

APPENDIX 2.3-7.1

OVERBURDEN ANALYSIS DATA FOR SOSH-01

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|------------------------------|
| 2 | 2508.8 | 3.2 | 2505.6 | 1.1 | 0.94 | 0.86 | 8.4 | 6.8 | 6.8 | 143 | 18 | 44 | 38 | Silty Clay Loam |
| 3.2 | 2505.6 | 5.2 | 2503.6 | 25 | 4.61 | 17 | 7.8 | 21 | 4.6 | 146 | 19 | 41 | 40 | Silty Clay - Silty Clay Loam |
| 6.7 | 2502.1 | 7.7 | 2501.1 | 14 | 3.84 | 10 | 8 | 23 | 6.64 | 162 | 13 | 43 | 44 | Silty Clay |
| 9.8 | 2498.9 | 10.5 | 2498.3 | 15 | 4.13 | 11 | 8 | 24 | 6.92 | 147 | 8 | 48 | 44 | Silty Clay |

Statistical Summary

| | | | | | | | | | | |
|---------|------|------|------|-----|------|-----|-------|------|------|------|
| Min | 1.1 | 0.94 | 0.86 | 7.8 | 6.8 | 4.6 | 143 | 8 | 41 | 38 |
| Average | 13.8 | 3.4 | 9.7 | 8.1 | 18.7 | 6.2 | 149.5 | 14.5 | 44.0 | 41.5 |
| Max | 25 | 4.6 | 17 | 8.4 | 24 | 6.9 | 162 | 19 | 48 | 44 |
| Number | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.2

OVERBURDEN ANALYSIS DATA FOR SOSH-02

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|------------|
| 2 | 2499.0 | 4 | 2495.0 | 3.4 | 2.46 | 3.5 | 8.2 | 19 | 10 | 162 | 12 | 41 | 47 | Silty Clay |
| 4 | 2495.0 | 6 | 2493.0 | 4.4 | 2.53 | 3.7 | 8.2 | 19 | 9.55 | 156 | 11 | 43 | 46 | Silty Clay |
| 8 | 2491.0 | 10 | 2489.0 | 2.6 | 2.17 | 1.8 | 8.2 | 17 | 11.7 | 176 | 14 | 41 | 45 | Silty Clay |

Statistical Summary

| | | | | | | | | | | |
|---------|------|------|------|------|-------|-------|--------|------|------|------|
| Min | 2.6 | 2.17 | 1.8 | 8.2 | 17 | 9.55 | 156 | 11 | 41 | 45 |
| Average | 3.47 | 2.39 | 3.00 | 8.20 | 18.33 | 10.42 | 164.67 | 12.3 | 41.7 | 46.0 |
| Max | 4.4 | 2.53 | 3.7 | 8.2 | 19 | 11.7 | 176 | 14 | 43 | 47 |
| Number | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.3

OVERBURDEN ANALYSIS DATA FOR SOSH-03

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2521.1 | 1.3 | 2519.7 | 3.1 | 0.75 | 4.3 | 7.3 | 2 | 1.06 | 163 | 43 | 25 | 32 | Clay Loam |
| 3 | 2518.1 | 4.0 | 2517.1 | 3.1 | 2.49 | 8.3 | 8.4 | 18 | 7.52 | 174 | 20 | 42 | 38 | Silty Clay Loam |
| 5 | 2516.1 | 7.0 | 2514.1 | 11 | 4.02 | 19 | 7.9 | 22 | 5.71 | 185 | 28 | 34 | 38 | Clay Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|------|------|------|-----|----|------|-----|------|------|------|
| Min | 3.1 | 0.75 | 4.3 | 7.3 | 2 | 1.06 | 163 | 20 | 25 | 32 |
| Average | 5.73 | 2.42 | 10.5 | 7.9 | 14 | 4.76 | 174 | 30.3 | 33.7 | 36.0 |
| Max | 11 | 4.02 | 19 | 8.4 | 22 | 7.52 | 185 | 43 | 42 | 38 |
| Number | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.4

OVERBURDEN ANALYSIS DATA FOR SOSH-04

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|------------------------------|
| 0 | 2531.3 | 2 | 2529.3 | 2.2 | 0.57 | 2.2 | 8 | 1.1 | 0.72 | 145 | 63 | 17 | 20 | Sandy Loam - Sandy Clay Loam |
| 2 | 2529.3 | 4 | 2527.3 | 0.46 | 0.69 | 2 | 8.6 | 5.3 | 4.75 | 157 | 45 | 27 | 28 | Clay Loam |
| 4 | 2527.3 | 6 | 2525.3 | 2.3 | 2.66 | 11 | 8.3 | 17 | 6.82 | 166 | 21 | 45 | 34 | Clay Loam |
| 6 | 2525.3 | 8 | 2523.3 | 20 | 5.59 | 36 | 7.9 | 25 | 4.7 | 166 | 42 | 32 | 26 | Loam |
| 8 | 2523.3 | 10 | 2521.3 | 23 | 5.37 | 33 | 7.9 | 23 | 4.35 | 143 | 49 | 33 | 18 | Loam |
| 10 | 2521.3 | 12 | 2519.3 | 12 | 4.05 | 23 | 7.9 | 20 | 4.78 | 128 | 61 | 21 | 18 | Sandy Loam |
| 12 | 2519.3 | 14 | 2517.3 | 17 | 4.15 | 23 | 8.1 | 17 | 3.94 | 129 | 58 | 22 | 20 | Sandy Loam - Sandy Clay Loam |
| 14 | 2517.3 | 16 | 2515.3 | 25 | 4.51 | 25 | 7.9 | 15 | 3.07 | 160 | 29 | 37 | 34 | Clay Loam |
| 16 | 2515.3 | 18 | 2513.3 | 6.8 | 2.51 | 11 | 8.1 | 12 | 4.04 | 176 | 18 | 46 | 36 | Silty Clay Loam |
| 18 | 2513.3 | 20 | 2511.3 | 23 | 4.26 | 23 | 7.8 | 13 | 2.78 | 159 | 8 | 49 | 43 | Silty Clay |

Statistical Summary

| | | | | | | | | | | |
|---------|------|------|------|-----|------|------|-----|------|------|------|
| Min | 0.46 | 0.57 | 2 | 7.8 | 1.1 | 0.72 | 128 | 8 | 17 | 18 |
| Average | 13.2 | 3.44 | 18.9 | 8.1 | 14.8 | 4.00 | 153 | 39.4 | 32.9 | 27.7 |
| Max | 25 | 5.59 | 36 | 8.6 | 25 | 6.82 | 176 | 63 | 49 | 43 |
| Number | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.5

