UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

June 29, 2007

Docket No. 03022161 License No. 37-20965-01
EA No. 07-156

John Englerth
Health and Safety Coordinator
Valley Quarries, Inc.
297 Quarry Road
P. O. Box J
Chambersburg, PA 17201-0809

SUBJECT: INSPECTION 03022161/2007001, VALLEY QUARRIES, INC.

Dear Mr. Englerth:

On May 10, 2007, Jim Schmidt of this office conducted a safety inspection at your Chambersburg office and at a field location near Gettysburg, PA, of activities authorized by the above listed NRC license. The purpose of this inspection was to follow-up on an event involving the theft of a licensed portable gauge from a company vehicle. You reported this theft to the NRC Operations Center (Event No. 43349) on May 7, 2007. The findings of the inspection were discussed with you at the conclusion of the inspection, and during a subsequent telephone conference between you and Marie Miller of my staff on June 27, 2007. The enclosed report presents the results of this inspection.

Based on the results of this inspection, one apparent violation was identified and is being considered for escalated enforcement in accordance with the NRC Enforcement Policy. The theft of a nuclear gauge in your possession occurred on May 7, 2007, and the security measures in place at the time of this theft did not meet the requirements established by 10 CFR 30.34(i). Specifically, only one of the two required independent physical controls were in place at the time of the theft. The circumstances surrounding this apparent violation, the significance of the issue, and the need for lasting and effective corrective action were discussed with you at the inspection exit meeting at the conclusion of the inspection. Additionally, you issued a letter to the NRC dated June 20, 2007, stating that the training of your authorized users is complete, proper hardware was purchased to support implementing the required security requirements and a physical inspection of the security arrangements to assure proper implementation was performed on June 6, 2007.

Enforcement Guidance Memorandum EGM 06-001 categorizes a violation of 10 CFR 30.34(i) at Severity Level III when the licensee fails to provide adequate security in that one or no independent physical control was present. It is also important to note that apparent violations that involve the loss of a sealed source or device normally result in a civil penalty of at least the base amount, as described in Section VI.C.1 of the NRC Enforcement Policy.

The NRC has concluded that it has sufficient information to make an enforcement decision, because the NRC has concluded that the information regarding the reason for the violation, the corrective actions taken to correct the violation and prevent recurrence, and the date when full

compliance was achieved is already adequately addressed on the docket in your letter to NRC dated June 20, 2007. However, before the NRC makes this decision, we are providing you an opportunity to either: (1) respond to the apparent violation addressed in this inspection report within 30 days of the date of this letter; or (2) request a predecisional enforcement conference (PEC).

Please contact Ms. Miller at (610) 337-5205 within ten days of the date of this letter, to inform us if you want to choose one of these two options. Please note that you are not required to provide a written response or attend a PEC, unless the description of the corrective actions, or the factual information in the enclosed inspection report, does not accurately reflect your corrective actions or your position on this matter. Also, be advised that a PEC is typically open for public observation and will be announced to the public by issuing a press release.

If you decide to respond in writing, your response should be clearly marked as a "Response to An Apparent Violation in Inspection Report No. 03022161/2007001", and should include: (1) the reason for the apparent violation, or, if contested, the basis for disputing the apparent violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance was or will be achieved. In presenting your corrective action, you should be aware that the promptness and comprehensiveness of your actions will be considered in assessing any civil penalty for the apparent violation. The guidance in the enclosed NRC Information Notice 96-28, "SUGGESTED GUIDANCE RELATING TO DEVELOPMENT AND IMPLEMENTATION OF CORRECTIVE ACTION," may be helpful. Your response should be submitted under oath or affirmation and may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate response is not received within the time specified or an extension of time has not been granted by the NRC, the NRC will proceed with its enforcement decision. To the extent possible, your response should not include any personal privacy, proprietary, or security sensitive information, so that it can be made available to the public without redaction.

In addition, please be advised that the number and characterization of apparent violations described in the enclosed inspection report may change as a result of further NRC review. You will be advised by separate correspondence of the results of our deliberations on this matter.

