

Minerals Management Services

Notice to Lessees No. 2004-G07

Well Records Submittal

Notice to Lessees No. 2004-G07 (Addendum 1)

Change of Well Log Contractor

and

New Curves to Submit

Notice To Leases No. 2004-N03

Directional and Inclination Survey Data Submission
Requirements

NTL No. 2004-G07 and Addendum 1

In these NTLs, the Minerals Management Service (MMS) Gulf of Mexico OCS Region (GOMR) defines the new procedures on how lessees/operators submit well records required by 30 CFR §§ 250.468 and 469, specifying the well records you must submit; the delinquent dates of the various well records; and the correct locations where you must send these well records.

Well Records to Submit

Well Log Data

- Acoustic or Sonic
- Bulk Density
- Conductivity
- Density Correction
- Gamma Ray
- Resistivity/Induction
- Magnetic Resonance
- Mudlogs/Formation Evaluation
- Temperature
- Rate of Penetration
- Caliper
- Dipmeter (computed)
- Spontaneous Potential
- Neutron
- Tension
- Porosity
- Borehole Image
- Formation Tester
- Equivalent circulation density

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- **Borehole Image**
- **Formation Tester**
- Equivalent circulation density

Paper Copy Well Logs

- Submit paper composite copies comparable to the digital data. If logging data from more than one logging vendor are collected in a borehole, you may submit either:
 - - logging data from all vendors composited into a single set of logs
 - or*
 - a set of composited logs from each individual vendor.

Do not submit additional copies, field prints, or copies of separate interim runs unless requested by the MMS GOMR.

Digital Well Log Data

- Submit composite digital curve data in the Canadian Well Log Society Log ASCII Standard (*LAS*), Version 2.0, format, Log Interchange Standard (*LIS*) format or Digital Log Interchange Standard (*DLIS*) format.
- Ensure that the curve data are in an MD composite layout, including full headers for each log curve provided for the well and MWD/LWD log curves.
- Ensure also that each digital curve you submit is represented on the paper log presentation you submit.
- 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.

Submit digital data in MD and include:

A. Full header information, including:

- 12-digit API number
- Bottomhole lease number
- Well name
- Well name suffix
- Bottomhole area and block

B. Information for each tool run, including:

- Borehole fluids
- Mud
- Casing information
- Depth interval
- Filtrate resistivity and temperature
- Bottomhole or maximum recorded temperature

C. Logging tool parameter (matrix values), position of logging tool (i.e., centered or eccentric), and logging engineer's comments.

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

Velocity Surveys and Profiles

- **Velocity Surveys (Time-Depth Pairs/Checkshots)**
 - See Attachment 3 for proper format
 - Note that the 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.
 - The report should include or be annotated with:
 - API number
 - well name and number
 - well name suffix
 - contractor or service provider
 - contact name (phone number or e-mail address)

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

Velocity Surveys and Profiles

■ Velocity Seismic Profiles (VSP)

– What to submit:

- Normal Incidence VSP (SEG Y)
- Acoustic Log Calibration Report/Plot
- Any referenced information such as Digital Images, Digital Raw and Computed Survey Data (including any Time-Depth, Depth-Time and Velocity reports), Directional, Synthetic Seismograms and Observers Notes

– How to submit:

- On IBM compatible diskette or CD ROM
- In Industry Standard Formats such as: LAS, DLIS, ASCII, CGM, TIFF, JPG, SEG Y and DOC

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

Geochemical Analyses/Reports

If you conducted any geochemical analyses/reports, including internal company or external contractor interpretation reports on

- cuttings
- sidewall or conventional cores
- 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)**
- **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**

Submit one copy in either readable digital or paper format.

Detailed Paleontological Reports

For each wellbore in which these data were collected, submit:

- 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)

Submit these well records when the report is completed, even if the report is generated by you and/or third party (i.e., academia, non-lessee partners and/or consultants) years after the wellbore is completed.