OVERBURDEN ANALYSIS DATA FOR SOSH-05

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2518.1 | 2 | 2516.1 | 4.8 | 1.12 | 5.6 | 7.2 | 2.4 | 1.05 | 96.2 | 10 | 48 | 42 | Silty Clay |
| 2 | 2516.1 | 3.2 | 2514.9 | 26 | 3.83 | 23 | 7.8 | 8.4 | 1.72 | 124 | 14 | 39 | 47 | Clay |
| 3 | 2515.1 | 4 | 2514.1 | 23 | 4.81 | 32 | 7.2 | 15 | 2.84 | 70.5 | 15 | 39 | 46 | Clay |
| 4 | 2514.1 | 5.7 | 2512.4 | 26 | 4.78 | 34 | 7.9 | 14 | 2.56 | 104 | 13 | 42 | 45 | Silty Clay |
| 5.7 | 2512.4 | 7 | 2511.1 | 26 | 5.45 | 37 | 7.4 | 17 | 3.06 | 61.5 | 27 | 33 | 40 | Clay- Clay Loam |
| 7 | 2511.1 | 8 | 2510.1 | 21 | 4.74 | 29 | 8.1 | 18 | 3.66 | 84.3 | 32 | 46 | 22 | Loam |
| 8 | 2510.1 | 10 | 2508.1 | 18 | 5.42 | 30 | 7.8 | 25 | 5.1 | 24.7 | 60 | 28 | 12 | Sandy Loam |
| 10 | 2508.1 | 12 | 2506.1 | 11 | 3.35 | 15 | 8.2 | 17 | 4.66 | 111 | 52 | 36 | 12 | Loam |
| 12 | 2506.1 | 14 | 2504.1 | 13 | 4.63 | 17 | 7.9 | 27 | 7.11 | 32.4 | 63 | 27 | 10 | Sandy Loam |
| 14 | 2504.1 | 16 | 2502.1 | 9.5 | 6.12 | 23 | 8 | 42 | 10.5 | 38.4 | 65 | 25 | 10 | Sandy Loam |
| 16 | 2502.1 | 18 | 2500.1 | 4.8 | 3.03 | 7.9 | 8.4 | 22 | 8.65 | 123 | 36 | 49 | 15 | Loam |
| 18 | 2500.1 | 20 | 2498.1 | 8.9 | 4.16 | 13 | 8 | 27 | 8.06 | 49.4 | 68 | 14 | 18 | Sandy Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|------|------|------|-----|------|------|------|------|------|------|
| Min | 4.8 | 1.12 | 5.6 | 7.2 | 2.4 | 1.05 | 24.7 | 10 | 14 | 10 |
| Average | 16.0 | 4.3 | 22.2 | 7.8 | 19.6 | 4.9 | 76.6 | 37.9 | 35.5 | 26.6 |
| Max | 26 | 6.12 | 37 | 8.4 | 42 | 10.5 | 124 | 68 | 49 | 47 |
| Number | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.6

OVERBURDEN ANALYSIS DATA FOR SOSH-06

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|------------------|
| 0 | 2531.4 | 1.5 | 2529.9 | 4.8 | 0.68 | 2.6 | 7.1 | 0.61 | 0.32 | 117 | 26 | 42 | 32 | Clay Loam |
| 1.5 | 2529.9 | 2.5 | 2528.9 | 1.6 | 0.43 | 1.4 | 8.3 | 2.4 | 1.98 | 88 | 18 | 52 | 30 | Silty Clay Loam |
| 2.5 | 2528.9 | 3.3 | 2528.1 | 0.31 | 0.75 | 0.31 | 9.1 | 7.8 | 14.1 | 78.1 | 34 | 50 | 16 | Silt Loam - Loam |
| 3.3 | 2528.1 | 5.3 | 2526.1 | 0.54 | 2.48 | 1.6 | 8.9 | 22 | 21.7 | 150 | 37 | 31 | 32 | Clay Loam |
| 5.3 | 2526.1 | 6.5 | 2524.9 | 3.1 | 5.68 | 11 | 8.5 | 52 | 19.9 | 151 | 14 | 43 | 43 | Silty Clay |
| 6.5 | 2524.9 | 8.5 | 2522.9 | 7.7 | 8.11 | 22 | 8.1 | 76 | 19.7 | 134 | 36 | 34 | 30 | Clay Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|------|------|------|------|-------|-------|--------|------|------|------|
| Min | 0.31 | 0.43 | 0.31 | 7.1 | 0.61 | 0.32 | 78.1 | 14 | 31 | 16 |
| Average | 3.01 | 3.02 | 6.49 | 8.33 | 26.80 | 12.95 | 119.68 | 27.5 | 42.0 | 30.5 |
| Max | 7.7 | 8.11 | 22 | 9.1 | 76 | 21.7 | 151 | 37 | 52 | 43 |
| Number | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.7

OVERBURDEN ANALYSIS DATA FOR SOSH-07

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2535.4 | 2 | 2533.4 | 4.7 | 0.65 | 2.9 | 7.7 | 0.7 | 0.36 | 104 | 36 | 28 | 36 | Clay Loam |
| 2 | 2533.4 | 4 | 2531.4 | 2.5 | 0.61 | 3.4 | 8.4 | 1.4 | 0.81 | 105 | 50 | 34 | 16 | Loam |
| 4 | 2531.4 | 6 | 2529.4 | 2.2 | 0.7 | 3.2 | 8.2 | 2.7 | 1.62 | 77.7 | 41 | 34 | 25 | Loam |
| 6 | 2529.4 | 8 | 2527.4 | 1.5 | 1.76 | 3.2 | 8.4 | 14 | 8.84 | 152 | 1 | 44 | 56 | Silty Clay |
| 8 | 2527.4 | 9 | 2526.4 | 17 | 4.79 | 19 | 8 | 27 | 6.44 | 154 | 2 | 48 | 50 | Silty Clay |
| 9 | 2526.4 | 10 | 2525.4 | 24 | 5.48 | 22 | 8 | 30 | 6.28 | 113 | 49 | 33 | 18 | Loam |
| 10 | 2525.4 | 11.3 | 2524.0 | 9.9 | 4.84 | 16 | 8.2 | 35 | 9.7 | 124 | 20 | 50 | 30 | Silty Clay Loam |
| 11.3 | 2524.0 | 13.3 | 2522.0 | 3.4 | 4.16 | 8.3 | 8.2 | 35 | 14.5 | 128 | 21 | 57 | 22 | Silt Loam |
| 13.3 | 2522.0 | 15.3 | 2520.0 | 21 | 6.78 | 23 | 7.8 | 46 | 9.88 | 154 | 14 | 55 | 31 | Silty Clay Loam |
| 15.3 | 2520.0 | 17.3 | 2518.1 | 7.1 | 5.59 | 14 | 7.8 | 44 | 13.9 | 166 | 5 | 45 | 50 | Silty Clay |
| 17.25 | 2518.1 | 18.6 | 2516.8 | 22 | 6.94 | 22 | 7.6 | 49 | 10.4 | 162 | 30 | 44 | 26 | Loam |
| 18.6 | 2516.8 | 20.0 | 2515.4 | 2.4 | 3.6 | 4.4 | 8.1 | 30 | 16.3 | 201 | 18 | 56 | 26 | Silt Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|-----|------|------|-----|------|------|-------|------|------|------|
| Min | 1.5 | 0.61 | 2.9 | 7.6 | 0.7 | 0.36 | 77.7 | 1 | 28 | 16 |
| Average | 9.8 | 3.8 | 11.8 | 8.0 | 26.2 | 8.3 | 136.7 | 23.9 | 44.0 | 32.2 |
| Max | 24 | 6.94 | 23 | 8.4 | 49 | 16.3 | 201 | 50 | 57 | 56 |
| Number | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.8

