

Report



Utah Valley State College

received 10/25/06

ASSESSMENT REPORT FOR

Earth Science

Bachelor's

(Instructional Degree Program)

2005-2006

(Degree Level)

October 2006

(Assessment Period Covered)

(Date Submitted)

Intended Educational (Student) Outcome:

Note: There should be one form C for each intended outcome listed on form B. The intended outcome should be restated in the box immediately below and the intended outcome number entered in the blank spaces.

Technical knowledge of their major field

First Means of Assessment for Outcome Identified Above:

a. Means of Program Assessment & Criteria for Success:

The graduate survey (see Attachment 1) was distributed to graduates of the program from 2005. The program is considered to be successful in terms of technical knowledge if the related questions on the survey receive an average score of at least 3.5 (out of a possible 4).

a. Summary of Assessment Data Collected:

The average score for technical knowledge was 3.3 from our graduates. This is considered to indicate a need to improve the technical knowledge of our students. Most comments regarding technical knowledge, were favorable, though one graduate did indicate a need for more ore-specific content in one of our courses.

a. Use of Results to Improve Instructional Program:

In the short-term we are incorporating more coverage of ore minerals and genesis in Geo 3080 (Earth Materials). In the long-terms, we will be modifying the curriculum for the Geology Emphasis for the Earth Science degree. One change will be to require an advanced petrology class (which would include ore minerals).

Second Means of Assessment for Outcome Identified Above:

b. Means of Program Assessment & Criteria for Success:

The graduate supervisor survey (see Attachment 2) was distributed to supervisors of employees that had graduated from the program within the previous 12 months. The program is considered to be successful in terms of technical knowledge if the related questions on the survey receive an average score of at least 3.5 (out of a possible 4).

b. Summary of Assessment Data Collected:

The average score for technical knowledge 3.5 from our graduates' supervisors. This is considered to be borderline-acceptable. Most comments regarding technical knowledge were favorable, though one supervisor did note that our graduate did not have any classes in a field specific to mineral exploration (porphyry copper systems).

b. Use of Results to Improve Instructional Program:

In the short-term we are incorporating more coverage of ore minerals and genesis in Geo 3080 (Earth Materials).  
In the long-terms, we will be modifying the curriculum for the Geology Emphasis for the Earth Science degree.  
One change will be to require an advanced petrology class (which would include ore minerals).



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### Intended Educational (Student) Outcome:

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\_\_\_\_  
**Skill with oral and written communication**

### First Means of Assessment for Outcome Identified Above:

#### \_\_\_\_ a. Means of Program Assessment & Criteria for Success:

The graduate survey (see Attachment 1) was distributed to graduates of the program from the previous 12 months. The program is considered to be successful in terms of skill with oral and written communication if the related questions on the survey receive an average score of at least 3.5 (out of a possible 4).

#### \_\_\_\_ a. Summary of Assessment Data Collected:

The average score from our graduates for skill with oral communication was 3.8, and the average score for written communication was 4.0. This is considered to indicate success in terms of developing these skills.

#### \_\_\_\_ a. Use of Results to Improve Instructional Program:

For years we have made it a priority to develop skills in oral and written communication. We require writing and oral presentations in nearly every one of our upper-division courses. These results indicate that our efforts have been successful, and that we should continue the efforts.

### Second Means of Assessment for Outcome Identified Above:

#### \_\_\_\_ b. Means of Program Assessment & Criteria for Success:

The graduate supervisor survey (see Attachment 2) was distributed to supervisors of employees that had graduated from the program within the previous 12 months. The program is considered to be successful in terms of skill with oral and written communication if the related questions on the survey receive an average score of at least 3.5 (out of a possible 4).

#### \_\_\_\_ b. Summary of Assessment Data Collected:

The average response from supervisors was 4.0 for writing ability and 3.5 for oral communications. This is adequate according to our criteria. The only supervisor comment regarding writing and oral presentations noted that one of our graduates writes well and has potential to become a successful oral communicator.

