
Brown AND
Caldwell

Santa Cruz, CA

Primary Hansen Quarry Opportunities Assessment

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Preliminary Assessment of Primary Hansen Quarry Opportunities

- Surface storage reservoir
- Surface infiltration site
- Infiltration through injection into Lompico and Butano

Potential Surface Reservoir

Google Earth Pro, 2015

Hansen Quarry Characteristics

- Property privately held now
- “Pit” area of about 70 acres
- Pit area has little vertical relief, i.e., shallow
- Disturbed area partially restored (west side)
- Existing, potential or possible areas for threaten/endangered species

Hansen Quarry Surface Storage

Opportunity with SLR water diversion	Estimated storage volume (MG)	Preliminary evaluation
Existing pit depression with no excavation and berm construction	~110	• Limited volume • Large surface area relative to volume for evaporation • Potential deep slide toward Bean Creek
Existing depression with berm for water depth increase	~550 (20-ft berm) ~770 (30-ft berm)	• Large area for evaporation • Potential deep slide toward Bean Creek • CA DOSOD limitations • 3:1 slopes too steep for liner • Proximity to residential area?

Hansen Quarry Surface Infiltration

Opportunity	Preliminary evaluation
Surface spreading	• Infeasible owing to past over excavation and restoration with compacted fill (not highly permeable) • To prevent groundwater degradation, any added water should be high quality (e.g., treated water from GHWTP) • Santa Margarita and Lompico are separated by aquitard
Stone-filled infiltration columns	• Significant concerns over long-term durability, maintainability and longevity (capacity loss over time); little head available • Likely infeasible owing to required column depth—over 90 ft • To prevent groundwater degradation, any added water should be high quality (e.g., treated water from GHWTP) • Santa Margarita and Lompico are separated by aquitard

Hansen Quarry with Deep Injection Wells

- Inject into Lompico Aquifer is preferable and possible
- Inject with SLR water source after treatment through GHWTP to protect water quality and conform to state regulations
- City waiting on KJ aquifer modeling results (directed by SVWD) to determine number of wells and capacity per well