OVERBURDEN ANALYSIS DATA FOR SOSH-08

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2552.4 | 1 | 2551.4 | 4.2 | 0.86 | 4.3 | 7 | 0.87 | 0.42 | 126 | 20 | 47 | 33 | Silty Clay Loam |
| 1 | 2551.4 | 3 | 2549.4 | 3.7 | 2.76 | 9.9 | 8.4 | 19 | 7.23 | 88.5 | 28 | 51 | 21 | Silt Loam |
| 3 | 2549.4 | 4 | 2548.4 | 4.1 | 5.78 | 27 | 8.3 | 43 | 10.9 | 103 | 9 | 66 | 25 | Silt Loam |
| 4 | 2548.4 | 5.8 | 2546.6 | 9.9 | 6.3 | 30 | 8.2 | 42 | 9.54 | 94.1 | 16 | 62 | 22 | Silt Loam |
| 5.8 | 2546.6 | 6.3 | 2546.1 | 11 | 6.34 | 31 | 7.7 | 43 | 9.48 | 107 | 24 | 43 | 33 | Clay Loam |
| 8.3 | 2544.1 | 8.8 | 2543.6 | 16 | 6.62 | 31 | 8.1 | 41 | 8.53 | 99 | 23 | 59 | 18 | Silt Loam |
| 8.8 | 2543.6 | 10.8 | 2541.6 | 15 | 6.88 | 34 | 8 | 45 | 9.07 | 142 | 8 | 48 | 44 | Silty Clay |
| 14.3 | 2538.1 | 16.3 | 2536.1 | 10 | 5.65 | 17 | 8.2 | 42 | 11.3 | 59.6 | 66 | 24 | 10 | Sandy Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|------|------|-------|------|-------|------|--------|------|------|------|
| Min | 3.7 | 0.86 | 4.3 | 7 | 0.87 | 0.42 | 59.6 | 8 | 24 | 10 |
| Average | 9.24 | 5.15 | 23.03 | 7.99 | 34.48 | 8.31 | 102.40 | 24.3 | 50.0 | 25.8 |
| Max | 16 | 6.88 | 34 | 8.4 | 45 | 11.3 | 142 | 66 | 66 | 44 |
| Number | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.9

OVERBURDEN ANALYSIS DATA FOR SOSH-09

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2530.5 | 1.2 | 2529.4 | 6.2 | 1.14 | 3.2 | 5.6 | 0.3 | 0.14 | 91.9 | 26 | 48 | 26 | Loam |
| 1.2 | 2529.4 | 3.2 | 2527.4 | 1.8 | 0.39 | 1.7 | 8.2 | 0.65 | 0.5 | 98.9 | 34 | 44 | 22 | Loam |
| 3.2 | 2527.4 | 4.8 | 2525.7 | 0.9 | 0.64 | 2.5 | 8.1 | 1.7 | 1.32 | 71 | 23 | 39 | 38 | Clay Loam |
| 4.8 | 2525.7 | 6.0 | 2524.5 | 1.3 | 0.64 | 4 | 8.3 | 1.8 | 1.09 | 104 | 10 | 40 | 50 | Silty Clay |
| 6 | 2524.5 | 8.0 | 2522.5 | 2.7 | 1.43 | 7 | 8.1 | 4.7 | 2.14 | 56 | 47 | 23 | 30 | Sandy Clay Loam |
| 8 | 2522.5 | 8.5 | 2522.0 | 2.6 | 2.68 | 7.1 | 8.2 | 19 | 8.83 | 81.9 | 36 | 47 | 17 | Loam |
| 10 | 2520.5 | 10.8 | 2519.7 | 8.3 | 3.28 | 15 | 8 | 15 | 4.26 | 57.3 | 63 | 15 | 22 | Sandy Clay Loam |
| 10.8 | 2519.7 | 12.8 | 2517.7 | 13 | 3.53 | 14 | 7.6 | 15 | 4.03 | 75.1 | 43 | 25 | 32 | Clay Loam |
| 12.8 | 2517.7 | 14.2 | 2516.4 | 5.2 | 1.26 | 4.1 | 7.6 | 5 | 2.31 | 91.7 | 28 | 42 | 30 | Clay Loam |
| 14.2 | 2516.4 | 16.2 | 2514.4 | 1.7 | 0.65 | 1.2 | 7.9 | 2.8 | 2.34 | 56 | 65 | 10 | 25 | Sandy Clay Loam |
| 16.2 | 2514.4 | 18.2 | 2512.4 | 1.6 | 0.77 | 1.5 | 7.9 | 3.6 | 2.87 | 59.5 | 67 | 9 | 24 | Sandy Clay Loam |
| 18.2 | 2512.4 | 20.0 | 2510.5 | 1.2 | 0.69 | 1.7 | 8.1 | 4.2 | 3.5 | 84.5 | 63 | 15 | 22 | Sandy Clay Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|------|------|------|------|------|------|-------|------|------|------|
| Min | 0.9 | 0.39 | 1.2 | 5.6 | 0.3 | 0.14 | 56 | 10 | 9 | 17 |
| Average | 3.88 | 1.43 | 5.25 | 7.80 | 6.15 | 2.78 | 77.32 | 42.1 | 29.8 | 28.2 |
| Max | 13 | 3.53 | 15 | 8.3 | 19 | 8.83 | 104 | 67 | 48 | 50 |
| Number | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.10

OVERBURDEN ANALYSIS DATA FOR SOSH-10

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2530.3 | 2 | 2528.3 | 24 | 7.05 | 32 | 7.6 | 47 | 8.9 | 94.3 | 14 | 50 | 36 | Silty Clay Loam |
| 2 | 2528.3 | 4 | 2526.3 | 21 | 7.69 | 29 | 8 | 58 | 11.7 | 105 | 6 | 51 | 43 | Silty Clay |
| 4 | 2526.3 | 6 | 2524.3 | 23 | 6.88 | 27 | 8 | 46 | 9.35 | 102 | 24 | 41 | 35 | Clay Loam |
| 6 | 2524.3 | 8 | 2522.3 | 21 | 6.84 | 24 | 8 | 49 | 10.4 | 116 | 8 | 48 | 44 | Silty Clay |
| 8 | 2522.3 | 9.2 | 2521.2 | 22 | 6.97 | 26 | 8 | 49 | 10.1 | 108 | 12 | 46 | 42 | Silty Clay |
| 9.2 | 2521.2 | 10.7 | 2519.7 | 22 | 7 | 23 | 8.3 | 50 | 10.6 | 98 | 67 | 23 | 10 | Sandy Loam |
| 10.7 | 2519.7 | 12.7 | 2517.7 | 5.3 | 4.88 | 9 | 8.3 | 40 | 14.9 | 116 | 40 | 38 | 22 | Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|-------|------|-------|------|-------|-------|--------|------|------|------|
| Min | 5.3 | 4.88 | 9 | 7.6 | 40 | 8.9 | 94.3 | 6 | 23 | 10 |
| Average | 19.76 | 6.76 | 24.29 | 8.03 | 48.43 | 10.85 | 105.61 | 24.4 | 42.4 | 33.1 |
| Max | 24 | 7.69 | 32 | 8.3 | 58 | 14.9 | 116 | 67 | 51 | 44 |
| Number | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.11