Detailed Analysis of Conventional Cores

For each wellbore in which these data were collected, submit:

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

Submit these well records when the report is completed, even if the report is generated by you and/or third party (i.e., academia, non-lessee partners and/or consultants) years after the wellbore is completed.

Analysis of Sidewall Cores, Wireline Formation Tests, and Drill Stem Tests

If you conduct any of the following:

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

Submit one copy in either readable digital or paper format. We encourage direct submittal of the completed sidewall core analysis, wireline formation tests and drill stem tests from the acquiring service company.

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

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

When to Submit Well Records

The following data types are to be submitted within **30 days** of the “Date Operations Completed” of the last logging run (MWD/LWD or wireline) that you report in Item 13 of the Well Activity Report (Form MMS-133) for each 12-digit wellbore, sidetrack, and/or bypass.

- Well Log Data
- Directional Surveys
- Velocity Seismic Profiles (VSP) and Velocity Surveys
- Sidewall Analysis of Cores
- Wireline Formation Tests
- Drill Stem Tests

When to Submit Well Records

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
- Detailed Conventional Core Analyses/Reports

When to Submit Well Records

For each wellbore in which these data were collected, submit no later than **120 days** after the “TD DATE” you report in Item 10 of the Well Activity Report (Form MMS-133).

- Detailed Geochemical Reports

Submit these well records when the report is completed, even if the report is generated by you and/or third party (i.e., academia, non-lessee partners and/or consultants) years after the well bore is completed.

Where to Submit Well Records

Operators will submit **digital** and **one paper copy** of the logs for all wells (12 digit API number) that have reached Total Depth on or after June 1, 2004 to the following Agent:

A2D Technologies
1010 Common Street
Suite 2040
New Orleans, LA 70112
Attention: MMS Operations
Office telephone: (504) 524-3450
Fax: (504) 524-3454

Where to Submit Well Records

Operators will submit a **digital** and/or **one paper copy** of the following data types for all wells (12 digit API number) that have reached Total Depth on or after June 1, 2004 to **MMS** at the GOMR Office.

Well Log Data (Hard copy only)

Directional Surveys

Velocity Profiles and Surveys

Sidewall Analysis of Cores

Wireline Formation Tests

Drill Stem Tests

Detailed Paleontological Reports

Detailed Conventional Core Analyses/Reports

Detailed Geochemical Analyses/Reports

Directional Survey Data

Directional Survey Formats described
in NTL 2004 – G07 have been
superceded by NTL 2004 – N03

Minerals Management Services

Notice To Leases No. 2004-N03

Directional and Inclination Survey Data Submission Requirements

The propose of NTL 2004-N03 is to define and clarify the submission format for Directional Surveys required by 30 CFR §§ 250.468.

Why Change Format?

- Create a National MMS directional survey data format.
- Update the current format created in 1990.
- Use an existing industry data exchange standard format.
- Collect minimum information to verify surveys.
- Improve quality assurance and data management.
- Improve the quality of surveys for MMS and the public.

H CORPORATION
H DIRECTIONAL DRLG.
H GALVESTON BLK. 316
H OCS-G-14835, WELL #1
H RKB(ft.)=92

00050001500066.00
00100010000100.00
00150004500081.00
00200003000092.00
00250004500105.00
00300004500099.00
00350004500100.00
00400011500076.00
00450011500061.00
00512011500061.00
00627064700174.00
00716100500175.60
00807114800179.80
00897183600179.30
01065242300164.70
01124240000164.70
01244313000167.80
01304331700167.60
01424401700173.40
01515454200177.40
01606500600184.70
01696543600188.20
01786620600185.80
01936672400186.00
02029683000183.90
02123664200186.90
02215671700186.00
02305670500186.30
02399670000185.80
02493663000187.70
02587725400186.10
02681760500186.20
02773741700186.70
02867724200187.40
02962734700186.00
03055713500187.20
03146721200184.70
03237724700183.00
03329710500183.40
03424712400182.90
03517772400181.10
03610770500183.20
03704760500181.40
03799752400182.10
03890723500181.70
03984700000181.20
04074692400182.00
04166683000182.20

Example of a MMS Directional Survey ASCII file.

