

# Project Analysis and Evaluation

# Objective

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Provide accurate and complete information to the decision maker.

# Initial Project Considerations

- What is your role?
- When to be scared!
- Project complexity?
- Use third party consultants?
- Cost recovery?
- Skill set and workload?
- Part of a larger project?

# Objective

Analyze a project proposal using the visual contrast rating system to determine the elements of a project that are inconsistent with VRM objectives and recommend measures to improve the visual quality of that project



# Contrast Rating

A systematic process we use to identify, describe and analyze potential visual impacts of proposed projects and activities



# Visual Contrast Rating

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- Systematic process mandated by Bureau policy
- Helps identify where and how the greatest visual contrasts occur in a project and how these can be mitigated
- Assists Bureau personnel not formally trained in the design arts to apply basic principles of design to resolve visual impacts *and review analysis done by others.*



# Basic Philosophy

The degree to which a development adversely affects the visual quality of a landscape is directly related to the amount of visual **contrast** between it and the existing landscape character



# Visual Contrast Rating System

The amount of contrast is measured by separating the landscape into major features:

(land/water, vegetation, structures)

then predicting the magnitude of contrast in each of the landscape character elements:

FORM – LINE – COLOR - TEXTURE



# Contrast Rating System

- Prototype VMS system developed in 1979

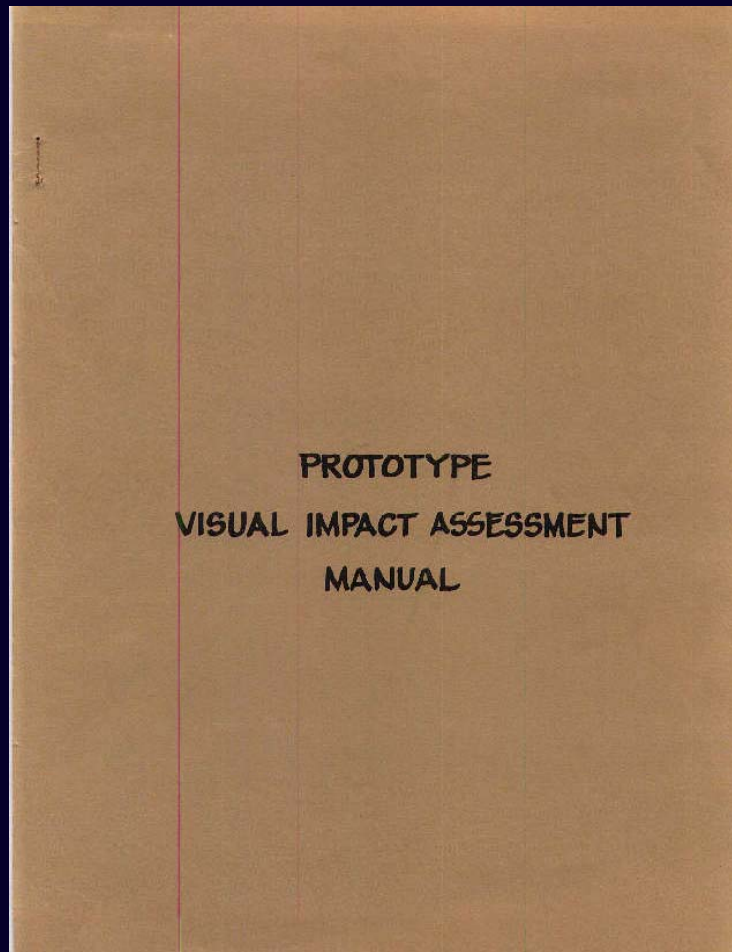


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# Analytical Format



Major Features				
Landscape Character Elements		Land/Water	Vegetation	Structures
	Form			
	Line			
	Color			
	Texture			

# Analytical Format

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- Quickly reveals elements & features that cause the greatest visual impact
- A guide to methods to reduce the visual impact of a proposed project or activity
- Provides basis for design that reflects and responds to the setting

# Visual Contrast Rating

- Not a pass – fail exercise. We want an “A”  
- Every attempt is made to reduce visual impacts even if the proposed project meets VRM Management Objectives for the area



# Steps - Contrast Rating Process

1. Obtain a complete project description
2. Identify VRM Objectives from RMP
3. Assess project visibility - Select Key Observation point(s)
4. Prepare visual representation/simulation
5. Complete Contrast Rating

