

MONITOR WELL PRE-SPUD PROPOSAL

- 1) WELL NAME/NUMBER: BLM-5
- 2) PROPOSED LOCATION: (a) General (on or off-site) off-site
(attach map) Site Area BLM land
(b) Sect 33 Twnshp 20S Rng 3E NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$
- 3) WELL PARAMETERS:
(a) Est. total depth 500 ft (b) Est. ground elevation 4550 ft
(c) Anticipated stratigraphy:
Alluvium (Santa Fe Group) from 0 ' to 460 ' (depth)
Bedrock (Orejon Andesite) from 460 ' to 500 ' (depth)
_____ from _____ ' to _____ ' (depth)
(d) Anticipated water bearing horizon(s):
Santa Fe Group at - 410 ' (depth)
Orejon Andesite at 460 ' (depth)
(e) Anticipated static water level 400 ' (depth)
- 4) WELL PURPOSE/JUSTIFICATION (attach maps and table if needed):
Downgradient monitor well completed in shallow portion of deep
aquifer adjacent to state and private land. Plume delineation
well.
- 5) PROPOSED DRILLING PARAMETERS:
(a) Drilling method(s): (air/foam/mud rotary/auger/etc.)
Air-foam rotary* ' from 0 ' to TD ' (depth)
_____ ' from _____ ' to _____ ' (depth)
_____ ' from _____ ' to _____ ' (depth)
(b) Lithology sampling - collect sample every:
5' intervals Method Grab from 0 ' to TD (depth)
Core type 2" Christiansen from 460 ' to 470 ' (depth)
2" Christiansen from _____ ' to _____ ' (depth)
2" Christiansen from _____ ' to _____ ' (depth)

* "Quik-Foam" surfactant/water mixture used in conjunction with filtered compressed air.

- (c) Drilling rig type: Chicago Pneumatic rotary rig
- (d) Anticipated drilling additive(s): None
 Water source NASA Quality checked by GC (method)
- (e) Decontamination/Quality Assurance:
 Clean equipment by steam (method) prior to every well
 Clean tools by steam (method) prior to every well
 Other QA procedures Air filtering/monitoring, periodic steam cleaning of tools/sampling equipment when necessary
- (f) Drilling company: Larjon Drilling
 address: P.O. Box 925, Las Cruces, New Mexico 88047
 Company representative: Larry Johnson Phone 505-526-8672

6) PROPOSED BOREHOLE GEOPHYSICS

- (a) Survey type: GR - Neutron from 0 ' to TD (depth)
 Survey type: GR-Den-Res-Cal from 0 ' to TD (depth)
 Survey type: 16"-40" E-Log from 0 ' to W.L. (depth)
- (b) Geophysical company: Southwest Survey
 address: 4200 Skyline Drive, Farmington, NM 87401
 Company representative: Don Pierson Phone 505-325-8531

7) PROPOSED WELL COMPLETION DESIGN/MATERIALS

(a) Casing:	<u>Material</u>	<u>Diameter</u>	<u>From</u>	<u>To</u>	<u>Comments</u>
Temporary					
Surface	<u>steel</u>	<u>10"</u>	<u>0</u>	<u>100'</u>	
Blank (riser)	<u>stainless</u>	<u>4"</u>	<u>0</u>	<u>+3'</u>	
Screen	<u>stainless</u>	<u>4"</u>			<u>.02 slot</u>
Completion Pipe	<u>stainless</u>	<u>4"</u>	<u>0</u>	<u>TD</u>	<u>*</u>
	<u>PVC</u>	<u>4"</u>	<u>0</u>	<u>W.L.</u>	<u>**</u>
Silt trap	<u>stainless</u>	<u>4"</u>	<u>to 5' below screen</u>		
Protective Cap	<u>stainless</u>	<u>4"</u>	<u>on top with lock</u>		

NA = Data not available at this time

* for deep completions (500 feet or more)

** for shallow completions

- (b) Filter pack:
- | | <u>Primary</u> | <u>Secondary</u> |
|---------------------|-----------------------|-------------------------------|
| Material type | <u>Prewashed sand</u> | <u>Prewashed sand</u> |
| Grain Size | <u>8-14/10-20 mix</u> | <u>16/40</u> |
| Est. length (thick) | <u>20 feet</u> | <u>2-3' above gravel pack</u> |
- (c) Seal - Upper: Bentonite Thickness 5 feet above upper 16/40 sand
 Lower: Bentonite Thickness 5 feet below lower 16/40 sand
- (d) Grout - Material 5% Bentonite cement from above completion zone to the surface

8) PROPOSED WELL DEVELOPMENT

- (a) Development method Surge and pump
 Equipment Pulling unit with bailer & submersible pump
- (b) Anticipated flow rate 1-5 gpm Duration until adequately devel.
- (c) Company providing service Larjon

9) WELL AUTHORIZATION

- (a) Proposed by Geoscience Consultants, Ltd.

(c) Authorized Robert Mitchell NASA Robert E. Mitchell 19 Feb 88
 (name) (representing) (signature)