



Department of Energy

Nevada Operations Office

P. O. Box 14100

Las Vegas, NV 89114-4100



FEB 27 1986

P. T. Prestholt
U. S. Nuclear Regulatory Commission
1050 East Flamingo
Suite 319
Las Vegas, NV 89119

WASTE MANAGEMENT PROJECT OFFICE (WMPO) DIRECTOR MANAGEMENT CONTROL FOR
LAWRENCE LIVERMORE NATIONAL LABORATORY (LLNL)

Enclosed for your information and records is a copy of the agreement between the Nevada Operations Office (NV) and the San Francisco Operations Office (SAN) making the Director of WMPO, as Manager of the Nevada Nuclear Waste Storage Investigations (NNWSI) Project, Contracting Officer's Technical Representative for the LLNL contract. Please note that authority to issue "suspension of work orders."

We believe that this document is sufficient to satisfy the Department's and the U. S. Nuclear Regulatory Commission's (NRC) management requirements, and complete our effort to have the WMPO Director have management control over all contractors.

Donald L. Vieth, Director
Waste Management Project Office

WMPO:DLV-728

Enclosure:
Copy of Agreement between
NV and SAN Office

cc w/encl:
V. J. Cassella, DOE/HQ (RW-22) FORS
James Knight DOE/HQ (RW-23) FORS
D. C. Newton, DOE/HQ (RW-23) FORS

8605080111 860321
PDR WASTE
WM-11 PDR

ROUTING AND TRANSMITTAL SLIP

Date
2/12/86

| TO: (Name, office symbol, room number, building, Agency/Post) | Initials | Date |
|---|----------|------|
| 1. Thomas R. Clark, Manager | | |
| 2. D. T. Schueler, Office of the Asst. Mgr for Admin. | L | |
| 3. | | |
| 4. | | |
| 5. | | |

| Action | File | Note and Return |
|--------------|----------------------|------------------|
| Approval | For Clearance | Per Conversation |
| As Requested | For Correction | Prepare Reply |
| Circulate | For Your Information | See Me |
| Comment | Investigate | Signature |
| Coordination | Justify | |

REMARKS

Attached is the Management Agreement between Nevada Operations Office and the San Francisco Operations Office. Please excuse the delay.

B - I NEED TO TALK WITH YOU ABOUT ADDING THIS

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

| | |
|--|-----------------------|
| FROM: (Name, org symbol, Agency/Post) <i>David R. Picasso</i> David R. Picasso, Acting Assistant Manager for Defense | Room No.—Bldg. |
| | Phone No. Programs |

5041-102

★ GPO : 1983 O - 381-529 (308)

OPTIONAL FORM 41 (Rev. 7-76)

Prescribed by GSA
FPMR (41 CFR) 101-11.606

ACTION _____
CC: *VICTOR KUNICK*
CC: *SKOVLEN*
CC: *BLAYLOCK*
CC: *Gene Bailey*
CC: *Ralph Gilly*
CC: *JOY FLORE*

REC'D IN WMPO
2/12/86



Department of Energy

Nevada Operations Office

P. O. Box 14100

Las Vegas, NV 89114-4100

DEC 17 1985

Richard A. DuVal, Manager, San Francisco Operations Office

MANAGEMENT AGREEMENT FOR THE NEVADA NUCLEAR WASTE STORAGE INVESTIGATIONS PROJECT

Enclosed are three copies of the subject Agreement between SAN and NV which has been coordinated between our respective staff, and which I have signed on behalf of NV.

Please sign the Agreement on behalf of SAN and return two fully executed copies to me at the above address, attention: Contracts & Property Division.

We appreciate your staff's coordination and effort in finalizing this Agreement.