API, DATE

MESURED DEPTH

AZIMUTH

INCLINATION

GRID NORTH

NAD 27

KELLY BUSHING

COMPOSITES ONLY

Survey Report

Calculated using the Minimum Curvature Method
 Computed using PDS VER2.2.6
 Vertical Section Plane: 319.22 deg.

Survey Reference: WELLHEAD
 Reference World Coordinates: Lat. 29.131 N - Lon. 94.24.25 W
 Reference GRID System: LAMBERT Zone: Texas S Central
 Reference GRID Coordinates: 3467404.21 X 462234.74 Y
 North Aligned to: GRID NORTH
 Vertical Section Reference: WELLHEAD
 Closure Reference: WELLHEAD
 TVD Reference: WELLHEAD

SF ----- PLORATION CO.
 OCS-G-18941 #1 BP
 HIGI
 RIG:

DECL.: 1.97° EAST TO GRID
 KBH = 95 FEET TO MSL

HES OFFICE SUPERVISOR:

Example of a MMS
 Paper Copy
 Directional Survey

Measured Depth (ft)	Incl (deg.)	Drift Dir. (deg.)	TVD (ft)	Subsea Depth (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)		Closure Dist. (ft)	Dir. (deg.)	DLS (dg/100ft)
TIE-IN TO RUSTY CLARK MULTI-SHOT @ 11363' MD.										
11363.00	0.75	33.86	11362.38	11267.38	25.86	25.73 N	9.76W	27.52@	339.23	0.00
THE FOLLOWING ARE PATHFINDER LWD SURVEYS.										
11497.00	1.93	218.18	11496.36	11401.36	25.66	24.68 N	10.67W	26.85@	336.63	2.00
11529.00	2.99	268.19	11528.33	11433.33	26.08	24.23 N	11.83W	26.97@	333.97	7.16
11561.00	3.43	284.54	11560.28	11465.28	27.39	24.45 N	13.56W	27.97@	330.92	3.16
11655.00	4.66	300.10	11654.05	11559.05	33.31	27.07 N	19.62W	33.43@	324.06	1.74
11748.00	5.36	303.35	11746.70	11651.70	41.06	31.35 N	26.52W	41.06@	319.78	0.81
11843.00	5.80	312.96	11841.25	11746.25	50.10	37.08 N	33.74W	50.12@	317.69	1.09
11937.00	5.72	303.87	11934.77	11839.77	59.34	42.91 N	41.10W	59.42@	316.23	0.97
12032.00	7.03	312.58	12029.19	11934.19	69.68	49.48 N	49.31W	69.66@	315.10	1.71
12126.00	9.23	323.39	12122.24	12027.24	82.91	59.43 N	58.05W	83.07@	315.67	2.84
12211.00	9.76	321.05	12206.06	12111.06	96.91	70.50 N	66.64W	97.01@	316.61	0.77
12305.00	10.73	315.36	12298.58	12203.58	113.61	82.93 N	77.80W	113.71@	316.83	1.49
12399.00	10.82	311.78	12390.92	12295.92	131.09	95.03 N	90.53W	131.25@	316.39	0.72
12494.00	9.50	312.66	12484.43	12389.43	147.72	106.29 N	102.94W	147.97@	315.92	1.40
12589.00	8.18	310.03	12578.30	12483.30	162.18	115.95 N	113.88W	162.52@	315.51	1.45
12685.00	6.68	306.07	12673.49	12578.49	174.36	123.63 N	123.63W	174.83@	315.00	1.65
12777.00	5.28	298.25	12764.99	12669.99	183.52	128.78 N	131.68W	184.15@	314.36	1.76
12871.00	1.85	271.97	12858.80	12763.80	188.59	130.88 N	137.01W	189.48@	313.69	3.95
12965.00	0.35	250.96	12952.78	12857.78	189.73	130.84 N	138.80W	190.75@	313.31	1.63
13057.00	0.35	217.21	13044.78	12949.78	189.78	130.52 N	139.23W	190.85@	313.15	0.22
13150.00	0.35	247.36	13137.76	13042.76	189.81	130.19 N	139.67W	190.93@	312.99	0.20
13245.00	0.35	307.04	13232.78	13137.78	190.18	130.25 N	140.17W	191.34@	312.90	0.37
13341.00	0.62	330.95	13328.77	13233.77	190.98	130.88 N	140.65W	192.13@	312.94	0.35
13436.00	1.14	335.52	13423.78	13328.78	192.39	132.19 N	141.25W	193.46@	313.09	0.55
13528.00	1.58	341.67	13515.73	13420.73	194.44	134.23 N	142.07W	195.45@	313.37	0.50
13629.00	1.85	351.86	13616.69	13521.69	197.10	137.16 N	142.74W	197.96@	313.86	0.40