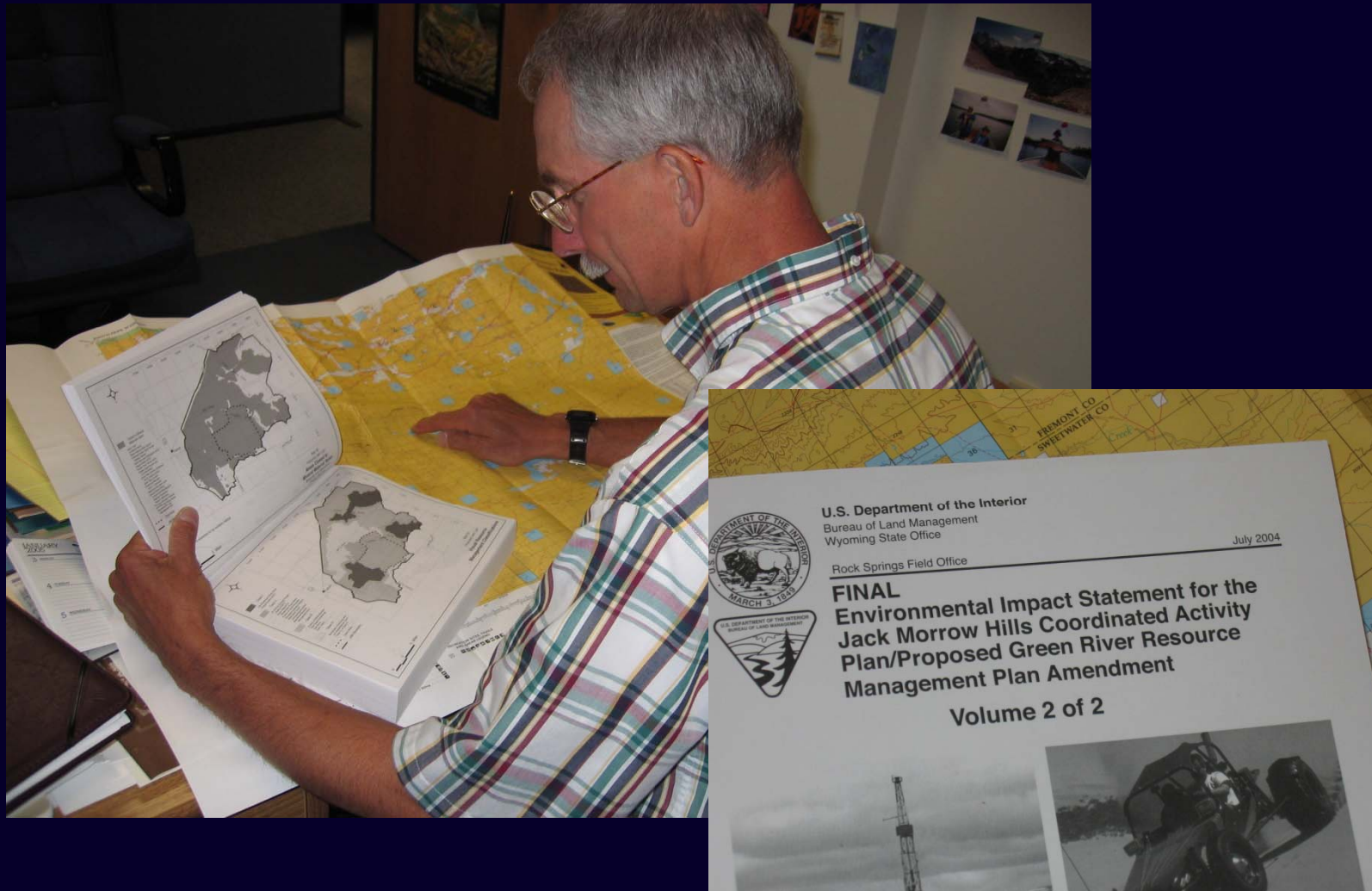
## Step 1 – Obtain Detailed Project Description

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- Emphasize early contact with project proponent
- Coach proponent on project design
- Proposal must be comprehensive
  - Materials?
  - Scale?
  - Colors/Reflectivity?
  - Lights?
  - Temp structures/seasonal use?



## Step 2 - Identify VRM Class From RMP



# No VRM Class Map???

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- Follow BLM policy – Handbook
- Inform manager!
- Inventory project area.
- Find RMP emphasis for that area.
- Develop range of alternatives.
- Prepare contrast ratings.

# Step 3 – Assess Project Visibility

- Viewshed Analysis
- Section/Line of sight analysis
- Site and area reconnaissance

Key Observation Point – A critical viewpoint or place from which we analyze the visual impact of a Proposed Project



# Typical Project KOPs

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- Scenic Overlooks, Rivers & Roads
- Important Vantage Points
- Places from which a proposed project is seen by large numbers of viewers (representative) or critical viewers
- Views From Communities or Subdivisions
- Point where view of proposed project is most revealing (careful to avoid bias in analysis)

# KOP Considerations

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- RMP direction, IDT input
- Distance
- Angle of observation
- # of Viewers
- Length of time project is in view
- Relative project size
- Season of use
- Light conditions & other factors as appropriate



# Rock Quarry – low angle





# Rock Quarry – high angle





# Rock Quarry - foreground



# Rock Quarry - Background





# Seasonal considerations



## Step 4 – Prepare Visual Simulations

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- Helps to understand the project
- Helps to understand the visual impact
- Great way to illustrate impacts in EA
- Seeing an image of the project is much more powerful than trying to imagine it
- Helps eliminate bias
- Allows all team members to see the project the same



# Penstock/pump station site





# Quick paintshop line drawing



# Built project





# Color option/mitigation





# Reduce edge contrast



Old well pad.



# Reduce edge contrast



Old well pad with edges blended.







## Step 5 – Complete Contrast Rating

- See Bureau Manual Handbook H-8431-1 (Note the Illustrations and appendices)
  - Tips/techniques:
    - Use IDT and mentor in field
    - If possible, take a recon trip first to familiarize yourself with directions, setting and light conditions at different times of day
    - GPS and photograph the locations you conduct the analysis from
    - Cover elements on worksheet – can use different format or record observations on tape recorder

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date \_\_\_\_\_

District \_\_\_\_\_

Resource Area \_\_\_\_\_

Activity (program) \_\_\_\_\_

SECTION A. PROJECT INFORMATION

1. Project Name	4. Location Township _____ Range _____ Section _____	5. Location Sketch
2. Key Observation Point		
3. VRM Class		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			
LINE			
COLOR			
TEXTURE			

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			
LINE			
COLOR			
TEXTURE			

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

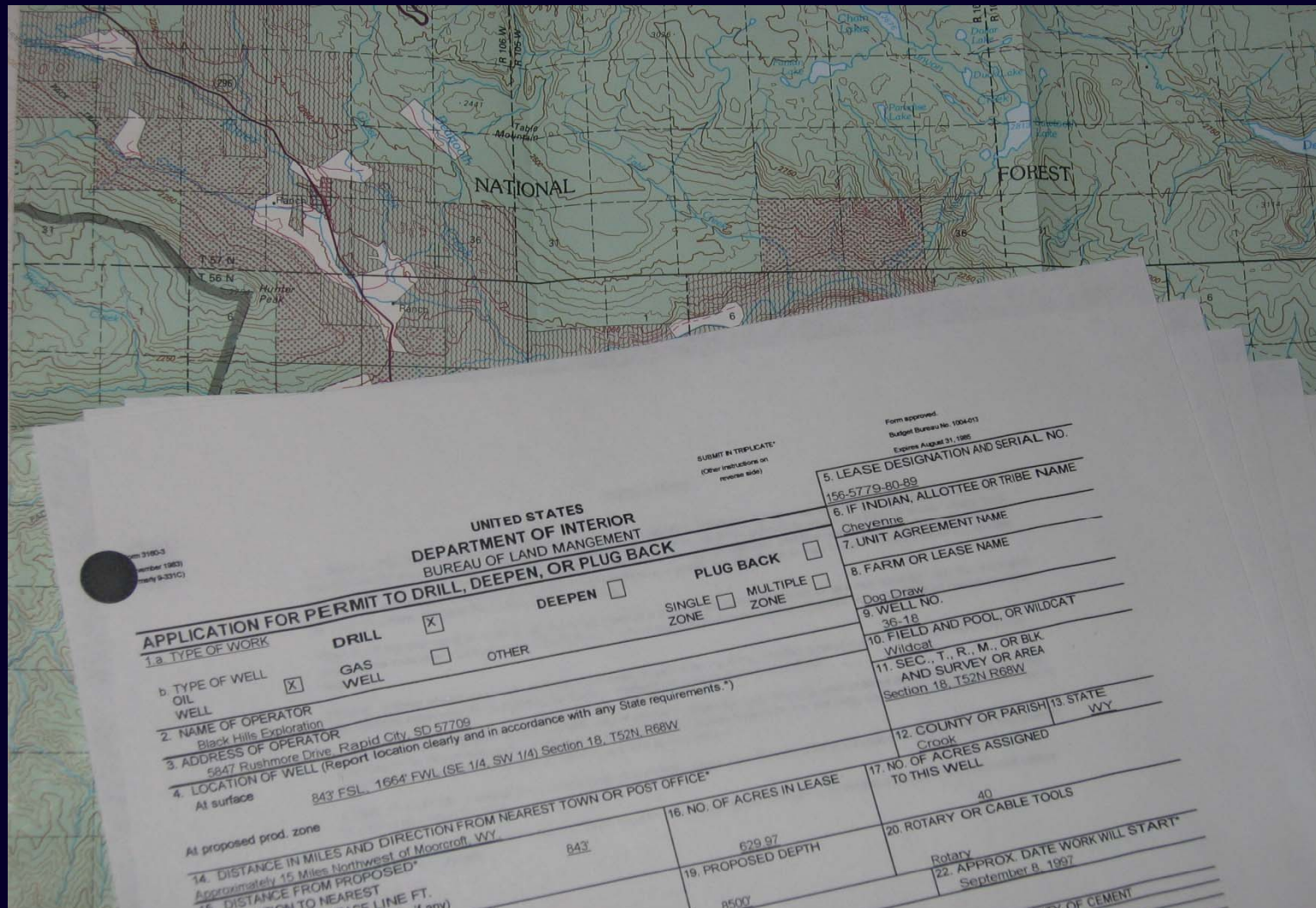
1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)				
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)								
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None					
ELEMENTS	Form																	3. Additional mitigating measures recommended? <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)
	Line																	
	Color																	
	Texture																	
Evaluators' Names _____ Dates _____																		

# Let's Walk Through an Example

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- What is the first step in the process?

# Obtain Complete Project Description



The image shows a topographic map of a forested area with a well permit application form overlaid. The map features contour lines, a river, and various geographical features. The form is titled "APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK" and is issued by the "UNITED STATES DEPARTMENT OF INTERIOR BUREAU OF LAND MANAGEMENT". The form contains several sections for providing project details, including type of work, operator information, location, and lease details.

**UNITED STATES DEPARTMENT OF INTERIOR  
BUREAU OF LAND MANAGEMENT**

**APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK**

**1. TYPE OF WORK**

a. TYPE OF WORK ☒ DRILL ☐ DEEPEN ☐ PLUG BACK

b. TYPE OF WELL ☒ OIL WELL ☐ GAS WELL ☐ OTHER

**2. NAME OF OPERATOR**  
Black Hills Exploration

**3. ADDRESS OF OPERATOR**  
5847 Rushmore Drive, Rapid City, SD 57709

**4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)**  
At surface 843 FSL, 1664 FWL (SE 1/4, SW 1/4) Section 18, T52N R68W

**5. LEASE DESIGNATION AND SERIAL NO.**  
156-5779-80-89

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME**  
Cheyenne

**7. UNIT AGREEMENT NAME**

**8. FARM OR LEASE NAME**  
Dog Draw

**9. WELL NO.**  
36-18

**10. FIELD AND POOL, OR WILDCAT**  
Wildcat

**11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA**  
Section 18, T52N R68W

**12. COUNTY OR PARISH**  
Crook

**13. STATE**  
WY

**14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\***  
At proposed prod. zone 843

**15. DISTANCE FROM PROPOSED WELL TO NEAREST SECTION CORNER (If any)**  
Approximately 15 Miles Northwest of Moorcroft, WY.

**16. NO. OF ACRES IN LEASE**  
629.97

**17. NO. OF ACRES ASSIGNED TO THIS WELL**  
40

**18. PROPOSED DEPTH**  
8500

**19. ROTARY OR CABLE TOOLS**  
Rotary

**20. APPROX. DATE WORK WILL START\***  
September 8, 1997

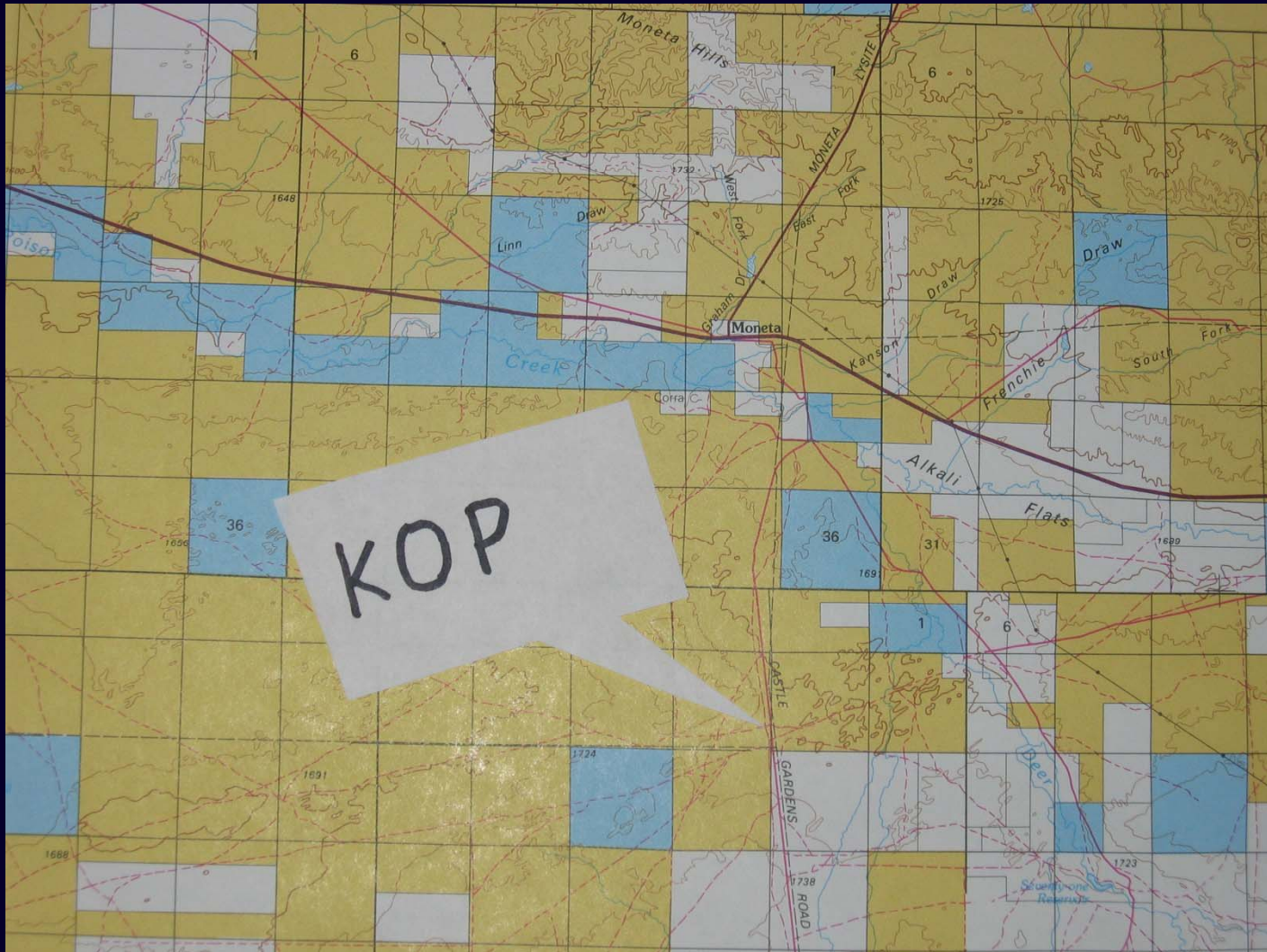
**21. QUANTITY OF CEMENT**



# Review established VRM objectives



# Select KOP(s)





# Prepare Visual Simulation

- Photo of proposed project site



# Simulation of Proposed Project





# Complete Contrast Rating

- Section A of Form 8400-4

Form 8400-4 (September 1985)		UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT		Date: Feb 24, 2004
<b>VISUAL CONTRAST RATING WORKSHEET</b>				District: N/A
				Resource Area: Lander
				Activity: Oil & Gas
<b>SECTION A. PROJECT INFORMATION</b>				
1. Project Name: Well No 136	4. Location Township <u>29N</u>		5. Location Sketch	
2. Key Observation Point 29/91 Sec 21: SESE	Range <u>91W</u>			
3. VRM Class VRM Class IV	Section <u>21</u>			

# Section B of Contrast Rating Form

## Characteristic Landscape Description

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION			
	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Gently rolling terrain, low hills	Low, continuous sagebrush cover, smooth, regular pattern	None noted in view toward the project from the KOP
LINE	Mostly horizontal undulating lines. A horizontal landscape	Weak horizontal lines created by changes in vegetative patterns	None noted in view toward the project from the KOP
COLOR	Light brown to buff where visible	Gray-green of sagebrush is dominant, mostly continuous	None noted in view toward the project from the KOP
TEX-TURE	Smooth, continuous	Medium to slightly coarse in immediate foreground to smooth/fine in middleground	None noted in view toward the project from the KOP

# Section C of Contrast Rating Form

## Proposed Activity Description

SECTION C. PROPOSED ACTIVITY DESCRIPTION			
	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat, leveled pad(s), curvilinear road(s), narrow, linear form	Veg removed from pad, road(s), reclaimed veg low, sparse	Cylindrical tanks, rec- tangular separator unit. A dominant visual element
LINE	Where seen, pad appears as a distinct horizontal line, same with roads	Sharper line(s) where veg removed	Structures have vertical alignment and are visible
COLOR	Light brown to buff- colored pad(s) & road surfaces.	Tan to light buff most of year, light green in spring.	Carlsbad Canyon contrasts with darker gray of sagebrush
TEX- TURE	Smooth texture on pad(s) & road(s)	Smooth where re- established (grasses) Sage may re-establish in 20 years	Smooth texture of facilities a dominant feature of project

# Section D of Contrast Rating form

SECTION D. CONTRAST RATING					SHORT TERM				X				LONG TERM			
ELEMENTS	1.Degree of Contrast	FEATURES												2. Does Project Design meet visual resource management objectives? Yes <u>X</u> No ____ (explain on reverse)		
		Land/Water Body				Vegetation				Structures						
	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	3. Additional mitigating measures recommended. Yes <u>X</u> No ____ (explain on reverse)			
	Form			X				X			X					Evaluator's Names      Date:  Cimarron Chacon      7/16/04 Allysia Angus
	Line		X				X			X						
	Color			X				X		X						
Texture			X				X		X							

Consider mitigation measures as you id contrast:

- What are strong elements in the project setting?
- What are strong elements in the project?
- What can you borrow from the setting?
- What can you change in the setting?
- What can you change in the project:
  - make it fit in setting (color, form, texture, scale...)
  - move it



# Section D – Reverse Side of form

## SECTION D. (Continued)

Comments from Item 2.

The line created by the clearing for the road and drill pad creates a contrast that will attract attention. The installation of storage tanks and the separator unit will introduce vertical-aligned forms that contrast with the characteristic landscape. The structures will have a smooth texture as opposed to the coarse texture of surrounding sagebrush. The facilities introduce vertical lines which will contrast with the predominately horizontal landscape. The color of the tanks as proposed will contrast with the darker color of the dominant sagebrush.

# Contrast Rating form – Mitigating Measures

## Additional Mitigating Measures (See item 3)

1. As per agreement with company representatives, relocate drill pad 250 feet northwest behind/between low stabilized sand dunes.
2. Relocate access road behind/between stabilized dunes
3. Use low profile tanks a maximum of 12 feet high rather than the standard 18 foot tanks
4. Paint facilities a color compatible with sagebrush, the dominant veg species in the area

# Simulation of Project with Mitigation



# Review of VRM Class Objectives

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## Class I

- Preserve the existing character of the landscape. Manage for natural ecological changes
- Change Allowed: Very Low
- Activities must not attract attention

# Review of VRM Class Objectives

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## Class II

- Retain the existing character of the landscape
- Change allowed: Low
- Activities may be visible but should not attract attention of the casual observer



# Review of VRM Class Objectives

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- Class III
- Partially retain the existing character of the landscape
- Change allowed: Moderate
- Activities may attract attention but should not dominate the view of the casual observer

# Review of VRM Class Objectives

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## Class IV

- Provide for management activities which require major modification of the existing character of the landscape
- Change allowed: High
- Activities may attract attention, may dominate the view, but are still mitigated

# What next?

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- Report prepared for project record.
- Discuss with project team and manager.
- Information available for NEPA, may influence range of alternatives.
- Information available for public and others.