OVERBURDEN ANALYSIS DATA FOR SOSH-12

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|------------|
| 0 | 2550.4 | 2 | 2548.4 | 5.4 | 0.81 | 4 | 7.2 | 0.49 | 0.23 | 88.9 | 26 | 42 | 32 | Clay Loam |
| 2 | 2548.4 | 4 | 2546.4 | 2.5 | 0.48 | 2.5 | 8.3 | 0.67 | 0.42 | 86.3 | 38 | 34 | 28 | Clay Loam |
| 4 | 2546.4 | 6 | 2544.4 | 1.6 | 0.49 | 3 | 8.6 | 0.98 | 0.65 | 72.9 | 64 | 20 | 16 | Sandy Loam |
| 6 | 2544.4 | 8 | 2542.4 | 1.1 | 0.48 | 3.2 | 8.8 | 1 | 0.69 | 62.2 | 60 | 28 | 12 | Sandy Loam |
| 8 | 2542.4 | 9 | 2541.4 | 0.93 | 0.53 | 3.5 | 8.7 | 1.4 | 0.92 | 72 | 53 | 32 | 15 | Sandy Loam |
| 9 | 2541.4 | 11 | 2539.4 | 0.9 | 0.43 | 2.7 | 8.9 | 1.4 | 1.04 | 56.4 | 73 | 19 | 8 | Sandy Loam |
| 11 | 2539.4 | 13 | 2537.4 | 0.71 | 0.37 | 2.3 | 8.9 | 1.2 | 0.99 | 64 | 76 | 16 | 8 | Sandy Loam |
| 13 | 2537.4 | 15 | 2535.4 | 0.81 | 0.34 | 1.8 | 8.8 | 1.3 | 1.1 | 61.4 | 75 | 19 | 6 | Sandy Loam |
| 15 | 2535.4 | 17 | 2533.4 | 0.88 | 0.3 | 1.4 | 8.8 | 1 | 0.96 | 61.6 | 81 | 15 | 4 | Loamy Sand |
| 17 | 2533.4 | 19 | 2531.4 | 1 | 0.31 | 1.4 | 8.8 | 0.98 | 0.9 | 67.7 | 76 | 18 | 6 | Sandy Loam |
| 19 | 2531.4 | 20 | 2530.4 | 0.91 | 0.25 | 0.97 | 8.8 | 0.91 | 0.94 | 63.3 | 84 | 14 | 2 | Loamy Sand |

Statistical Summary

| | | | | | | | | | | |
|---------|------|------|------|------|------|------|-------|------|------|------|
| Min | 0.71 | 0.25 | 0.97 | 7.2 | 0.49 | 0.23 | 56.4 | 26 | 14 | 2 |
| Average | 1.52 | 0.44 | 2.43 | 8.60 | 1.03 | 0.80 | 68.79 | 64.2 | 23.4 | 12.5 |
| Max | 5.4 | 0.81 | 4 | 8.9 | 1.4 | 1.1 | 88.9 | 84 | 42 | 32 |
| Number | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.12

OVERBURDEN ANALYSIS DATA FOR SOSH-13

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|------------------|
| 0 | 2565.0 | 2 | 2563.0 | 4.1 | 0.63 | 3.8 | 7.3 | 0.36 | 0.18 | 100 | 18 | 54 | 28 | Silty Clay Loam |
| 2 | 2563.0 | 4 | 2561.0 | 0.86 | 0.42 | 1.9 | 8.8 | 2.3 | 1.95 | 97 | 12 | 46 | 42 | Silty Clay |
| 4 | 2561.0 | 6 | 2559.0 | 0.69 | 0.63 | 1.6 | 8.8 | 5.1 | 4.77 | 97 | 19 | 37 | 44 | Clay |
| 6 | 2559.0 | 8 | 2557.0 | 19 | 6.71 | 22 | 7.3 | 47 | 10.4 | 105 | 25 | 33 | 42 | Clay |
| 8 | 2557.0 | 9 | 2556.0 | 20 | 6.46 | 23 | 7.4 | 42 | 9.02 | 98.7 | 23 | 34 | 43 | Clay |
| 9 | 2556.0 | 11 | 2554.0 | 19 | 7.3 | 26 | 7.5 | 54 | 11.5 | 102 | 17 | 39 | 44 | Clay |
| 11 | 2554.0 | 13 | 2552.0 | 7.4 | 2.24 | 7.4 | 7.3 | 11 | 4.15 | 99.3 | 21 | 35 | 44 | Clay |
| 13 | 2552.0 | 14.2 | 2550.8 | 6.9 | 2.23 | 6.9 | 7.3 | 11 | 4.39 | 86.3 | 15 | 47 | 38 | Silty Clay Loam |
| 14.2 | 2550.8 | 16.2 | 2548.8 | 12 | 2.69 | 11 | 7.5 | 10 | 3.02 | 65.3 | 24 | 50 | 26 | Silt Loam - Loam |
| 16.2 | 2548.8 | 18.2 | 2546.8 | 17 | 3.03 | 15 | 7.5 | 8 | 2.02 | 62.6 | 27 | 49 | 24 | Loam |
| 18.2 | 2546.8 | 20 | 2545.0 | 8.5 | 1.96 | 8.8 | 7.6 | 5.2 | 1.78 | 53.6 | 53 | 31 | 16 | Sandy Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|------|------|------|-----|------|------|------|------|------|------|
| Min | 0.69 | 0.42 | 1.6 | 7.3 | 0.36 | 0.18 | 53.6 | 12 | 31 | 16 |
| Average | 10.5 | 3.12 | 11.6 | 7.7 | 17.8 | 4.83 | 87.9 | 23.1 | 41.4 | 35.5 |
| Max | 20 | 7.3 | 26 | 8.8 | 54 | 11.5 | 105 | 53 | 54 | 44 |
| Number | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.13