#### \_\_\_\_ b. Use of Results to Improve Instructional Program:

We will continue to emphasize development of writing and speaking skills in our classes. It is worth noting that this average response is significantly higher than the average response regarding written and oral communication in or 2004-2005 program assessment. In that assessment, the average response was 3.2 for writing and 3.5 for oral communication. The higher response in this current assessment may reflect the fact that we have been striving for a couple of years to improve our students' training in written and oral communication.



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\_\_\_\_\_  
Skill with problem solving and reasoning

## First Means of Assessment for Outcome Identified Above:

### \_\_\_\_ a. Means of Program Assessment & Criteria for Success:

The graduate survey (see Attachment 1) was distributed to graduates of the program from the previous 12 months. The program is considered to be successful in terms of skill with problem solving and reasoning if the related questions on the survey receive an average score of at least 3.5(out of a possible 4).

### \_\_\_\_ a. Summary of Assessment Data Collected:

The average response from graduates was 3.8. This is adequate according to our criteria. One student noted that he developed skills in problem solving and reasoning in specific classes (GEO 3200 and GEO 3700).

### \_\_\_\_ a. Use of Results to Improve Instructional Program:

We will continue to develop class assignments that develop problem solving and reasoning skills. In the past two years, we have made an effort to better develop problem solving and reasoning skills among our students. The results of this survey are somewhat better than the previous survey, in which the average response was 3.4, indicating some success in improving these skills.

## Second Means of Assessment for Outcome Identified Above:

### \_\_\_\_ b. Means of Program Assessment & Criteria for Success:

The graduate supervisor survey (see Attachment 2) was distributed to supervisors of employees that had graduated from the program within the previous 12 months. The program is considered to be successful in terms of skill with problem solving and reasoning if the related questions on the survey receive an average score of at least 3.5 (out of a possible 4).

### \_\_\_\_ b. Summary of Assessment Data Collected:

The average response from students was 4.0. This is adequate according to our criteria.

### \_\_\_\_ b. Use of Results to Improve Instructional Program:

We will continue to develop class assignments that develop problem solving and reasoning skills. In the past two years, we have made an effort to better develop problem solving and reasoning skills among our students. The results of this survey are significantly better than the previous survey, in which the average response was 2.8, indicating some success in improving these skills.



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\_\_\_\_\_  
Knowledge of applicable laws and regulations

### First Means of Assessment for Outcome Identified Above:

#### \_\_\_\_ a. Means of Program Assessment & Criteria for Success:

The graduate survey (see Attachment 1) was distributed to graduates of the program from the previous 12 months. The program is considered to be successful in terms of knowledge of applicable laws and regulations if the related questions on the survey receive an average score of at least 3.5 (out of a possible 4).

#### \_\_\_\_ a. Summary of Assessment Data Collected:

The average response from graduates was 2.8. This is inadequate according to our criteria. One student noted that his classes provided him with background on the general laws and regulations, but that he needs more specific knowledge for his job.

#### \_\_\_\_ a. Use of Results to Improve Instructional Program:

We will seek additional information from our graduates about how to improve our graduates' knowledge of laws and regulations. We will review our curriculum and make adjustments as deemed necessary.

### Second Means of Assessment for Outcome Identified Above:

#### \_\_\_\_ b. Means of Program Assessment & Criteria for Success:

The graduate supervisor survey (see Attachment 2) was distributed to supervisors of employees that had graduated from the program within the previous 12 months. The program is considered to be successful in terms of applicable laws and regulations if the related questions on the survey receive an average score of at least 3.5 (out of a possible 4).

#### \_\_\_\_ b. Summary of Assessment Data Collected:

The average response from supervisors was 3.0. This is inadequate according to our criteria. One supervisor noted that our graduate was adept at researching as needed to learn about laws and regulations.

#### \_\_\_\_ b. Use of Results to Improve Instructional Program:

We will seek additional information from our graduates about how to improve our graduates' knowledge of laws and regulations. We will review our curriculum and make adjustments as deemed necessary.



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**Earth Science** **Bachelor's**

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**Intended Educational (Student) Outcome:**

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\_\_\_\_\_  
**Knowledge of professional options and responsibilities**

**First Means of Assessment for Outcome Identified Above:**

\_\_\_\_\_  
**a. Means of Program Assessment & Criteria for Success:**  
The graduate survey (see Attachment 1) was distributed to graduates of the program from the previous 12 months. The program is considered to be successful in terms of knowledge of professional options and responsibilities if the related questions on the survey receive an average score of at least 3.5 (out of a possible 4).