Thomas R. Clark
Manager

CPD:WLK:PM

Enclosure:
As stated

DEC 17 1985

DEPARTMENT OF ENERGY
MANAGEMENT AGREEMENT
BETWEEN
NEVADA OPERATIONS OFFICE
AND
SAN FRANCISCO OPERATIONS OFFICE
FOR
TECHNICAL SUPPORT TO THE OFFICE OF CIVILIAN RADIOACTIVE WASTE
MANAGEMENT
AND THE
NEVADA NUCLEAR WASTE STORAGE INVESTIGATIONS PROJECT

1. PURPOSE. The purpose of this MA is to set forth agreements and understandings between SAN and NV, and establish guidelines for their authorized representatives in the conduct of their respective responsibilities concerning LLNL activities on the NNWSI Project. NV has primary responsibility for management control and technical direction for the NNWSI Project. SAN has primary DOE administrative responsibility and contractual authority for LLNL. This MA has been established to define SAN and NV management controls for this project in a manner that provides certain authorities to the assigned NV personnel responsible for management and control of specific aspects of the LLNL activities on the NNWSI Project. Nothing in this agreement is intended to interfere with SAN's overall contract management or other program responsibilities for LLNL activities.

2. BACKGROUND. The NWPA of 1982 assigns certain responsibilities and authorities to the DOE and the NRC with regard to geologic disposal of commercial high-level radioactive waste. NV has been assigned responsibility for management and technical direction of the NNWSI Project by the DOE Headquarters Program Office, OCRWM. LLNL is one of the participating organizations which performs technical support work on the NNWSI Project. This major NNWSI Project participating organization is under contract to DOE, and the contract is administered by SAN.

The NNWSI Project has been established for the purpose of evaluating Yucca Mountain, on and adjacent to the NTS, as a potential location for a geologic repository for commercial and defense high-level radioactive waste. As specified in the Energy Reorganization Act of 1974 and the NWPA of 1982, a construction authorization and license will be required from the NRC in order for DOE to construct and operate a geologic repository. A major regulatory requirement established by the NRC on potential licensees is to assure documented direction of the QA program. Clear management controls, effective lines of communication, and authority must be established by the licensee over all participating organizations and contractors performing quality-related work applicable to licensee actions. The office within NV assigned responsibility for the NNWSI Project is the WMPO. The Director, WMPO, has been designated as the pertinent representative for all NV contracts and agreements, which principally provide support to the NNWSI Project. NV will be the licensee.

3. GENERAL. The NNWSI Project has been designated as part of a MSA Project (First Commercial Radioactive Waste repository) under the programmatic direction of the OCRWM. The DOE Orders applicable to MSA Projects are being implemented by NV, and the Project participants performing work on the NNWSI Project are subject to all applicable provisions of those orders. NVO-196-17, NNWSI Project Quality Assurance Plan, defines QA requirements for the NNWSI Project. Its application to work performed by DOE and contractors on the NNWSI Project is considered mandatory to meet NRC requirements. NVO-196-18, WMPO Quality Assurance Program Plan, defines the policies and methods to be used by the DOE personnel and NV's Quality Assurance Support Contractor on the conduct of quality related activities. Its application on the work performed on the NNWSI Project is also considered mandatory.

The FMFIA of 1982 requirements are applicable to DOE. Vulnerability Assessments and Internal Controls Reviews are required to be performed by the responsible Operations Office as defined in this agreement. SAN is responsible for compliance with the FMFIA with respect to administrative and financial control systems at LLNL. NV is responsible for compliance with FMFIA with respect to programmatic management and direction for activities performed by LLNL in support of this NNWSI Project funded from the NWF.

4. ADMINISTRATION OF AGREEMENT.

a. The Manager, SAN, or such other persons whose names or titles shall be communicated to NV by the Manager, SAN, in writing, will administer this MA for SAN.

b. The Manager, NV, or such other persons whose names or titles shall be communicated to SAN by the Manager, NV, in writing, will administer this MA for NV.

5. DELEGATION OF AUTHORITY AND RESPONSIBILITIES.

a. Manager, SAN, is responsible for the following:

(1) Provide documented authority to the Director, WMPO/NV, for the LLNL contract by taking the necessary contractual and other actions to enable the Director, WMPO/NV to represent the SAN Contracting Officer and perform the administrative functions over LLNL for only that work funded from the NWF for the NNWSI Project as defined in 5.b.(1) below. For the purposes of this agreement, this authority is referred to as Contracting Officers Technical Representative authority (COTR/NV).