OVERBURDEN ANALYSIS DATA FOR SOSH-15

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|------------------------------|
| 0 | 2550.0 | 2 | 2548.0 | 3.1 | 0.44 | 1.9 | 7.4 | 0.52 | 0.33 | 57.6 | 55 | 25 | 20 | Sandy Loam - Sandy Clay Loam |
| 2 | 2548.0 | 4 | 2546.0 | 4.1 | 0.98 | 6.1 | 7.8 | 1.5 | 0.68 | 50.5 | 42 | 36 | 22 | Loam |
| 4 | 2546.0 | 6 | 2544.0 | 4.4 | 1.82 | 18 | 8 | 2.2 | 0.66 | 48.8 | 61 | 21 | 18 | Sandy Loam |
| 6 | 2544.0 | 8 | 2542.0 | 2.4 | 0.85 | 6.3 | 8.2 | 0.89 | 0.43 | 42.6 | 64 | 24 | 12 | Sandy Loam |
| 8 | 2542.0 | 10 | 2540.0 | 1.1 | 0.4 | 2.7 | 8.3 | 0.59 | 0.43 | 46.6 | 64 | 20 | 16 | Sandy Loam |
| 10 | 2540.0 | 12 | 2538.0 | 1.1 | 0.34 | 1.9 | 8.4 | 0.97 | 0.79 | 48.5 | 52 | 27 | 21 | Sandy Clay Loam |
| 12 | 2538.0 | 14 | 2536.0 | 0.98 | 0.33 | 1.5 | 8.6 | 1.4 | 1.26 | 48 | 67 | 15 | 18 | Sandy Loam |
| 14 | 2536.0 | 16 | 2534.0 | 0.78 | 0.32 | 0.81 | 8.8 | 2.3 | 2.55 | 45.8 | 77 | 11 | 12 | Sandy Loam |
| 16 | 2534.0 | 18 | 2532.0 | 0.59 | 0.62 | 1.1 | 8.4 | 5 | 5.35 | 49.1 | 55 | 21 | 24 | Sandy Clay Loam |
| 18 | 2532.0 | 20 | 2530.0 | 0.29 | 0.54 | 0.45 | 8.7 | 5 | 8.31 | 57.9 | 46 | 28 | 26 | Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|-----|------|-----|-----|------|------|------|------|------|------|
| Min | 3.1 | 0.44 | 1.9 | 7.4 | 0.52 | 0.33 | 57.6 | 42 | 11 | 12 |
| Average | 1.9 | 0.66 | 4.1 | 8.3 | 2.0 | 2.08 | 49.5 | 58.3 | 22.8 | 18.9 |
| Max | 4.4 | 1.82 | 18 | 8.8 | 5 | 8.31 | 57.9 | 77 | 36 | 26 |
| Number | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.14

OVERBURDEN ANALYSIS DATA FOR SOSH-16

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2566.5 | 2 | 2564.5 | 24 | 4.85 | 32 | 7.8 | 19 | 3.56 | 86.6 | 10 | 48 | 42 | Silty Clay |
| 2 | 2564.5 | 4 | 2562.5 | 17 | 7.22 | 57 | 8.5 | 41 | 6.81 | 85.5 | 16 | 48 | 36 | Silty Clay Loam |
| 4 | 2562.5 | 6 | 2560.5 | 7.9 | 5.41 | 30 | 8.6 | 34 | 7.83 | 73.7 | 30 | 41 | 29 | Clay Loam |
| 6 | 2560.5 | 8 | 2558.5 | 2.9 | 3.07 | 10 | 8.6 | 23 | 8.87 | 50.2 | 54 | 27 | 19 | Sandy Loam |
| 8 | 2558.5 | 8.7 | 2557.9 | 2.9 | 2.68 | 8.2 | 8.6 | 19 | 8.03 | 68.1 | 50 | 30 | 20 | Loam |
| 8.7 | 2557.9 | 10.7 | 2555.9 | 3.7 | 2.74 | 9 | 8.4 | 19 | 7.59 | 119 | 34 | 34 | 32 | Clay Loam |
| 10.7 | 2555.9 | 12.7 | 2553.9 | 2 | 2.22 | 5.2 | 8.3 | 16 | 8.48 | 150 | 16 | 38 | 46 | Clay |
| 12.7 | 2553.9 | 14.7 | 2551.9 | 5.5 | 2.74 | 9.6 | 8.2 | 17 | 6.31 | 157 | 14 | 52 | 34 | Silty Clay Loam |
| 14.7 | 2551.9 | 16.7 | 2549.9 | 8.9 | 3.46 | 14 | 8 | 21 | 6.27 | 125 | 38 | 32 | 30 | Clay Loam |
| 16.7 | 2549.9 | 18.5 | 2548.0 | 7.3 | 3.3 | 11 | 7.9 | 21 | 6.81 | 149 | 18 | 51 | 31 | Silty Clay Loam |
| 18.5 | 2548.0 | 20 | 2546.5 | 3.4 | 2.21 | 5.9 | 8 | 16 | 7.25 | 121 | 40 | 36 | 24 | Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|-----|------|------|-----|------|------|-------|------|------|------|
| Min | 2 | 2.21 | 5.2 | 7.8 | 16 | 3.56 | 50.2 | 10 | 27 | 19 |
| Average | 7.8 | 3.63 | 17.4 | 8.3 | 22.4 | 7.07 | 107.7 | 29.1 | 39.7 | 31.2 |
| Max | 24 | 7.22 | 57 | 8.6 | 41 | 8.87 | 157 | 54 | 52 | 46 |
| Number | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.15

OVERBURDEN ANALYSIS DATA FOR SOSH-17

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|------------|
| 0 | 2517.7 | 2 | 2515.7 | 4.5 | 0.71 | 1.5 | 7.4 | 0.3 | 0.18 | 30 | 63 | 24 | 13 | Sandy Loam |
| 2 | 2515.7 | 3 | 2514.7 | 4.5 | 0.81 | 2.3 | 7.5 | 0.8 | 0.46 | 28 | 70 | 17 | 13 | Sandy Loam |
| 3 | 2514.7 | 5 | 2512.7 | 3.3 | 0.65 | 2.2 | 7.8 | 0.7 | 0.42 | 23 | 78 | 14 | 8 | Sandy Loam |
| 5 | 2512.7 | 5.7 | 2512.0 | 3.3 | 0.69 | 2.3 | 7.7 | 0.9 | 0.55 | 22 | 78 | 13 | 9 | Sandy Loam |
| 5.7 | 2512.0 | 7.7 | 2510.0 | 1.2 | 0.46 | 2.4 | 8.1 | 0.5 | 0.4 | 32 | 69 | 26 | 5 | Sandy Loam |
| 7.7 | 2510.0 | 9.7 | 2508.0 | 1 | 0.45 | 2.7 | 8 | 0.6 | 0.43 | 29 | 74 | 22 | 4 | Sandy Loam |
| 9.7 | 2508.0 | 11.7 | 2506.0 | 1 | 0.48 | 3 | 8 | 0.7 | 0.46 | 33 | 65 | 32 | 3 | Sandy Loam |
| 11.7 | 2506.0 | 13.7 | 2504.0 | 1 | 0.42 | 2.5 | 8 | 0.8 | 0.59 | 31 | 73 | 24 | 3 | Sandy Loam |
| 13.7 | 2504.0 | 15.7 | 2502.0 | 0.9 | 0.34 | 1.7 | 8 | 0.7 | 0.57 | 31 | 79 | 18 | 3 | Loamy Sand |
| 15.7 | 2502.0 | 17.7 | 2500.0 | 1.2 | 0.35 | 1.5 | 7.9 | 0.8 | 0.7 | 28 | 79 | 17 | 4 | Loamy Sand |
| 17.7 | 2500.0 | 19.7 | 2498.0 | 1.1 | 0.31 | 1.2 | 7.9 | 0.7 | 0.66 | 29 | 80 | 16 | 4 | Loamy Sand |
| 19.7 | 2498.0 | 20 | 2497.7 | 1.5 | 0.41 | 1.7 | 7.9 | 0.8 | 0.66 | 25 | 77 | 17 | 6 | Loamy Sand |

Statistical Summary

| | | | | | | | | | | |
|---------|-----|------|-----|-----|-----|------|----|------|------|-----|
| Min | 0.9 | 0.31 | 1.2 | 7.4 | 0.3 | 0.18 | 22 | 63 | 13 | 3 |
| Average | 2.0 | 0.51 | 2.1 | 7.9 | 0.7 | 0.5 | 28 | 73.8 | 20.0 | 6.3 |
| Max | 4.5 | 0.81 | 3 | 8.1 | 0.9 | 0.7 | 33 | 80 | 32 | 13 |
| Number | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.16

OVERBURDEN ANALYSIS DATA FOR SOSH-18

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|------------|
| 0 | 2511.5 | 2.0 | 2509.5 | 4.3 | 0.74 | 2.8 | 7.1 | 0.7 | 0.37 | 42 | 32 | 45 | 23 | Loam |
| 2 | 2509.5 | 4.0 | 2507.5 | 3.2 | 0.59 | 2.6 | 7.6 | 0.4 | 0.24 | 36 | 41 | 42 | 17 | Loam |
| 4 | 2507.5 | 6.0 | 2505.5 | 2.7 | 0.73 | 4.3 | 7.7 | 0.3 | 0.18 | 33 | 49 | 38 | 13 | Loam |
| 6 | 2505.5 | 8.0 | 2503.5 | 1.3 | 0.47 | 3 | 7.9 | 0.2 | 0.16 | 31 | 63 | 30 | 7 | Sandy Loam |
| 8 | 2503.5 | 10.0 | 2501.5 | 1.3 | 0.45 | 2.8 | 7.9 | 0.3 | 0.19 | 33 | 45 | 49 | 6 | Sandy Loam |
| 10 | 2501.5 | 12.0 | 2499.5 | 1.1 | 0.39 | 2.3 | 7.8 | 0.2 | 0.18 | 33 | 53 | 44 | 3 | Sandy Loam |
| 12 | 2499.5 | 14.0 | 2497.5 | 1.2 | 0.43 | 2.7 | 7.8 | 0.3 | 0.21 | 30 | 61 | 34 | 5 | Sandy Loam |
| 14 | 2497.5 | 16.0 | 2495.5 | 1 | 0.41 | 2.5 | 7.9 | 0.4 | 0.31 | 32 | 60 | 34 | 6 | Sandy Loam |
| 16 | 2495.5 | 18.0 | 2493.5 | 0.9 | 0.45 | 2.3 | 8.1 | 0.8 | 0.61 | 40 | 35 | 54 | 11 | Silt Loam |
| 18 | 2493.5 | 20.0 | 2491.5 | 0.8 | 0.43 | 2.1 | 8 | 1 | 0.84 | 33 | 61 | 32 | 7 | Sandy Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|-----|------|-----|-----|-----|------|----|------|------|-----|
| Min | 0.8 | 0.39 | 2.1 | 7.1 | 0.2 | 0.16 | 30 | 32 | 30 | 3 |
| Average | 1.8 | 0.51 | 2.7 | 7.8 | 0.5 | 0.33 | 34 | 50.0 | 40.2 | 9.8 |
| Max | 4.3 | 0.74 | 4.3 | 8.1 | 1 | 0.84 | 42 | 63 | 54 | 23 |
| Number | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.17

OVERBURDEN ANALYSIS DATA FOR SOSH-20

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2517.2 | 1.5 | 2515.7 | 4.5 | 0.98 | 4.2 | 7.1 | 0.6 | 0.29 | 56 | 19 | 32 | 49 | Clay |
| 1.5 | 2515.7 | 2.7 | 2514.5 | 27.4 | 3.2 | 19.1 | 7.5 | 2 | 0.42 | 54 | 9 | 58 | 33 | Silty Clay Loam |
| 2.7 | 2514.5 | 3.8 | 2513.3 | 26.9 | 4.4 | 42.2 | 7.6 | 5.9 | 1 | 60 | 5 | 57 | 38 | Silty Clay Loam |
| 3.8 | 2513.3 | 5.5 | 2511.7 | 23.7 | 5.1 | 44 | 7.7 | 17.6 | 3.02 | 51 | 15 | 66 | 19 | Silt Loam |
| 5.5 | 2511.7 | 6.0 | 2511.2 | 12.6 | 4.9 | 18.5 | 7.6 | 8.6 | 2.19 | 58 | 10 | 60 | 30 | Silty Clay Loam |
| 6 | 2511.2 | 8.0 | 2509.2 | 21.6 | 6.9 | 53.1 | 7.8 | 40.3 | 6.6 | 56 | 9 | 70 | 21 | Silt Loam |
| 8 | 2509.2 | 10.0 | 2507.2 | 21.1 | 9.3 | 75.8 | 7.9 | 69.2 | 9.95 | 54 | 11 | 66 | 23 | Silt Loam |
| 10 | 2507.2 | 11.2 | 2506.0 | 21.6 | 8.7 | 65 | 7.9 | 63.1 | 9.59 | 53 | 4 | 69 | 27 | Silty Clay Loam |
| 11.2 | 2506.0 | 13.2 | 2504.0 | 22.1 | 7.7 | 48.9 | 7.9 | 53.2 | 8.94 | 61 | 1 | 71 | 29 | Silty Clay Loam |
| 13.2 | 2504.0 | 15.2 | 2502.0 | 22.6 | 6.8 | 38.1 | 7.8 | 45.8 | 8.31 | 60 | 2 | 73 | 25 | Silt Loam |
| 15.2 | 2502.0 | 17.2 | 2500.0 | 21.8 | 6.1 | 32.3 | 7.9 | 39.5 | 7.59 | 64 | 4 | 73 | 23 | Silt Loam |
| 17.2 | 2500.0 | 19.2 | 2498.0 | 17 | 5.8 | 28.3 | 7.9 | 39.9 | 8.38 | 55 | 14 | 61 | 25 | Silt Loam |
| 19.2 | 2498.0 | 20.0 | 2497.2 | 12.3 | 4.9 | 20.7 | 7.9 | 35.2 | 8.66 | 53 | 20 | 63 | 17 | Silt Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|------|------|------|-----|------|------|------|-----|------|------|
| Min | 4.5 | 0.98 | 4.2 | 7.1 | 0.6 | 0.29 | 51 | 1 | 32 | 17 |
| Average | 19.6 | 5.8 | 37.7 | 7.7 | 32.4 | 5.8 | 56.5 | 9.5 | 63.0 | 27.6 |
| Max | 27.4 | 9.3 | 75.8 | 7.9 | 69.2 | 9.95 | 64 | 20 | 73 | 49 |
| Number | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.18

OVERBURDEN ANALYSIS DATA FOR SOSH-22

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2521.4 | 1 | 2520.4 | 7.7 | 1.4 | 4.9 | 6.8 | 0.9 | 0.35 | 45 | 20 | 57 | 23 | Silt Loam |
| 1 | 2520.4 | 2 | 2519.4 | 2.8 | 1.2 | 4.2 | 7.8 | 4.9 | 2.63 | 52 | 1 | 73 | 27 | Silty Clay Loam |
| 2 | 2519.4 | 4 | 2517.4 | 9.8 | 5 | 20.4 | 8 | 37.6 | 9.68 | 63 | 4 | 67 | 29 | Silty Clay Loam |
| 4 | 2517.4 | 4.7 | 2516.7 | 21.4 | 7.7 | 41.7 | 7.8 | 59.4 | 10.6 | 74 | 1 | 66 | 34 | Silty Clay Loam |
| 4.7 | 2516.7 | 6.7 | 2514.7 | 21.8 | 9.8 | 61.3 | 7.9 | 83.7 | 13 | 99 | 1 | 54 | 46 | Silty Clay |
| 6.7 | 2514.7 | 8 | 2513.4 | 18.6 | 9.6 | 53.1 | 8.2 | 86.8 | 14.5 | 72 | 2 | 69 | 29 | Silty Clay Loam |
| 8 | 2513.4 | 10 | 2511.4 | 21.5 | 9 | 49 | 8.1 | 76.6 | 12.9 | 43 | 26 | 61 | 13 | Silt Loam |
| 10 | 2511.4 | 12 | 2509.4 | 21.4 | 8.2 | 42.2 | 8.1 | 67.1 | 11.9 | 69 | 8 | 63 | 29 | Silty Clay Loam |
| 12 | 2509.4 | 13.2 | 2508.2 | 17.7 | 6.6 | 28.5 | 8 | 51.9 | 10.8 | 80 | 1 | 65 | 35 | Silty Clay Loam |
| 13.2 | 2508.2 | 14.2 | 2507.2 | 14.8 | 5.9 | 22.9 | 8 | 47 | 10.8 | 61 | 16 | 63 | 21 | Silt Loam |
| 14.2 | 2507.2 | 16.2 | 2505.2 | 7.4 | 3.8 | 9.9 | 8 | 29.1 | 9.9 | 33 | 64 | 27 | 9 | Sandy Loam |
| 16.2 | 2505.2 | 18.2 | 2503.2 | 0.5 | 1.1 | 0.5 | 8.3 | 9.7 | 13.8 | 100 | 6 | 60 | 34 | Silty Clay Loam |
| 18.2 | 2503.2 | 20 | 2501.4 | 0.2 | 0.65 | 0.1 | 8.4 | 5.9 | 15.2 | 120 | 11 | 61 | 28 | Silty Clay Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|------|------|------|-----|------|------|-----|------|------|------|
| Min | 0.2 | 0.65 | 0.1 | 6.8 | 0.9 | 0.35 | 33 | 1 | 27 | 9 |
| Average | 12.7 | 5.4 | 26.1 | 8.0 | 43.1 | 10.5 | 70 | 12.4 | 60.5 | 27.5 |
| Max | 21.8 | 9.8 | 61.3 | 8.4 | 86.8 | 15.2 | 120 | 64 | 73 | 46 |
| Number | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.19

OVERBURDEN ANALYSIS DATA FOR SOSH-23

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2530.1 | 2 | 2528.1 | 5.4 | 1.2 | 4.1 | 6.9 | 2.4 | 1.12 | 43 | 30 | 42 | 28 | Clay Loam |
| 2 | 2528.1 | 3 | 2527.1 | 2 | 0.82 | 2.5 | 7.8 | 3.9 | 2.61 | 38 | 31 | 44 | 25 | Loam |
| 3 | 2527.1 | 5 | 2525.1 | 0.5 | 2.2 | 1.4 | 8.8 | 20.3 | 21.2 | 140 | 18 | 54 | 28 | Silty Clay Loam |
| 5 | 2525.1 | 6.8 | 2523.2 | 4 | 5.5 | 11 | 8.2 | 52.5 | 19.2 | 110 | 20 | 53 | 27 | Silty Clay Loam |
| 6.8 | 2523.2 | 8 | 2522.1 | 20.7 | 8.4 | 29.5 | 7.8 | 76.1 | 15.2 | 96 | 12 | 57 | 31 | Silty Clay Loam |
| 8 | 2522.1 | 10 | 2520.1 | 0.9 | 3.1 | 2.2 | 8.3 | 28.3 | 22.4 | 190 | 6 | 59 | 35 | Silty Clay Loam |
| 10 | 2520.1 | 12 | 2518.1 | 2.2 | 3.6 | 3.9 | 8.3 | 33.1 | 19 | 200 | 14 | 51 | 35 | Silty Clay Loam |
| 12 | 2518.1 | 14 | 2516.1 | 1.2 | 2.8 | 2.1 | 8.3 | 25.5 | 19.7 | 250 | 3 | 59 | 38 | Silty Clay Loam |
| 14 | 2516.1 | 15.2 | 2514.9 | 0.4 | 2.3 | 0.8 | 8.4 | 21.9 | 27.9 | 210 | 3 | 59 | 38 | Silty Clay Loam |
| 15.2 | 2514.9 | 15.7 | 2514.4 | 1.4 | 3 | 2.2 | 8.3 | 27.8 | 20.6 | 210 | 12 | 54 | 34 | Silty Clay Loam |
| 15.7 | 2514.4 | 16.3 | 2513.7 | 1.9 | 3.4 | 2.6 | 8.3 | 32.7 | 21.7 | 170 | 20 | 48 | 32 | Silty Clay Loam |
| 16.3 | 2513.7 | 16.8 | 2513.2 | 0.9 | 2.5 | 1.3 | 8.4 | 23.7 | 23 | 200 | 18 | 48 | 34 | Silty Clay Loam |
| 16.8 | 2513.2 | 18.7 | 2511.4 | 0.6 | 2.7 | 1 | 8.6 | 26.8 | 30.1 | 110 | 31 | 41 | 28 | Clay Loam |
| 18.7 | 2511.4 | 20 | 2510.1 | 0.6 | 3 | 1.3 | 8.5 | 28.2 | 29 | 100 | 36 | 40 | 24 | Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|------|------|------|-----|------|------|-------|------|------|------|
| Min | 0.4 | 0.82 | 0.8 | 6.9 | 2.4 | 1.12 | 38 | 3 | 40 | 24 |
| Average | 3.1 | 3.2 | 4.7 | 8.2 | 28.8 | 19.5 | 147.6 | 18.1 | 50.6 | 31.2 |
| Max | 20.7 | 8.4 | 29.5 | 8.8 | 76.1 | 30.1 | 250 | 36 | 59 | 38 |
| Number | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.20