Current NRC regulations are included on the NRC's website at http://www.nrc.gov; select **Nuclear Materials; Medical, Industrial, and Academic Uses of Nuclear Material;** then **Regulations, Guidance, and Communications.** The current NRC Enforcement Policy is included on the NRC's website at http://www.nrc.gov select **About NRC; How We Regulate; Enforcement;** then **Enforcement Policy.** You may also obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-888-293-6498. The GPO is open from 7:00 a.m. to 8:00 p.m. EST, Monday through Friday (except Federal holidays).

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure(s), and your response (if you choose to provide one) will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

***/RA/***

Brian Holian, Director
Division of Nuclear Materials Safety

Enclosures:
1. Inspection Report No. 03022161/2007001
2. NRC Information Notice 96-28

cc:
Susan Gehrett, Contract Information Manager
Commonwealth of Pennsylvania

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Sincerely,

/***RA/***

Brian Holian, Director
Division of Nuclear Materials Safety

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2. NRC Information Notice 96-28

cc:
Susan Gehrett, Contract Information Manager
Commonwealth of Pennsylvania

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# U.S. NUCLEAR REGULATORY COMMISSION
# REGION I

## INSPECTION REPORT

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|---|---|
| Inspection No. | 03022161/2007001 |
| Docket No. | 03022161 |
| License No. | 37-20965-01 |
| Licensee: | Valley Quarries, Inc. |
| Address: | 297 Quarry Road<br>P. O. Box J<br>Chambersburg, Pennsylvania |
| Other Locations Inspected: | 169 Quarry Road, Chambersburg, Pennsylvania; and a Route 34 highway construction project, located south of Gettysburg, Pennsylvania |
| Inspection Dates: | May 10, 2007 and June 27, 2007 |
| Inspector: | ***/RA by Marie Miller Actg For*** _____ ***6/28/07*** _____<br>James Schmidt date<br>Health Physicist |
| Approved By: | ***/RA/*** _____ ***6/28/07*** _____<br>Marie Miller, Chief date<br>Materials Security and Industrial Branch<br>Division of Nuclear Materials Safety |

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## EXECUTIVE SUMMARY

Valley Quarries, Inc.
NRC Inspection Report No. 03022161/2007001

On May 10, 2007, a reactive inspection was conducted at Valley Quarries, Incorporated (VQI) in response to a report of a stolen Troxler portable nuclear density gauge (portable gauge). VQI is a road construction and materials company that operates primarily in Pennsylvania and who presently has three authorized users that operate Troxler portable gauges in support of road construction activities on a daily basis.

On May 7, 2007, VQI reported by telephone to the NRC that a Troxler Model 3430 portable gauge (serial number 32506) was stolen from a company vehicle parked at the residence of an employee. The employee reported last seeing the portable gauge in the vehicle at about 10:00 p.m. on the evening of May 6, 2007. The individual stated that when the crew-cab truck was parked that evening, the portable gauge trigger was locked, the shipping container containing the portable gauge was locked, the container was sitting on the rear seat (passenger side), and the truck cab was locked. No signs of forced entry into the vehicle cab were identified. The portable gauge was subsequently recovered by the police on May 23, 2007.

A single apparent violation associated with the theft event was identified. 10 CFR 30.34(i) requires that a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal be used when the devices are not under the control and constant surveillance of the licensee. For this event, the licensee provided only one tangible barrier, the locked cab, to prevent unauthorized removal of the portable gauge.

The root cause for the licensee's failure to have the required second tangible barrier in place to prevent unauthorized access or theft of licensed material was determined to be the licensee's failure to provide adequate training to the authorized users regarding the revised portable gauge security requirements that went into effect on July 11, 2005.

## REPORT DETAILS

### I. Organization and Scope of the Program

a. Inspection Scope

The inspector interviewed licensee personnel and reviewed select licensee documents to determine the organization and scope of the licensee's program.

b. Observations and Findings

Valley Quarries, Inc. (VQI) is a road construction and materials company that operates primarily in the Pennsylvania counties of Franklin, Adams, and Cumberland. VQI has about 300 employees involved with quarry, asphalt plant, and road construction activities. Within the road construction contract division, VQI has three field technicians/authorized users who are actively involved with the use of licensed portable nuclear density gauges (portable gauges). VQI is authorized to conduct licensed activities at temporary job sites, however, this use has been limited to sites within Pennsylvania. VQI possesses three Troxler portable gauges which are used on a daily basis to support ongoing highway construction projects. They also possess two laboratory asphalt content gauges which are presently in storage awaiting deployment. VQI is authorized to store licensed material at four Pennsylvania locations, however, at the time of the inspection, all licensed material was being stored and issued from the 169 Quarry Road, Chambersburg, location.

The Radiation Safety Officer (RSO) for VQI is formally assigned as the Corporate Heath and Safety Manager. The current RSO was assigned to this position on January 5, 2007, after the previous RSO ended his employment with VQI. To support the day-to-day activities, the VQI Contract Information Manager is assigned as the assistant RSO. The three authorized users are assigned to the road construction crews who report to the individual foreman responsible for controlling the work site activities. Senior management oversight of the program is maintained, in part, by conduct of the annual program review by the VQI Vice President of Operations.

The inspector found that the administrative functions such as annual program reviews, conduct of leak tests, calibration of the licensee's survey instrument, and semi-annual inventories were complete and up-to-date. It was noted, however, that due to the recent departure of the previous RSO, all of these administrative activities were conducted or initiated by the previous RSO rather than the current RSO. The inspector found that the new RSO and assistant RSO were somewhat unfamiliar with the whereabout of some of the supporting program information, such as current leak test results, indicating that they have not been heavily involved with the radiation safety program, since the previous RSO departed. This was discussed with the RSO, who stated that since the turnover from the previous RSO, he has not been heavily involved with the administrative elements of the program. Most of the activities were completed just before he assumed the position, however, he understands that he is responsible for the completion of these activities in the future.

c. Conclusions

No apparent violations were identified. The licensee was found to be in possession of authorized material only and all licensee activities being conducted were within the scope of that established by the license. The VQI organizational structure was found to be adequate to support effective implementation of the radiation safety program given the nature and scope of the existing licensed activities.

## II. Details of Portable Gauge Theft

a. Inspection Scope

The inspector reviewed select documents, interviewed key licensee personnel, and inspected the vehicle involved in a theft of a licensed portable gauge on May 6, 2007, which was reported to the NRC as Event No. 43349.

b. Observations and Findings

At 10:55 a.m. May 7, 2007, VQI reported by telephone to the NRC that a Troxler Model 3430 portable gauge (serial number 32506) had been stolen from a company vehicle parked at the residence of an employee. The inspector found that the event and associated actions occurred as follows:

A licensee employee was using an assigned company vehicle to support ongoing road construction activities that included his use of Troxler portable gauge serial number 32506. The company vehicle was an extended cab pickup truck and the portable gauge was being transported on public highways in the back seat of the vehicle. The individual was authorized by the licensee to keep the portable gauge secured within the vehicle during off-work hours so that the individual could go directly between his home in Fayetteville, Pennsylvania, and nearby road construction activities. The individual reported that, in accordance with his training, while he was in possession of the portable gauge and it was not under his direct control and surveillance, the gauge trigger was locked, the shipping container containing the gauge was locked, the container was stored on the back seat of the vehicle, and the vehicle cab windows and doors were locked.

At about 5:30 a.m. on May 7, 2007, as he prepared to leave for the job site, the employee noted that the portable gauge and his cell phone were missing from inside the vehicle. He last recalled seeing the equipment in the vehicle at about 10:00 p.m. on the evening of May 6, 2007. The employee stated that when the truck was parked that evening, the portable gauge trigger was locked, the portable gauge shipping container was locked, the portable gauge shipping container was sitting on the rear seat (passenger side), and the truck cab was locked. No indications of forced entry into the vehicle cab were found.

After identifying that the theft had occurred, the employee drove his truck to the licensee's Chambersburg office and informed his management. The licensee notified the Pennsylvania State Police at 6:30 a.m. The State Police responded at about

7:00 a.m. and initiated an investigation (Report No. H03-1661925).

At 10:55 a.m. the licensee contacted the NRC Operations Center and filed the required telephone report.

After interviewing the employee and determining that the authorized user did not understand that two levels of physical security were required to prevent theft or unauthorized removal of the portable gauge when it was in storage, the licensee provided individual training to all three authorized users regarding the two barrier security requirements required for portable gauges. This training was completed on the morning of May 7, 2007.

During the evening of May 7, 2007, the licensee's Public Affairs Officer contacted several local newspaper regarding the theft of the portable gauge. A picture of the lost device and a reward offer were included with the information communicated. The licensee reported that five local newspapers were contacted.

At 8:00 a.m. on May 8, 2007, the licensee was notified by an employee of the Chambersburg Hospital that the stolen cell phone was found in their mail box at the hospital. The licensee notified the State Police who retrieved the evidence.

On May 23, 2007, the licensee was notified by the State Police that the portable gauge had been found along side a road in Fayetteville, Pennsylvania and that a suspect had been apprehended. When the portable gauge was picked up for return to the license facilities, the portable gauge lock trigger was locked, but the portable gauge shipping container was not locked.

c. Conclusions

The inspector concluded that the requirement for the licensee to provide the immediate telephone report required by 10 CFR 20.2201(a) for circumstances where greater than 1000 times the quantity specified in Appendix C was met by the licensee.

A single apparent violation associated with the theft event was identified.
10 CFR 30.34(i) requires that a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal be used when the devices are not under the control and constant surveillance of the licensee. For this event, the licensee provided only one tangible barrier, the locked cab, to prevent unauthorized removal of the portable device.

## III. Training of Workers

a. Inspection Scope

The inspector reviewed the content of the licensee's most recent authorized user refresher training program and interviewed authorized users regarding the security requirements established for the control of portable gauges while not under the direct control and constant surveillance of licensee personnel. Additionally, as part of the temporary job site inspection, the inspector observed an authorized user secure a licensed portable gauge using the methods provided by the licensee's post event training.

b. Observations and Findings

The inspector determined that the licensee had not clearly communicated to the authorized users the requirement for a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal when the devices are not under the control and constant surveillance of the authorized user before the requirement went into effect on July 11, 2005. Although not required by regulation or license condition, the licensee last provided refresher training to the authorized users on January 18, 2005, which was before the new security requirement implementation date. The content of this training session did not include the double security barrier requirement. Both of the two authorized users interviewed stated that they had not been provided training that detailed the new security requirements. One of the users recalled the topic being addressed in a general blacktopping training session provided by the VQI parent company, but he concluded that the existing practice of locking the trigger, the box and then locking the box onto or in the vehicle met this requirement. This issue was discussed with the RSO who stated that the required security requirements for gauge storage was expressly detailed in his recent externally-provided RSO training class, however, at the time of the theft, he nor the assistant RSO was aware that the existing authorized users had not been appropriately trained to this new security standard by the previous RSO. The RSO reported that immediately after the theft on May 7, 2007, when it was identified that the authorized users were not knowledgeable regarding the double barrier requirement, all three of the authorized users were retrained to understand the security requirements of 10 CFR 30.34(i).

The inspector found that at the time of the inspection the authorized users were knowledgeable about the two independent, tangible barriers that are required to prevent unauthorized removal of portable gauges not under the direct control and surveillance of authorized personnel. When the inspector witnessed an authorized user demonstrate how a portable gauge was now to be secured in a pickup truck bed, the inspector found that the hardware provided to the authorized users by the licensee was not adequate to support implementation of the new security requirements. Specifically, due to the shackle length existing on one of the locks provided to the user, the inspector was able to circumvent one of the two barriers intended to prevent portable gauge theft. This was discussed with the RSO who was unaware of this circumstance. The RSO stated that the appropriate

hardware will be purchased and additional training will be conducted for each authorized user to assure that the security requirements are properly implemented.
The inspector did not identify a circumstance where this hardware deficiency had been used to provide the double lock security for a portable gauge, because the licensee identified the lack of authorized user knowledge on May 7, 2007, so this situation was not classified as an apparent violation. The licensee committed to complete additional training and purchase additional chains and locks to meet applicable NRC and DOT requirements.

c. Conclusions

The licensee did not effectively communicate to the authorized users the security requirements established for portable gauges on July 11, 2007. This training program failure was a root cause for the insufficient security in place at the time of the theft but was not classified as a separate apparent violation since an apparent violation to provide adequate security for portable gauges as required by 10 CFR 30.34(i) was already identified.

On May 7, 2007, following identification that the authorized users were not knowledgeable of the correct vehicle storage security requirements, specific training of the authorized users was conducted. The authorized users were found to be knowledgeable of the security requirements of 10 CFR 30.34(i), however, implementation observations indicated that the licensee needs to review the hardware available to the authorized users and perform additional specific training so that the authorized users will be fully successful in implementing the security requirements in the future. By letter dated June 20, 2007, the licensee confirmed that the training update was completed and the additional equipment to properly transport and secure the gauges during transport were purchased.

## IV. Permanent Facility Portable Gauge Security

a. Inspection Scope

The inspector reviewed the physical storage arrangements being used for the permanent storage locker located at 169 Quarry Road, Chambersburg, Pennsylvania.

b. Observations and Findings

A review of the permanent storage facility revealed that the facility meets the requirements of 10 CFR 30.34(i). Two independent tangible physical barriers were found to be in place for this storage location.

c. Conclusions

The portable gauge security requirements for the permanent licensed material storage room were found to be adequate.

## V. Transportation

a. Inspection Scope

The inspector reviewed the shipping documents being used to support transportation of the portable gauges.

b. Observations and Findings

The inspector identified that the primary emergency phone number being used on the licensee's shipping papers (Troxler Laboratories at 919-839-2676) was no longer functional, however, a licensee contact phone number also included on the shipping papers was available for use by emergency responders, if needed. This non-functioning Troxler phone number was discussed with the licensee who provided evidence that at one time, this was the correct emergency number for Troxler. Further investigation revealed that this number had been changed to 919-549-5939. The licensee immediately corrected the shipping papers to reflect the correct emergency contact number on the shipping papers.

c. Conclusions

The emergency phone number listed on the shipping papers as required by 49 CFR 172.201(d) was found to be a non-functional telephone number. Because the licensee's shipping papers did have an additional functioning phone number that would have provided emergency responders access to a knowledgeable person to support an event response, and the correct emergency response number was immediately corrected on the licensee's shipping papers, this item was classified as a minor violation, not subject to the NRC formal enforcement process.

## VI. Exit Meeting

A preliminary exit meeting was conducted at the conclusion of the inspection. The licensee was in general agreement with the facts associated with the theft of the Troxler portable gauge and the findings of the inspection. The licensee reported that the security hardware available to authorized users would be immediately reviewed and additional training would be provided to the authorized users to assure that the appropriate security measures for portable gauge storage were fully implemented in the future. The licensee confirmed that these additional commitments were met by their letter to NRC dated June 20, 2007. A final exit meeting was conducted by telephone on June 27, 2007.

## PARTIAL LIST OF PERSONS CONTACTED

Licensee
Susan Gehrett, VQI Contract Information Manager

*John Englerth, VQI Health & Safety Director/RSO
Ed Plummer, VQI field technician
Paul Houpt, VQI field technicain

Pennsylvania Bureau of Radiation Protection (PABRP)

Roy Kitzer, Inspector
Scott Wilson, Inspector

* Denotes participation in final exit telephone conference on June 27, 2007.