\_\_\_\_\_  
**a. Summary of Assessment Data Collected:**  
The average response from graduates was 3.0. This is inadequate according to our criteria.

\_\_\_\_\_  
**a. Use of Results to Improve Instructional Program:**  
We will seek additional information from our graduates about how to improve our graduates' knowledge of laws and regulations. We will review our curriculum and make adjustments as deemed necessary.

**Second Means of Assessment for Outcome Identified Above:**

\_\_\_\_\_  
**b. Means of Program Assessment & Criteria for Success:**  
The graduate survey (see Attachment 1) will be distributed to all graduates of the program from the previous 12 months. We will consider our program to be successful in terms of knowledge of professional options and responsibilities if the related questions on the survey receive an average score of at least 3.5 (out of a possible 4).

\_\_\_\_\_  
**b. Summary of Assessment Data Collected:**  
The average response from supervisors was 3.5. This is barely adequate according to our criteria. The only comment from a supervisor regarding knowledge of professional options and responsibilities referred to one graduate being young and inexperienced.

\_\_\_\_\_  
**b. Use of Results to Improve Instructional Program:**  
We will seek additional information from our graduates and their supervisors about how to improve our graduates' knowledge of laws and regulations. We will review our curriculum and make adjustments as deemed necessary.

### **Summary of 2005-2006 Assessment of the Bachelor of Science in Earth Science**

The 2005-2006 outcomes assessment for the Bachelor of Science in Earth Science indicated some improvement relative to previous years, through there is still much room for improvement. Following are the steps we will take during fall 2006 and spring 2007 in order to address the shortcomings indicated by this assessment:

1. Interview recent graduates and their supervisors to learn more about specific areas in which our graduates were ill-prepared in terms of technical knowledge. We will make adjustments to appropriate courses based on these interviews.
2. Interview recent graduates and their supervisors to learn more about specific areas in which our graduates were ill-prepared in terms of knowledge of laws and regulations. We will make adjustments to appropriate courses based on these interviews.
3. Interview recent graduates and their supervisors to learn more about specific areas in which our graduates were ill-prepared in terms of knowledge of professional options. We will make adjustments to appropriate courses based on these interviews.

**Attachment 1: Graduate Survey Letter**

**UVSC Department of Earth Science  
Graduate Questionnaire: Bachelor of Science in Earth Science**

Name: \_\_\_\_\_ Phone #: \_\_\_\_\_

Address: \_\_\_\_\_

email: \_\_\_\_\_ Today=s date: \_\_\_\_\_

- 1) When did you graduate? \_\_\_\_\_
- 2) Upon graduation, which of the following did you do? (check all that apply)
  - Apply for graduate programs related to earth science and/or education.
  - Apply for other graduate programs.
  - Seek employment related to earth science.
  - Seek employment not related to earth science.
  - Other - please specify: \_\_\_\_\_
- 3) Which of the following best describes your position now? (check one)
  - Attending a graduate program related to earth science.  
Please specify \_\_\_\_\_
  - Attending another type of graduate program  
Please specify \_\_\_\_\_
  - Employed in a field related to earth science.  
Please specify \_\_\_\_\_
  - Employed in a field not related to earth science.  
Please specify \_\_\_\_\_
  - Other - please specify: \_\_\_\_\_
- 4) Is your current position your first choice? \_\_\_\_\_. If not, what was your first choice and why. do you feel, you were not successful?

