# Ecological site R041XC323AZ
# Volcanic Hills 12-16" p.z. Loamy

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## Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

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| Date | 03/07/2005 |
| Approved by | S. Cassady |
| Approval date | |
| Composition (Indicators 10 and 12) based on | Annual Production |

## Indicators

1. **Number and extent of rills:** None

2. **Presence of water flow patterns:** Uncomon; probably cover no more than 10% of area, discontinuous, very short, usually less than 1 foot in length; broken primarily by high rock and gravel cover.

3. **Number and height of erosional pedestals or terracettes:** Pedestals are uncommon on perennial grass and shrubs; limited soil material not conducive to forming continuous stands of plants that promote terracettes; high rock cover forms limited natural terracettes.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 0-5%

5. **Number of gullies and erosion associated with gullies:** none

6. **Extent of wind scoured, blowouts and/or depositional areas:** none

7. **Amount of litter movement (describe size and distance expected to travel):** All litter size classes staying in place.

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8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** No slake test done. Expect values of 1-3 in canopy interspaces and 4-6 under plant canopies.

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Weak coarse granular; color is 7.5YR4/4 dru" 7.5YR3/4 moist; thickness to 2 inches.

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** cover estimated as: canopy 20-40%; basal 5%; litter 45-55%; and gravel 30%. 45-55% of canopy cover is perennial grasses, 5% perennial forbs, 30% shrubs, 10% subshrubs. Cover is well dispersed throughout site.

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11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None

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12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

    Dominant: perennial grass > annual grasses and forbs > subshrubs = shrubs > succulents = perennial forbs.

    Sub-dominant:

    Other:

    Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** 50% of basil cover of perennial grasses has likely been lost in recent prolonged drouth.

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14. **Average percent litter cover (%) and depth ( in):**

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 700 lbs/ac unfavorable precipitation; 1000 lbs/ac normal precipitation; 1800 lbs/ac favorable precipitation.

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16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:** turpentine bush, jojoba, whitethorn, mesquite, prickley pear, cane cholla, ocotillo may increase

to undesirable levels in absence of natural fires; Red brome and wild oats.

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17. **Perennial plant reproductive capability:** Not affected even following several years of prolonged drought period for the region.

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