Header and Data Elements

HEADER

Well Identification

- UWI/API
- Parent Well Identifier
- Lease Number
- Well Name/Number
- Well Name Suffix
- Operator
- Survey Company
- Survey Date

- Format Identification
 - Format Name & Version
 - Format Type
- Sidetrack/bypass Tie-in
 - Tie In Measured Depth
 - Tie In TVD
 - Tie In X Offset
 - Tie In Y Offset

Survey Reference

- Elevation
- Reference
- Elevation
- Geodetic Datum
- Grid
- Convergence
- Projection ID
- Magnetic
- Declination
- Azimuth
- Reference
- Remarks

DATA

- *Measured Depth*
- *Inclination Angle*
- *Azimuth*
- *Tool Type*
- *Station Type*

Directional Surveys

- Submit composite data in ASCII
- MWD/LWD meets the requirements.
- Submit Wireline when run.
- Ensure also that each digital survey you submit is represented on the paper survey presentation you submit.
- Ensure that the surveys are in composite layout, including full headers for each well.

Directional Survey Labels

- 12-digit API number
- Bottom hole lease number
- Well name & well name suffix
- Contact when available

References

www.mms.gov

- Regulations: <http://www.gpoaccess.gov/cfr/index.html>
 - Title 30 CFR 250.461 What are the requirements for directional and inclination surveys?
 - Title 30 CFR 250.468 What well records am I required to submit?
 - Title 30 CFR 250.469 What other well records could I be required to submit?

- NTL2004-N03:
<http://www.gomr.mms.gov/homepg/regulate/regs/ntls/ntl04-n03.html>

Where to Submit Well Records

Wells that reached Total Depth on July 26, 2004 and later to:

Minerals Management Service (MS 5020)
Gulf of Mexico and Atlantic Region
Technical Data Management Section
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394

E-mail: tdms@mms.gov
Phone: (504) 736-2887
Fax: (504) 736-2857
Keith Welsh @ 504-736-2539
or Keith.Welsh@mms.gov

Minerals Management Service (MS 8200)
Alaska Region
Office of Field Operations
949 E 36th Avenue, Suite 308
Anchorage, Alaska 99508-4363

Phone: (907) 271-6065
Doug Choromanski @ 907-271-6448
or Douglas.Choromanski@mms.gov

Minerals Management Service (MS 7100)
Pacific Region
Office of Reservoir Evaluation and
Production
770 Paseo Camarillo
Camarillo, California 93010

E-mail: rep@mms.gov
Phone: (805) 389-7700
Fax: (504) 736-2857
Mike Brickey @ 805-389-7701
or Michael.Brickey@mms.gov

Who do you contact if you have questions?

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Well Logs

Velocity Surveys and Profiles

Paleontological Reports

Geochemical Reports

Core Reports

Keith Welsh - 504-736-2539

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Directional Surveys