(2) While SAN does not plan to conduct its own QA audits of LLNL on NNWSI Project activities SAN may, at its discretion as required for overall contract management purposes either:

(a) Provide observers on NV conducted QA audits of LLNL activities or

(b) Provide a qualified audit team member from SAN to participate on NV QA audits of LLNL's NNWSI Project activities. SAN audit team member qualifications will be in accordance with the requirements specified in NVO-196-18.

(c) The ESQA/SAN will establish on an annual basis, by letter to the PQM/NV following receipt of the NNWSI Project annual audit schedule, which audits SAN will participate on as an audit team member and the name(s) of the individual(s) authorized to serve as audit team members.

(3) Review of, and concurrence with, all QA audit draft findings in audits of LLNL which may impact on areas or resources beyond NNWSI activities. ESQA/SAN will provide written concurrence of draft findings to the PQM/NV in a timely, efficient, and appropriate manner.

(4) If a SAN QA audit would involve NNWSI Project specific areas, SAN will provide an invitation to the PQM/NV to send an observer, and the audit report will be provided to the PQM/NV for information at the time of issuance.

(5) Provide notification in writing to the Manager, NV, of the name of the individual who will act as the SAN point of contact for liaison with NV on Project activities involving or affecting LLNL or SAN. This individual will provide the interface for the COTR/NV with the SAN Contracting Officer and will maintain for SAN cognizance of LLNL participation in the Project.

b. Manager, NV, is responsible for the following:

(1) Provide notification in writing to the Manager, SAN, of the name of the individual currently assigned to the position of Director, WMPO, who will act as the NV authorized representative (COTR/NV) of the SAN Contracting Officer and assume the responsibilities and authority to perform the functions as specified below:

(a) Act as principal point of contact between NV and the LLNL TPO for the technical direction of all NNWSI Project sponsored work assigned to the Laboratory.

(b) Ensure the performance of all necessary actions for effective LLNL performance and compliance with DOE policies and quality requirements, laws and regulations, and DOE and NRC Agreements, established by appropriate authority, applicable to the NNWSI Project. The policies and quality requirements include, but are not limited to, applicable DOE Orders, NVO-196-17, and NVO-196-18, and Laboratory NNWSI Project Quality Assurance Program Plan and Procedures. The DOE/NRC agreements are the Procedural Agreement and Site Specific Agreement and latest revisions. Laws and Federal Regulations are those applicable to geologic repositories such as the NWPA of 1982, 10CFR50 Appendix B, 10CFR60, 10CFR960, 40CFR191 and others.

(c) Ensure identification and resolution of variances between NV and SAN policies, if and where they might exist, in their application to Laboratory operations with the SAN Liaison Officer.

(d) Manage and coordinate the allocation of NWF resources provided for the NNWSI Project, and direct and support the technical work performed by LLNL at the NTS, at the Laboratory, or other appropriate locations.

(e) Establish priorities involving NWF resources provided to the LLNL and resolve conflicts in plans, funding allocations, and Project requirements. The SAN Liaison Officer designated in paragraph 5.a(5) will be kept informed of all requirements for LLNL participation in the Project, and related conflicts or issues.

(f) Provide administrative direction and instructions in accordance with administrative policies and procedural requirements established for the NNWSI Project.

(g) Request and approve work assignments, special Project assignments, and other items requiring approval of a DOE Project Manager (Director, WMPO) to expend NWF resources on the NNWSI Project.

(h) Issue "suspension of work orders" to the Laboratory Technical Project Officer responsible for directing NNWSI Project work on a specific activity, such as structures, systems and components important to safety or isolation. Work may be halted consistent with NNWSI Project QA requirements for prompt corrective action to respond to audit findings and for the control of nonconformances. Since there are no standard suspension of work clauses in Laboratory contracts, it is understood by NV that the issuance of "suspension of work orders" by the COTR/NV will not establish the basis nor create an unallowable cost chargeable to the NNWSI Project.

(i) Issue letters rescinding "suspension of work orders" issued to the affected Laboratory including authority to determine acceptability of corrective action.

(j) Provide the names of any individuals authorized to act for the Director in the absence of the Director, WMPO.

(k) The foregoing NV authorities do not include the authority reserved by the SAN Contracting Officer to issue or accept changes in scope, price, terms or conditions of the LLNL contract, or to sign contractual documents.

(2) Provide notification in writing to the Manager, SAN, of the name of the individual currently assigned to the position of NNWSI Project Quality Manager for NV. Also, provide the names of any individuals authorized to act for the PQM/NV in his absence.

(3) Provide the Director, ESQA/SAN, as a minimum, controlled copies of the approved NNWSI Project QA Plan and Standard Operating Procedures (NVO-196-17), WMPO QA Program Plan and Quality Management Procedures (NVO-196-18), and all approved changes upon issuance for information. Additional copies of the current approved QA Plan and Procedures will be provided upon request of the Director, ESQA/SAN.

(4) Provide the Manager, SAN, copies of the approved DOE/NRC Procedural Agreement (Morgan-Davis Agreement) and DOE/NRC Site Specific Agreement and appendices and all approved changes at the time of issuance or when otherwise available to NV. Additional copies of the approved DOE/NRC Agreements will be provided by NV upon request by SAN.

(5) Provide the Contracting Officer, SAN, a copy of all "suspension of work orders" issued by the COTR/NV to LLNL. A copy of the audit finding or the Nonconformance Report, which establishes the basis for the action will accompany all "suspension of work orders." A copy of letters rescinding "suspension of work orders" will also be provided to the Contracting Officer, SAN, at the time of issuance, and will include a copy of the dispositioned and approved Nonconformance Report.

(6) Provide and maintain the annual NNWSI Project QA audit schedule, and any approved changes, designating the month audits are planned for LLNL. Audit schedules will be provided to ESQA/SAN, in a timely manner. QA audit checklists, audit reports, and audit close-out letters will be provided by NV to ESQA/SAN, at the time of issuance.

(7) Provide qualified lead auditor, and conduct all NNWSI Project scheduled QA audits of LLNL. Lead auditors will be qualified in accordance with the requirements specified in NVO-196-18.

(8) All NNWSI Project QA audits of LLNL will be conducted to a checklist and scope developed and established by the NV. The PQM/NV will have final approval authority to close out the NNWSI Project audit findings. Audit planning, reporting, and close out documentation will be originated by NV and be considered NV QA records.

(a) Draft QA Audit Finding Sheets on LLNL audits will be provided to ESQA/SAN for concurrence prior to finalization by the COTR/NV, to assure findings are not written in a manner which could be interpreted to impact LLNL activities or resources beyond the NNWSI Project.

(b) Copies of all documentation will be provided to ESQA/SAN in a timely, efficient, and appropriate manner.

(9) Provide qualified QA audit team members and/or observers for the conduct of NNWSI Project QA audits as considered sufficient or appropriate by the PQM/NV. All audit team members will be qualified in accordance with the requirements specified in NVO-196-18.

(10) Provide qualified QA surveillance personnel and conduct NNWSI Project QA surveillance on LLNL technical activities as considered sufficient or appropriate by the PQM/NV.

6. PUBLIC INFORMATION. NV will perform the lead public affairs responsibilities for the NNWSI Project in accordance with the NNWSI Project Public Affairs Plan, as may be revised from time to time. LLNL may deal directly with NV on activities associated with public hearings, public meetings, and other public affairs activities on the NNWSI Project. NV Office of Public Affairs (OPA/NV) will be responsible to inform OPA/SAN on actions taken, as appropriate.

7. COMMENCEMENT, CHANGE, AND TERMINATION. This MA shall be effective upon signature of both parties. This MA will remain in effect until terminated or as may be modified from time to time by mutual agreement in writing.