- 5) On a scale of 1 to 4, how well did your education provide you with the technical knowledge required for your current position? (circle one)

1	2	3	4	NA
very poorly	somewhat poorly	somewhat well	very well	my current position does not require technical knowledge

Comments related to technical knowledge:

- 6) On a scale of 1 to 4, how well did your education provide you with the field skills required for your current position? (circle one)

1	2	3	4	NA
very poorly	somewhat poorly	somewhat well	very well	my current position does not require field skills

Comments related to field skills:

- 7) On a scale of 1 to 4, how well did your education provide you with the writing ability required for your current position? (circle one)

1	2	3	4	NA
very poorly	somewhat poorly	somewhat well	very well	my current position does not require writing ability

Comments related to writing ability:

- 8) On a scale of 1 to 4, how well did your education provide you with the oral presentation skills required for your current position? (circle one)

1	2	3	4	NA
very poorly	somewhat poorly	somewhat well	very well	my current position does not require oral presentation skills

Comments related to oral presentation skills:

9) On a scale of 1 to 4, how well did your education provide you with the problem solving and reasoning skills required for your current position? (circle one)

- |        |          |          |      |  |
|--------|----------|----------|------|--|
| 1      | 2        | 3        | 4    | NA   |
| very   | somewhat | somewhat | very | my current position does                         |
| poorly | poorly   | well     | well | not require problem solving and reasoning skills |

Comments related to problem solving and reasoning skills:

10) . On a scale of 1 to 4, how well did your education provide you with the knowledge of applicable agencies, laws, and regulations required for your current position? (circle one)

- |        |          |          |      |   |
|--------|----------|----------|------|---|
| 1      | 2        | 3        | 4    | NA  |
| very   | somewhat | somewhat | very | my current position does  |
| poorly | poorly   | well     | well | not require knowledge of applicable agencies, laws, and regulations |

Comments related to knowledge of applicable agencies, laws, and regulations:

11) On a scale of 1 to 4, how well did your education provide you with the knowledge of professional options and responsibilities related to your current position? (circle one)

- |        |          |          |      |  |
|--------|----------|----------|------|--|
| 1      | 2        | 3        | 4    | NA   |
| very   | somewhat | somewhat | very | my current position does   |
| poorly | poorly   | well     | well | not require knowledge of professional options and responsibilities |

Comments related to knowledge of professional options and responsibilities:

Any other comments you care to make regarding the Department of Earth Science at UVSC:

**Attachment 2: Graduate Supervisor Survey Letter**

Employee's Name: \_\_\_\_\_

Your Name: \_\_\_\_\_ Phone #: \_\_\_\_\_

Address: \_\_\_\_\_

Your email: \_\_\_\_\_ Today's date: \_\_\_\_\_

How long has this person worked for you? \_\_\_\_\_

Briefly describe this person's position:

1) On a scale of 1 to 4, how well prepared was this person in terms of his/her technical knowledge required for this position? (circle one)

1	2	3	4	NA
very	somewhat	somewhat	very	this position does
poorly	poorly	well	well	not require technical knowledge

Comments related to technical knowledge:

2) On a scale of 1 to 4, how well prepared was this person in terms of his/her field skills required for this position? (circle one)

1	2	3	4	NA
very	somewhat	somewhat	very	this position does
poorly	poorly	well	well	not require field skills

Comments related to field skills:

3) On a scale of 1 to 4, how well prepared was this person in terms of his/her writing ability required for this position? (circle one)

