would read: **H 608123456701 20050113**<carriage return>

Optional header records

In addition to the mandatory, formatted first header record, it is strongly recommended that other relevant information pertaining to the conditions under which the survey was conducted be included in the header section. Examples of other header records are

Type of Survey - The method used to conduct the velocity survey, e.g., Borehole seismic analysis, seismic acquisition tool, vertical seismic profile, etc.

Example: **H Survey Type Check Shot**<carriage return>

Contractor - The name of the company (up to 78 characters beginning in column three) that conducted the survey.

Example: **H Marine Surveys**<carriage return>

Total Depth of Well - The total measured depth of the well in feet.

Example: **H TD 13700**

Other recommended record headers would include the following:

- Area Code of the block at the bottomhole location (2 characters in format AA);
- Block Number of the block at the bottomhole location (6 characters in format ANNNNA);
- Bottomhole Lease Number (6 characters in format ANNNNN);

- Well Name/Number (5 characters);

- Well Name Suffix (8 characters in format AANNAANN) - The name submitted that identifies the borehole as a sidetrack (e.g., ST01BP00) or bypass (e.g., ST01BP01). The original borehole suffix would be stated as ST00BP00.

An example header record containing these items would read:
H HI 999 G99999 SD001 ST01BP00 <carriage return>

Format for data records

Each survey data record should contain information recorded at a given measurement point in the wellbore. Provide a data record for each measurement point. Arrange survey data records beginning from surface to the bottom of the wellbore.

Item	Column	Format	Description
1.	1-8	NNNNN.NN	**TVD:** The vertical distance, in feet, from sea level to the measurement point. Use a zero in column 1 when the depth is less than 10000 feet. Spaces or commas should not be used.
2.	9-16	NNNNN.NN	**One-Way Travel Time:** The one-way vertical travel time in milliseconds, corrected to sea level.
3.	17-80		Unused space for future use.

Complete file format recommended for velocity surveys

H□NNNNNNNNNNNN *(API #)*□YYYYMMDD (*Date Velocity Run*)
H□Type of Survey
H□Survey Company
H□Total Depth
H□Area Code, Block#, Lease#, Well Name, Well Name Suffix
Data Records – (***Depth***) NNNNN.NN (***One-Way Travel***) NNNNN.NN

Generic example of the format for velocity surveys

H 608123456701 20050113
H Check Shot
H Marine Surveys
H TD 10271
H HI 999 G99999 SD001 ST01BP00

00119.3300023.44
08881.3301233.44

09381.3301287.44
09881.3301338.44
10271.3301378.44

For more information on velocity surveys, please refer to:

http://www.gomr.mms.gov/homepg/mmsforms/REPHANDBK_VELSVY.pdf