R. A. DuVal

R. A. DuVal, Manager
San Francisco Operations Office

Thomas R. Clark

T. R. Clark, Manager
Nevada Operations Office

2/3/86

Date

12/16/85

Date

DEFINITION OF TERMINOLOGY

| TERMINOLOGY | DEFINITION |
|--|---|
| DOE | Department of Energy |
| DOE/NRC Procedural Agreement | A procedural agreement between the Nuclear Regulatory Commission and the Department of Energy identifying guiding principles for interface during site investigations and site characterization for geologic repositories. This document was executed and published in the Federal Register on August 25, 1983 (FR48:38701). The document is sometimes referred to as the Morgan-Davis Agreement. |
| DOE/NRC Site Specific Agreement | An agreement between the Department of Energy's Office of Site Geologic Repository Deployment Projects (including the NNWSI Project) and the Nuclear Regulatory Commission during the site investigation and characterization programs and prior to the submittal of an application for authorization to construct a repository. This document was transmitted to DOE personnel by memorandum from William J. Bennett, dated September 15, 1984. The document contains several appendices and may be revised from time to time. |
| ESQA/SAN | Environment, Safety, and Quality Assurance Division, San Francisco Operation Office |
| FMFIA | Federal Managers' Financial Integrity Act of 1982. |
| LLNL | Lawrence Livermore National Laboratory |
| MA | Management Agreement |
| MSA | Major Systems Acquisition as defined in DOE Order 4240.1 |
| NNWSI | Nevada Nuclear Waste Storage Investigations |
| NRC | Nuclear Regulatory Commission |
| NTS | Nevada Test Site |
| NV | Nevada Operations Office, Department of Energy |
| NVO-196-17 | A Nevada Operations Office document defining the NNWSI Project Quality Assurance Plan and Standard Operating Procedures, latest revision |
| NVO-196-18 | A Nevada Operations Office document defining Waste Management Project Office Quality Assurance Program Plan and Quality Management Procedures, latest revision |
| NWF | Nuclear Waste Fund as established by Congress in the Nuclear Waste Policy Act of 1982 |
| NWPA | Nuclear Waste Policy Act of 1982 |
| OCRWM | Office of Civilian Radioactive Waste Management, Department of Energy, Headquarters |
| OPA | Office of Public Affairs |
| PQM/NV | Project Quality Manager. A matrix support individual assigned to manage and implement the NNWSI Project QA activities and reports to the Director, QAD/NV |
| QA | Quality Assurance |

DEFINITION OF TERMINOLOGY
(continued)

| TERMINOLOGY | DEFINITION |
|-------------|--|
| QAD/NV | Quality Assurance Division, Nevada Operations Office |
| SAN | San Francisco Operations Office |
| TPO | Technical Project Officer. The title used in reference to the Lead Manager of a technical participating contractor organization on the Nevada Nuclear Waste Storage Investigations Project |
| WMPO | Waste Management Project Office, DOE/NV |

1363

Vaniman, et al., 1985

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

July 17, 1985
TWS-ESS-1-7/85-20

TO: Donald L. Vieth, Director
Waste Management Project Office
US Department of Energy
P.O. Box 14100
Las Vegas, Nevada 89114-4100

Through: Don Oakley *Do*
MS F619
Los Alamos National Lab.
Los Alamos, NM 87545

WLD
for William Dudley
MS 418
US Geological Survey
Box 25046
Denver Federal Center
Denver, CO 80225

D.J. for:
From: D. Vaniman (LANL), J. Downey (USGS), D. Bish (LANL), J. O'Neil (USGS),
S. Levy (LANL)

Contact: Dave Vaniman
MS J978
Los Alamos National Lab.
Los Alamos, NM 87545 FTS#843-1165

IMPACT OF FAULT-RELATED MINERAL DEPOSITS ON SITE CHARACTERIZATION AT YUCCA MOUNTAIN: STUDIES AS OF JULY, 1985

Dear Don;

During our discussion of fault-related mineral deposits on June 27-28, it was decided that a summary of our knowledge of their origins be provided by the end of July. Although many questions remain open and can only be answered through the research program outlined by Joe Downey for the TPOs on June 27, we know enough at this time to show that the most recent and abundant of these deposits need not be viewed with alarm as evidence for hot-spring activity. There is still a viable possibility that the older, drusy quartz that occurs in faults around Yucca Mountain might be a product of hot-spring deposition (ref. Vaniman et al., 1984), but this question can not be answered at this time. This high-temperature quartz is very different from the calcite - silica - sepiolite deposited after it within the faults. For these later deposits we can answer the following questions.

ACTION _____
CC: VIETH
CC: Blanchard
CC: _____
CC: _____

July 17, 1985

TWS-ESS-1-7/85-20

(1) Are the fault-related calcite - silica - sepiolite deposits a result of high-temperature spring activity?

Calcite and silica from the fault exposed in Trench 14, along the eastern flank of Yucca Mountain, have the following $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$ per-mil isotopic compositions referenced to Standard Mean Ocean Water (SMOW) and the Pee Dee Belemnite (PDB) respectively (O'Neil, 1984 and 1985):

| | $\delta^{18}\text{O}(\text{SMOW})$ | $\delta^{13}\text{C}(\text{PDB})$ |
|-------------------------|------------------------------------|-----------------------------------|
| T14-FB calcite | 19.6 | -5.3 |
| T14-3a-w calcite | 20.3 | -7.5 |
| T14-Fa amorphous silica | 27.2 | n.a. |

From the high $\delta^{18}\text{O}$ values and the large difference in $\delta^{18}\text{O}$ between calcite and silica in this assemblage, it is certain that these materials formed at or near surface temperatures (O'Neil, 1984 and 1985). This rules out a high-temperature spring origin for this assemblage.

It is instructive to compare the isotopic composition of the Trench 14 fault-related calcite with that of soil-zone calcite collected from one of the sand ramps skirting Fran Ridge, just east of Yucca Mountain (O'Neil, 1984):

| | $\delta^{18}\text{O}(\text{SMOW})$ | $\delta^{13}\text{C}(\text{PDB})$ |
|-------------|------------------------------------|-----------------------------------|
| FR6 calcite | 19.8 | -7.0 |

Isotopically, there is no basis for assuming that there is any difference between soil-zone calcite of the sand ramps (FR6) and calcite deposited within the fault at Trench 14 (T14-FB, T14-3a-w).

(2) On the basis of mineral assemblage, is there any reason to assume a different origin for soil-zone deposits and the fault-related calcite - silica - sepiolite deposits?

TO: Donald L. Vieth, Director

-3-

July 17, 1985

TWS-ESS-1-7/85-20

If we compare the soil-zone mineralogy of the sand ramps around Yucca Mountain with the calcite - silica - sepiolite mineralogy that occurs near the surface within faults, are there any significant differences? Figure 1 compares the x-ray diffraction patterns of silica-bearing deposits from the sand ramp at Fran Ridge (FR6) with fault-related calcite - silica - sepiolite deposits within the fault exposed in Trench 17 (TR17). Both patterns are very similar, showing assemblages dominated by calcite and opal CT (opal with cristobalite- and tridymite-type structure) with lesser quartz and sepiolite. After treatment with HCl and separation of the $2\mu\text{m}$ size fraction, both types of localities can be shown to contain very similar opal CT and sepiolite patterns. Seams of amorphous silica have also been found in Trench 14, but this material is closely related to the opaline deposits and its occurrence may well be controlled by near-surface flowage in open fractures.

Based on the directly comparable mineralogy of sand-ramp and fault-related samples, there is no reason to assume an origin for the fault-related minerals that would be significantly different from the soil-zone origin of similar sand-ramp minerals. It is quite possible that local saturation may have occurred within some faults, but to date we have found no evidence that would require a deep-seated spring origin for the calcite - silica - sepiolite deposits that occur within faults at Yucca Mountain.

References

O'Neil, J.R. (1984), letter of Dec. 19 to D. Vaniman (attached)

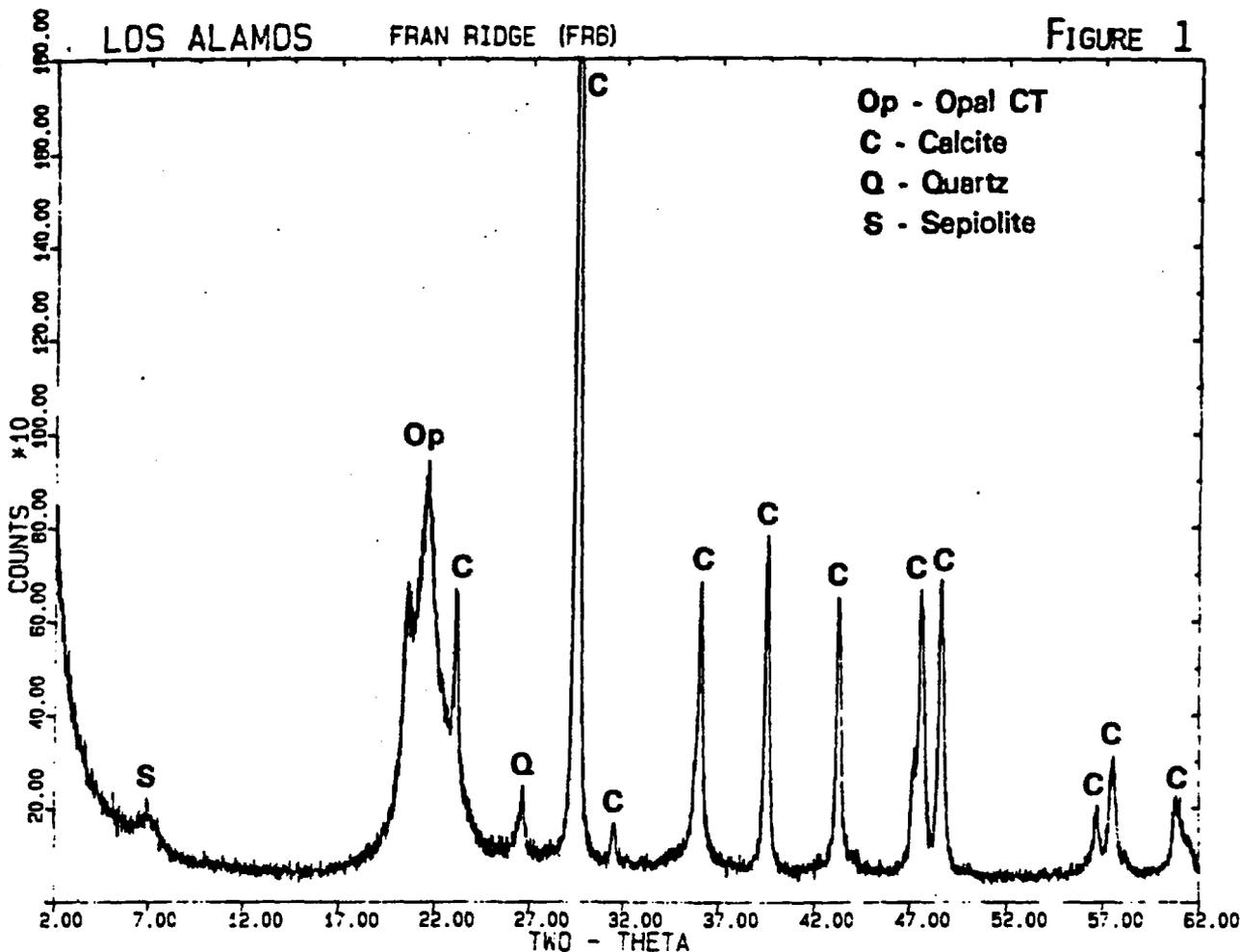
O'Neil, J.R. (1985), letter of April 29 to S. Levy (attached)

Vaniman, D., D. Bish, and S. Levy (1984), progress report of Nov. 30, TWS-ESS-1-11/84-22 (attached)

LOS ALAMOS

FRAN RIDGE (FR6)

FIGURE 1



LOS ALAMOS

TRENCH 17 (TR17)