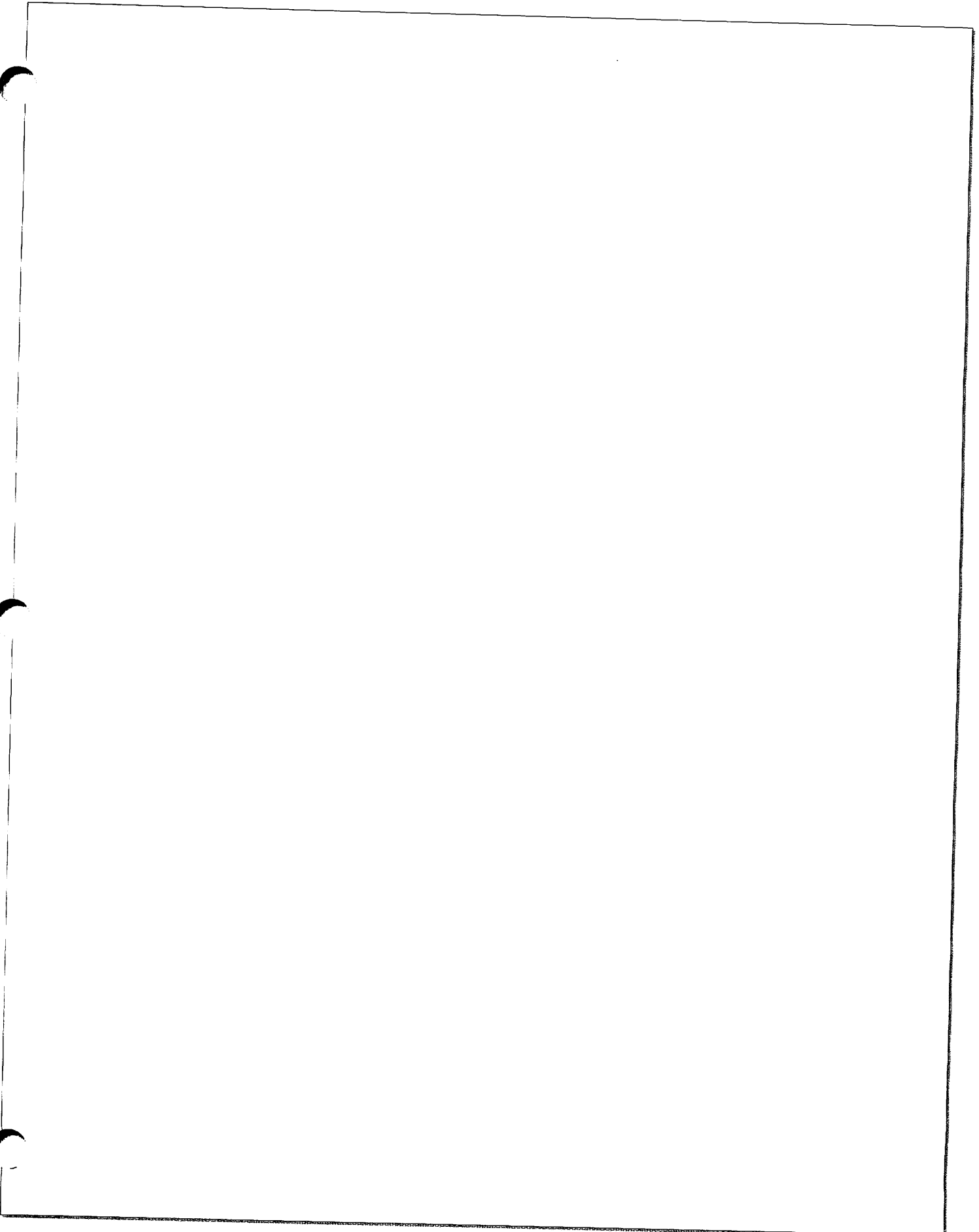
1	2	3	4	NA
very	somewhat	somewhat	very	this position does
poorly	poorly	well	well	not require writing ability

Comments related to writing ability:

4) On a scale of 1 to 4, how well prepared was this person in terms of his/her oral presentation skills required for this position? (circle one)

1	2	3	4	NA
very	somewhat	somewhat	very	this position does not require
poorly	poorly	well	well	oral presentation skills.

Comments related to oral presentation skills:



5) On a scale of 1 to 4, how well prepared was this person in terms of his/her problem solving and reasoning skills required for this position? (circle one)

1	2	3	4	NA
very poorly	somewhat poorly	somewhat well	very well	this position does not require problem solving skills

Comments related to problem solving and reasoning skills:

6) On a scale of 1 to 4, how well prepared was this person in terms of his/her knowledge of applicable agencies, laws, and regulations required for this position? (circle one)

1	2	3	4	NA
very poorly	somewhat poorly	somewhat well	very well	this position does not require knowledge of agencies, laws, etc.

Comments related to knowledge of applicable agencies, laws, and regulations:

7) On a scale of 1 to 4, how well prepared was this person in terms of the knowledge of professional conduct and behavior related to his/her current position? (circle one)

1	2	3	4
very poorly	somewhat poorly	somewhat well	very well

Comments related to knowledge of professional options and responsibilities:

8) Any other comments you care to make regarding the employees education by the Department of Earth Science at UVSC: