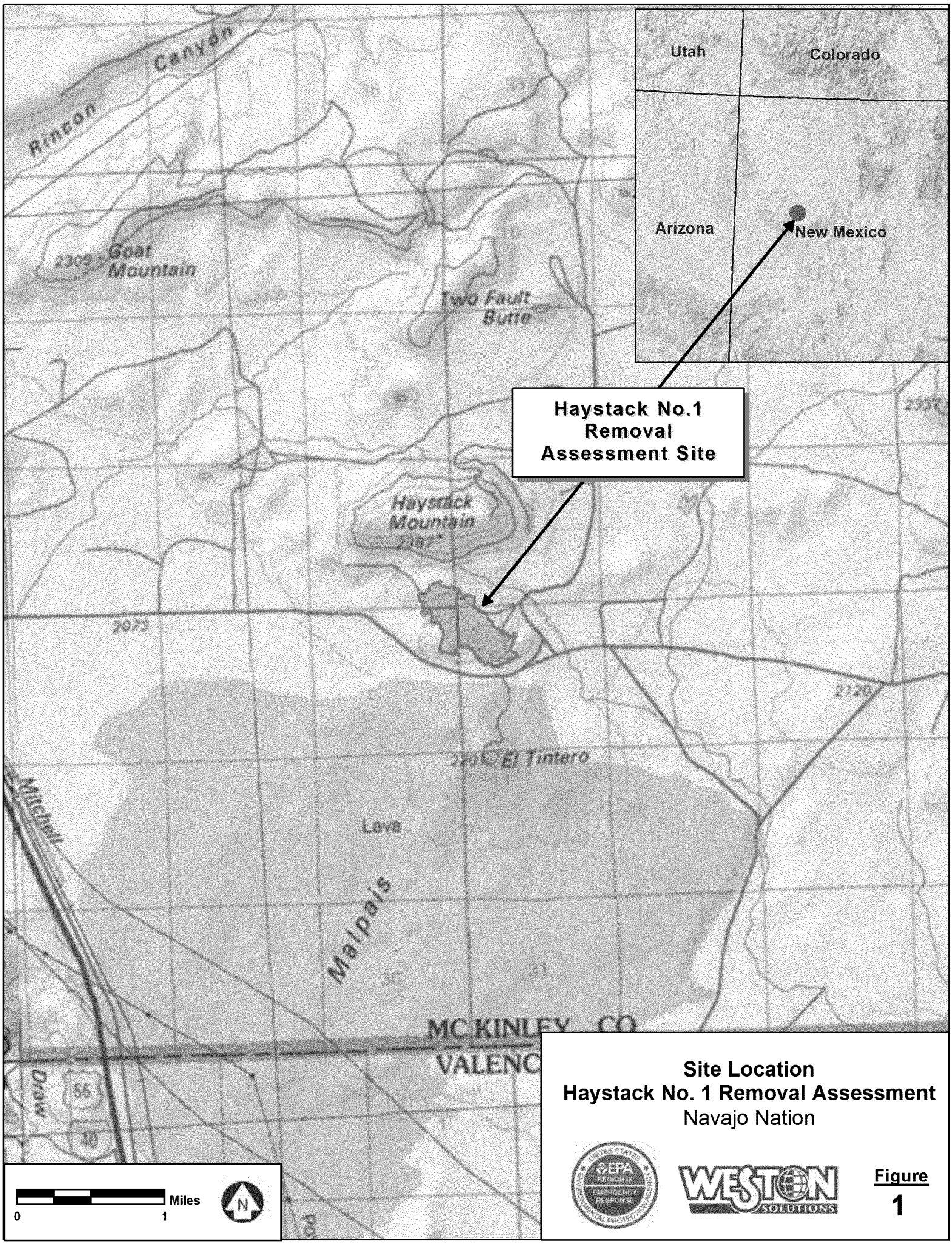
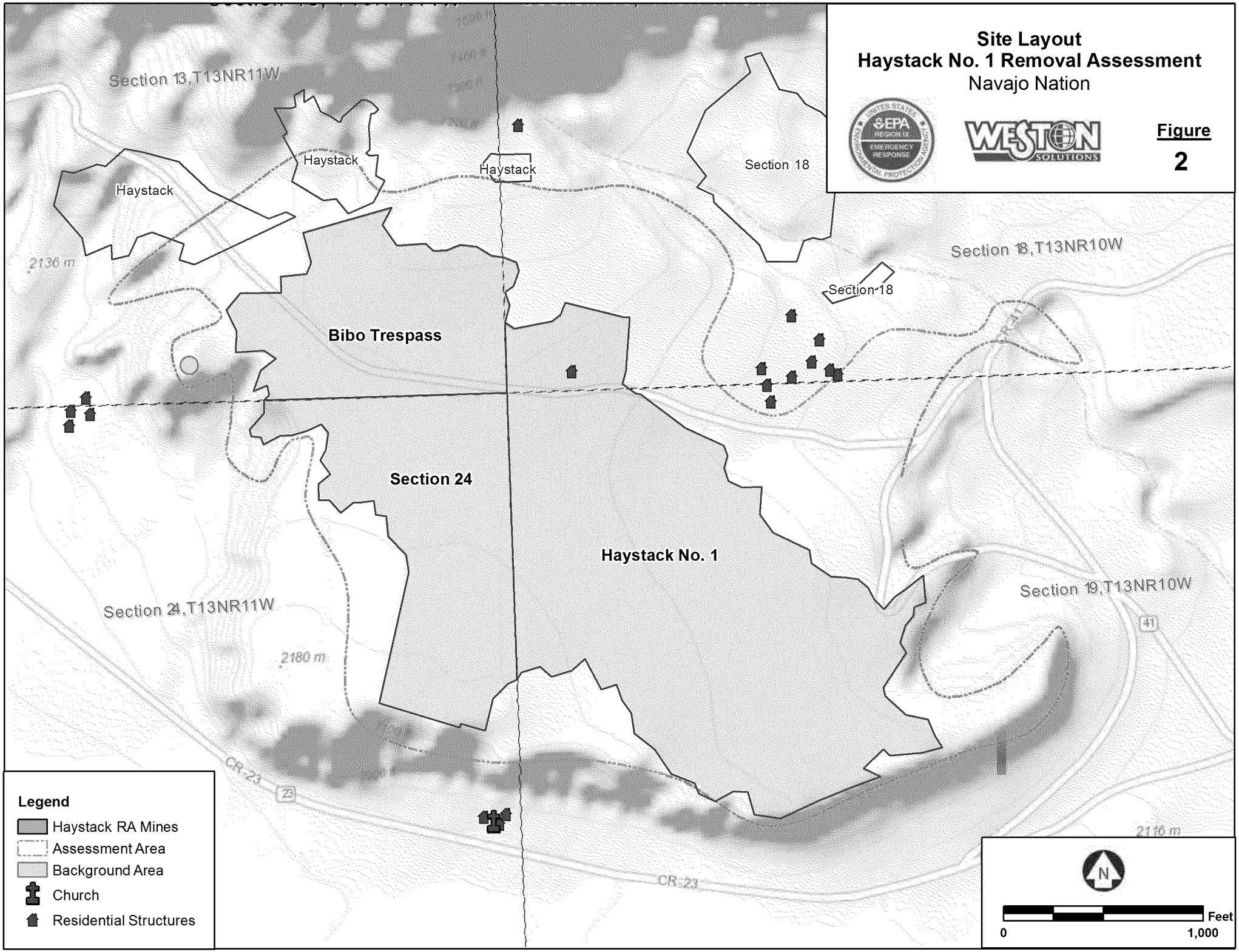
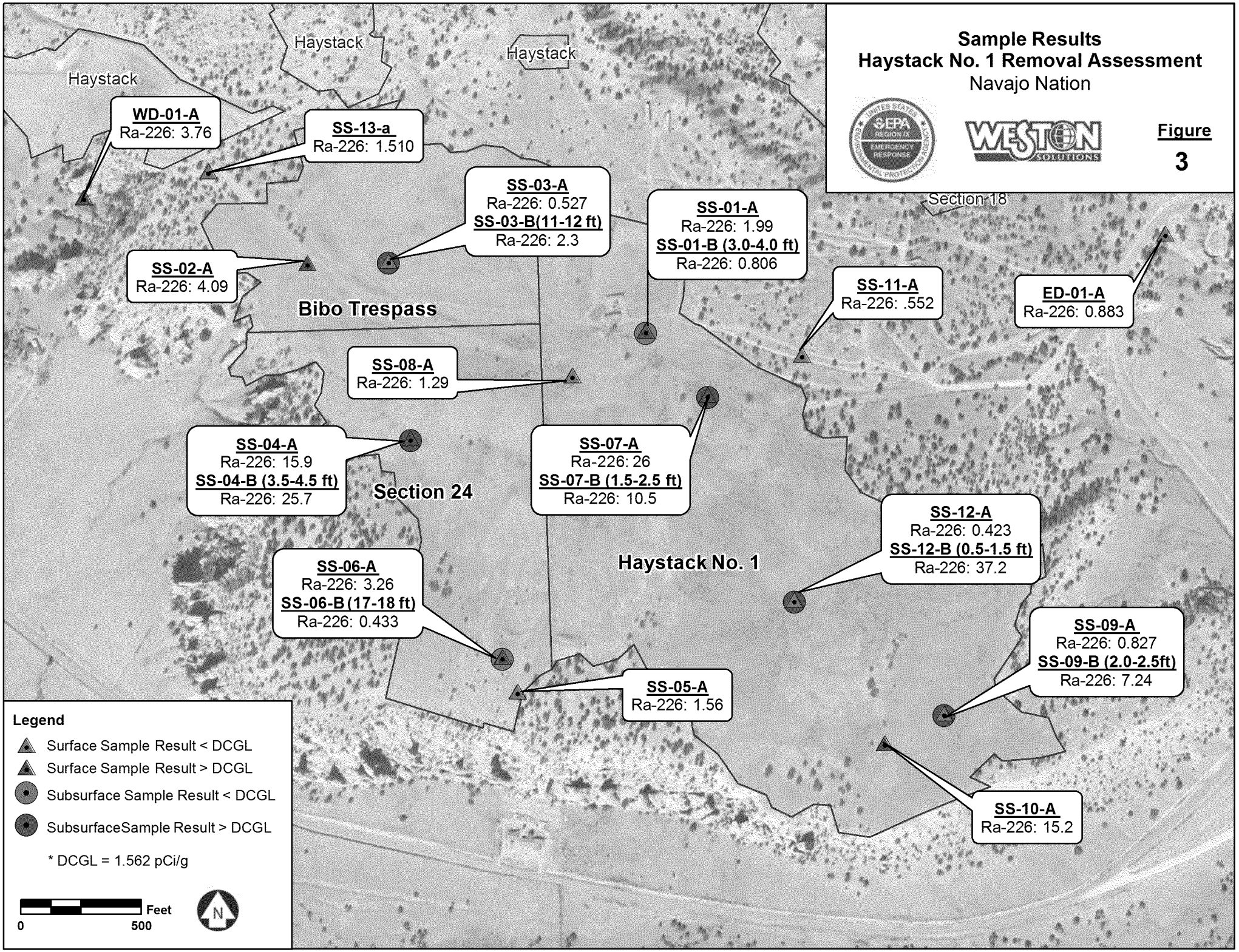
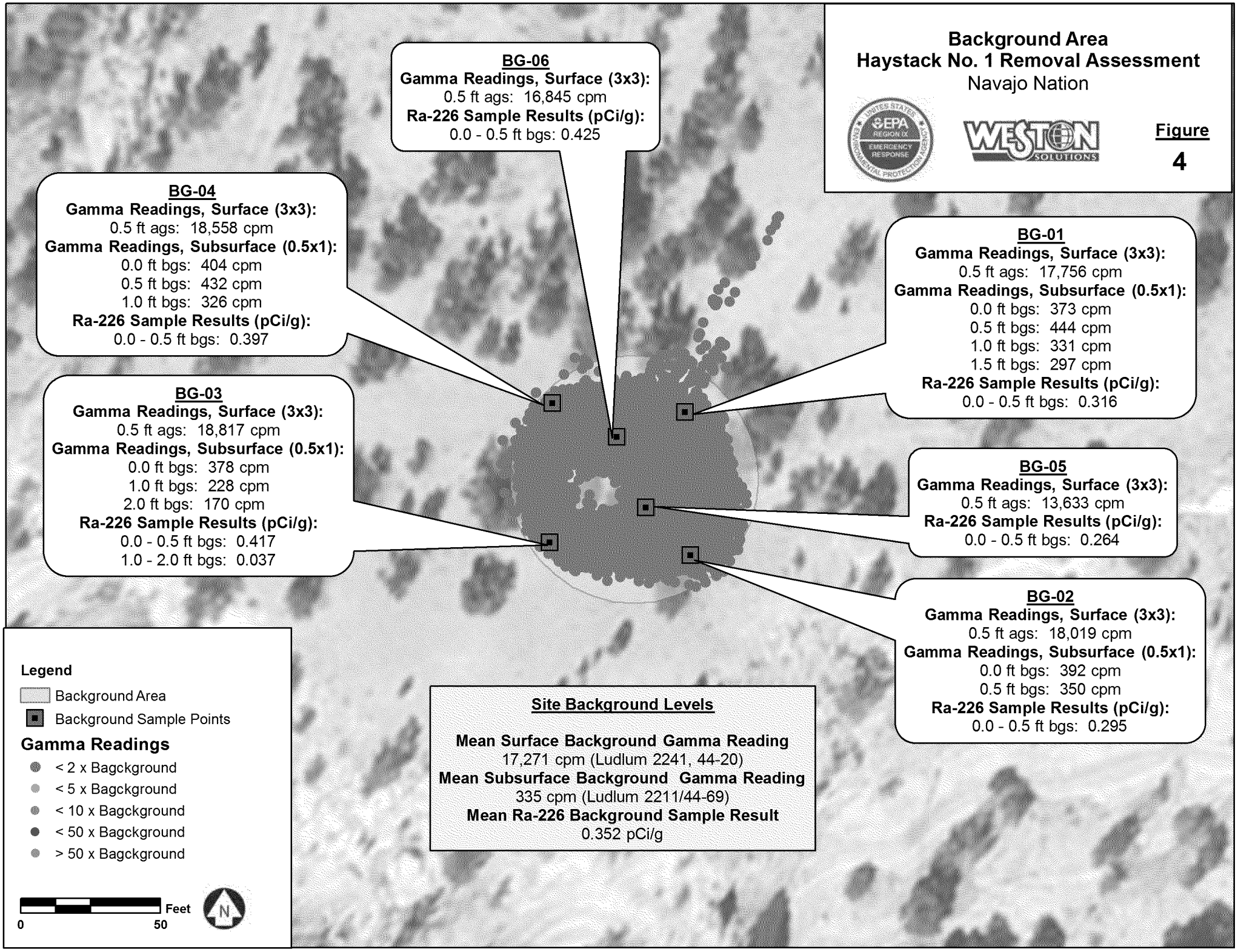


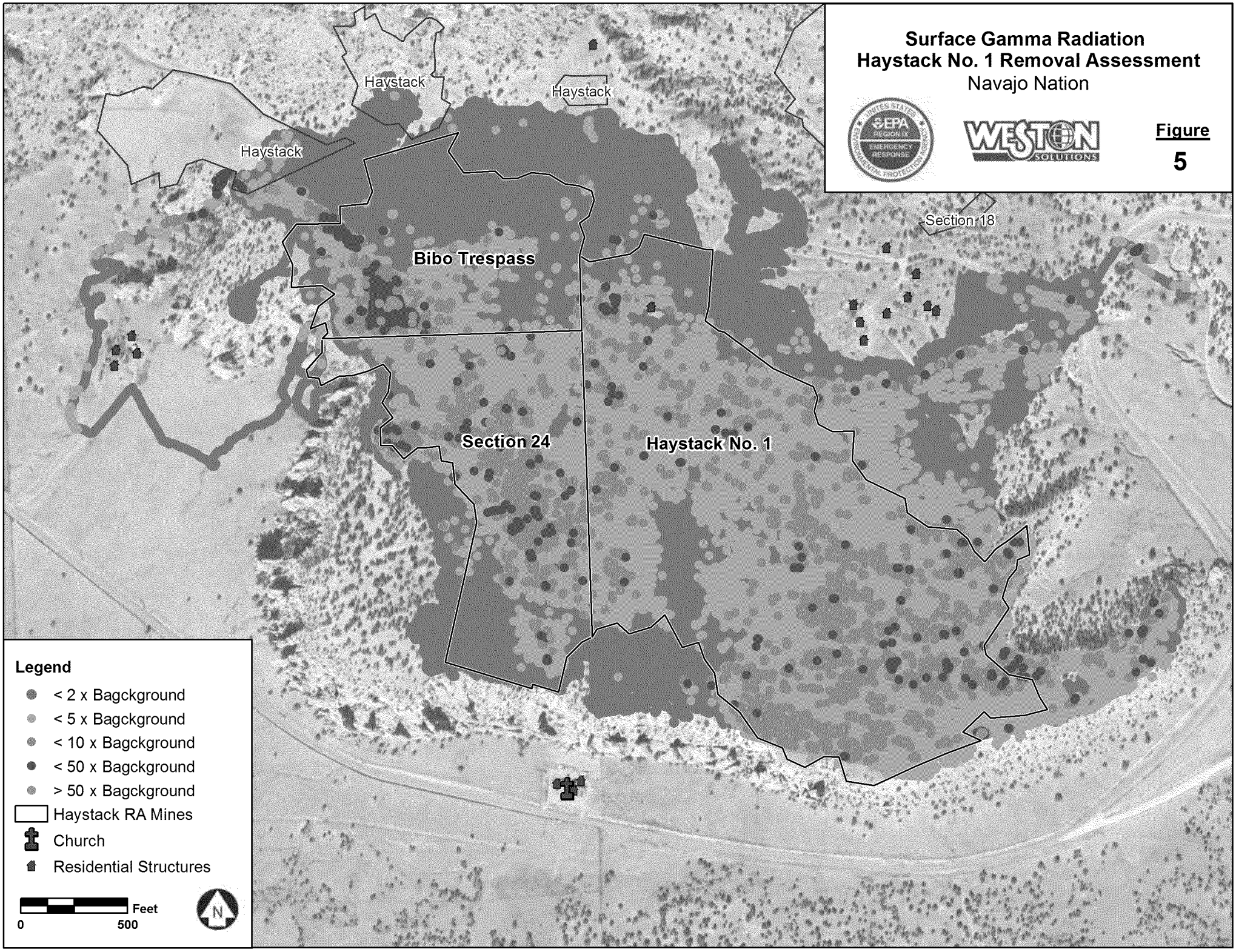

**Site Location**
**Haystack No. 1 Removal Assessment**
Navajo Nation

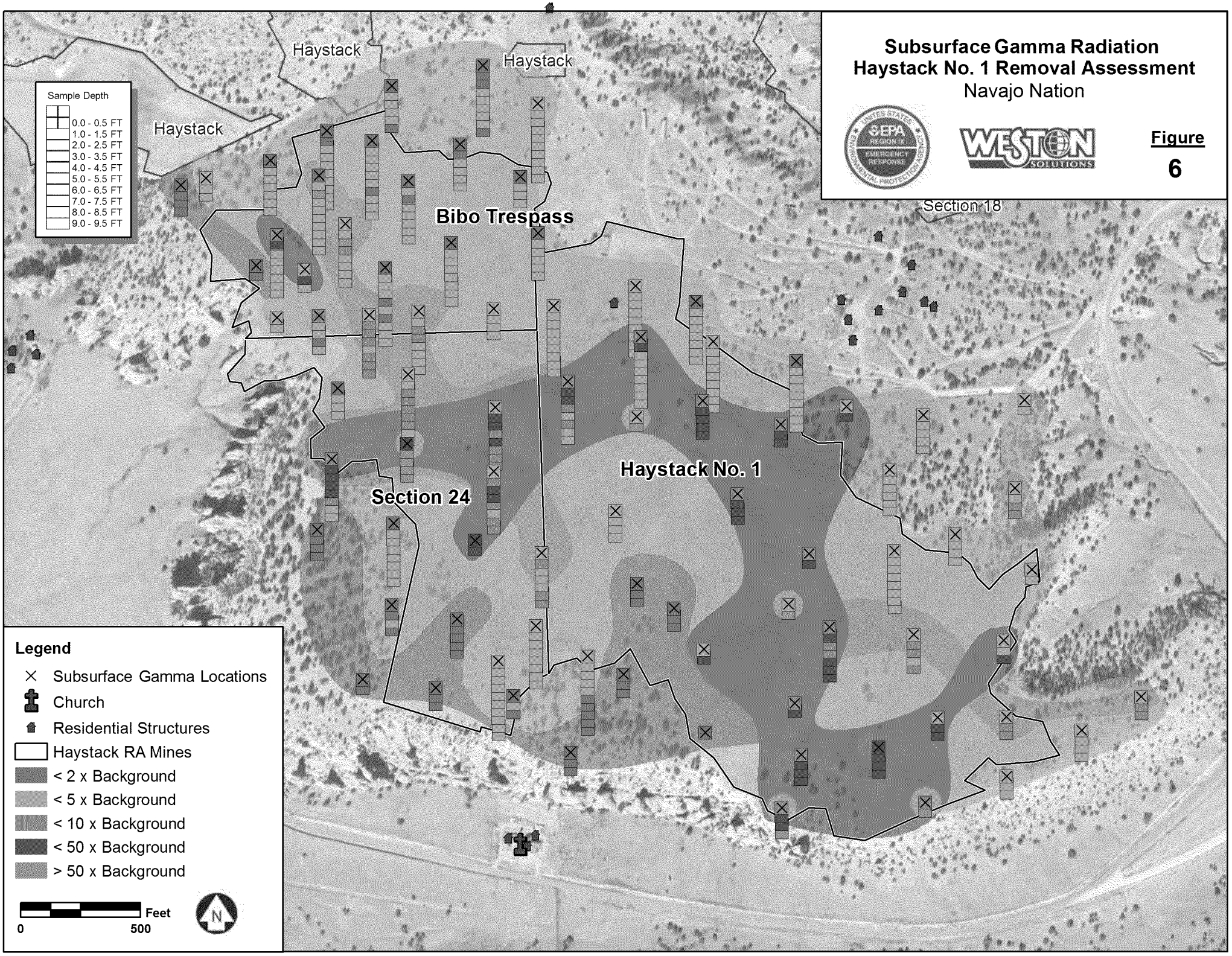
**Figure 1**


Site Layout
Haystack No. 1 Removal Assessment
Navajo Nation
Figure
2
Section 13,T13NR11W
Haystack
Haystack
Haystack
Section 18
Section 18,T13NR10W
Section 18
2136 m
Bibo Trespass
Section 24
Haystack No. 1
Section 19,T13NR10W
Section 24,T13NR11W
2180 m
CR-23
CR-21
2116 m
Legend
Haystack RA Mines
Assessment Area
Background Area
Church
Residential Structures
N
Feet
0
1,000


Sample Results
Haystack No. 1 Removal Assessment
Navajo Nation
Figure
3
Haystack
Haystack
Haystack
WD-01-A
Ra-226: 3.76
SS-13-a
Ra-226: 1.510
SS-03-A
Ra-226: 0.527
SS-03-B(11-12 ft)
Ra-226: 2.3
SS-01-A
Ra-226: 1.99
SS-01-B (3.0-4.0 ft)
Ra-226: 0.806
Section 18
SS-02-A
Ra-226: 4.09
Bibo Trespass
SS-11-A
Ra-226: .552
ED-01-A
Ra-226: 0.883
SS-08-A
Ra-226: 1.29
SS-04-A
Ra-226: 15.9
SS-04-B (3.5-4.5 ft)
Ra-226: 25.7
Section 24
SS-07-A
Ra-226: 26
SS-07-B (1.5-2.5 ft)
Ra-226: 10.5
SS-12-A
Ra-226: 0.423
SS-12-B (0.5-1.5 ft)
Ra-226: 37.2
Haystack No. 1
SS-06-A
Ra-226: 3.26
SS-06-B (17-18 ft)
Ra-226: 0.433
SS-09-A
Ra-226: 0.827
SS-09-B (2.0-2.5ft)
Ra-226: 7.24
SS-05-A
Ra-226: 1.56
SS-10-A
Ra-226: 15.2
Legend
Surface Sample Result < DCGL
Surface Sample Result > DCGL
Subsurface Sample Result < DCGL
SubsurfaceSample Result > DCGL
* DCGL = 1.562 pCi/g
Feet
0
500
N


Background Area
Haystack No. 1 Removal Assessment
Navajo Nation
Figure
4
BG-06
Gamma Readings, Surface (3x3):
0.5 ft ags: 16,845 cpm
Ra-226 Sample Results (pCi/g):
0.0 - 0.5 ft bgs: 0.425
BG-04
Gamma Readings, Surface (3x3):
0.5 ft ags: 18,558 cpm
Gamma Readings, Subsurface (0.5x1):
0.0 ft bgs: 404 cpm
0.5 ft bgs: 432 cpm
1.0 ft bgs: 326 cpm
Ra-226 Sample Results (pCi/g):
0.0 - 0.5 ft bgs: 0.397
BG-01
Gamma Readings, Surface (3x3):
0.5 ft ags: 17,756 cpm
Gamma Readings, Subsurface (0.5x1):
0.0 ft bgs: 373 cpm
0.5 ft bgs: 444 cpm
1.0 ft bgs: 331 cpm
1.5 ft bgs: 297 cpm
Ra-226 Sample Results (pCi/g):
0.0 - 0.5 ft bgs: 0.316
BG-03
Gamma Readings, Surface (3x3):
0.5 ft ags: 18,817 cpm
Gamma Readings, Subsurface (0.5x1):
0.0 ft bgs: 378 cpm
1.0 ft bgs: 228 cpm
2.0 ft bgs: 170 cpm
Ra-226 Sample Results (pCi/g):
0.0 - 0.5 ft bgs: 0.417
1.0 - 2.0 ft bgs: 0.037
BG-05
Gamma Readings, Surface (3x3):
0.5 ft ags: 13,633 cpm
Ra-226 Sample Results (pCi/g):
0.0 - 0.5 ft bgs: 0.264
BG-02
Gamma Readings, Surface (3x3):
0.5 ft ags: 18,019 cpm
Gamma Readings, Subsurface (0.5x1):
0.0 ft bgs: 392 cpm
0.5 ft bgs: 350 cpm
Ra-226 Sample Results (pCi/g):
0.0 - 0.5 ft bgs: 0.295
Site Background Levels
Mean Surface Background Gamma Reading
17,271 cpm (Ludlum 2241, 44-20)
Mean Subsurface Background Gamma Reading
335 cpm (Ludlum 2211/44-69)
Mean Ra-226 Background Sample Result
0.352 pCi/g
Legend
Background Area
Background Sample Points
Gamma Readings
< 2 x Bagckground
< 5 x Bagckground
< 10 x Bagckground
< 50 x Bagckground
> 50 x Bagckground
0
50
Feet
N


Surface Gamma Radiation
Haystack No. 1 Removal Assessment
Navajo Nation
Figure
5
Haystack
Haystack
Haystack
Section 18
Bibo Trespass
Section 24
Haystack No. 1
Legend
< 2 x Bagckground
< 5 x Bagckground
< 10 x Bagckground
< 50 x Bagckground
> 50 x Bagckground
Haystack RA Mines
Church
Residential Structures
Feet
0
500
N


Subsurface Gamma Radiation
Haystack No. 1 Removal Assessment
Navajo Nation
Figure
6
Sample Depth
0.0 - 0.5 FT
1.0 - 1.5 FT
2.0 - 2.5 FT
3.0 - 3.5 FT
4.0 - 4.5 FT
5.0 - 5.5 FT
6.0 - 6.5 FT
7.0 - 7.5 FT
8.0 - 8.5 FT
9.0 - 9.5 FT
Haystack
Haystack
Haystack
Bibo Trespass
Section 18
Haystack No. 1
Section 24
Legend
Subsurface Gamma Locations
Church
Residential Structures
Haystack RA Mines
< 2 x Background
< 5 x Background
< 10 x Background
< 50 x Background
> 50 x Background
Feet
0
500
N