OVERBURDEN ANALYSIS DATA FOR SOSH-24

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2523.3 | 1.5 | 2521.8 | 3.2 | 0.67 | 2.8 | 6.9 | 0.6 | 0.32 | 42 | 32 | 44 | 24 | Loam |
| 1.5 | 2521.8 | 3.5 | 2519.8 | 0.6 | 0.66 | 1.6 | 8.4 | 4.6 | 4.49 | 46 | 12 | 58 | 30 | Silty Clay Loam |
| 3.5 | 2519.8 | 5.5 | 2517.8 | 0.5 | 0.68 | 1.5 | 8.6 | 5.1 | 5.08 | 43 | 12 | 69 | 19 | Silt Loam |
| 5.5 | 2517.8 | 6.7 | 2516.6 | 0.5 | 0.65 | 1.5 | 8.5 | 4.4 | 4.3 | 52 | 6 | 70 | 24 | Silt Loam |
| 6.7 | 2516.6 | 8 | 2515.3 | 0.7 | 0.97 | 2.1 | 8.5 | 6.8 | 5.76 | 55 | 18 | 52 | 30 | Silty Clay Loam |
| 8 | 2515.3 | 8.7 | 2514.6 | 0.7 | 0.89 | 2 | 8.4 | 6 | 5.17 | 65 | 8 | 58 | 34 | Silty Clay Loam |
| 8.7 | 2514.6 | 10.7 | 2512.6 | 2.2 | 2.2 | 6 | 8.3 | 14.9 | 7.34 | 41 | 24 | 60 | 16 | Silt Loam |
| 10.7 | 2512.6 | 11.3 | 2511.9 | 5.1 | 4.2 | 10.7 | 8.3 | 32.6 | 11.6 | 38 | 28 | 60 | 12 | Silt Loam |
| 11.3 | 2511.9 | 13.2 | 2510.1 | 0.9 | 1.8 | 1.4 | 8.2 | 15.2 | 14.1 | 110 | 4 | 58 | 38 | Silty Clay Loam |
| 13.2 | 2510.1 | 15.2 | 2508.1 | 0.5 | 1.5 | 0.5 | 8.4 | 13.1 | 18.5 | 130 | 10 | 64 | 26 | Silt Loam |
| 15.2 | 2508.1 | 16.8 | 2506.4 | 4.6 | 3.5 | 4.8 | 8.1 | 29 | 13.4 | 130 | 6 | 64 | 30 | Silty Clay Loam |
| 16.8 | 2506.4 | 18.8 | 2504.4 | 0.5 | 1.9 | 0.8 | 8.3 | 18 | 21.8 | 160 | 3 | 61 | 36 | Silty Clay Loam |
| 18.8 | 2504.4 | 20 | 2503.3 | 0.3 | 1.6 | 0.5 | 8.5 | 14.8 | 23.5 | 190 | 4 | 52 | 44 | Silty Clay |

Statistical Summary

| | | | | | | | | | | |
|---------|-----|------|------|-----|------|------|-----|------|------|------|
| Min | 0.3 | 0.65 | 0.5 | 6.9 | 0.6 | 0.32 | 38 | 3 | 44 | 12 |
| Average | 1.6 | 1.6 | 2.8 | 8.3 | 12.7 | 10.4 | 85 | 12.8 | 59.2 | 27.9 |
| Max | 5.1 | 4.2 | 10.7 | 8.6 | 32.6 | 23.5 | 190 | 32 | 70 | 44 |
| Number | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.21

OVERBURDEN ANALYSIS DATA FOR SOSH-25

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2526.3 | 1 | 2525.3 | 8.7 | 1.5 | 3 | 7.1 | 0.9 | 0.38 | 43 | 24 | 54 | 22 | Silt Loam |
| 1 | 2525.3 | 2 | 2524.3 | 3.2 | 2.2 | 3.6 | 8.3 | 15.5 | 8.43 | 41 | 18 | 60 | 22 | Silt Loam |
| 2 | 2524.3 | 4 | 2522.3 | 20.1 | 8.4 | 28.6 | 8.3 | 77.5 | 15.7 | 82 | 3 | 54 | 43 | Silty Clay |
| 4 | 2522.3 | 5.3 | 2521.0 | 20.8 | 10 | 39.6 | 8.3 | 103 | 18.7 | 88 | 3 | 48 | 49 | Silty Clay |
| 5.3 | 2521.0 | 6.2 | 2520.1 | 21.8 | 11 | 40.6 | 8.1 | 117 | 21 | 80 | 3 | 55 | 42 | Silty Clay |
| 6.2 | 2520.1 | 8.2 | 2518.1 | 15.8 | 8.7 | 24 | 8.2 | 87.8 | 19.7 | 83 | 4 | 56 | 40 | Silty Clay |
| 8.2 | 2518.1 | 9.5 | 2516.8 | 4.5 | 5.7 | 9 | 8.4 | 53.3 | 20.6 | 85 | 12 | 67 | 21 | Silt Loam |
| 9.5 | 2516.8 | 11.5 | 2514.8 | 7.4 | 6.6 | 14.1 | 8.4 | 61.8 | 18.8 | 67 | 8 | 72 | 20 | Silt Loam |
| 11.5 | 2514.8 | 13.5 | 2512.8 | 0.9 | 2.7 | 1.4 | 8.4 | 24.8 | 22.8 | 120 | 7 | 63 | 30 | Silty Clay Loam |
| 13.5 | 2512.8 | 15.5 | 2510.8 | 0.2 | 1.4 | 0.2 | 8.7 | 12.7 | 26.1 | 140 | 6 | 68 | 26 | Silt Loam |
| 15.5 | 2510.8 | 17.5 | 2508.8 | 0.4 | 1.8 | 0.5 | 8.5 | 16.2 | 24.5 | 140 | 1 | 69 | 31 | Silty Clay Loam |
| 17.5 | 2508.8 | 18.7 | 2507.6 | 0.4 | 1.8 | 0.5 | 8.5 | 16.3 | 25.1 | 170 | 1 | 63 | 37 | Silty Clay Loam |
| 18.7 | 2507.6 | 20 | 2506.3 | 0.3 | 1.6 | 0.3 | 8.6 | 14.8 | 26.3 | 180 | 1 | 55 | 45 | Silty Clay |

Statistical Summary

| | | | | | | | | | | |
|---------|------|-----|------|-----|------|------|-----|-----|------|------|
| Min | 0.2 | 1.4 | 0.2 | 7.1 | 0.9 | 0.38 | 41 | 1 | 48 | 20 |
| Average | 8.0 | 4.9 | 12.7 | 8.3 | 46.3 | 19.1 | 101 | 7.0 | 60.3 | 32.9 |
| Max | 21.8 | 11 | 40.6 | 8.7 | 117 | 26.3 | 180 | 24 | 72 | 49 |
| Number | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.22

OVERBURDEN ANALYSIS DATA FOR SOSH-26

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2521.2 | 1 | 2520.2 | 4.2 | 1.2 | 4.9 | 7.5 | 3.5 | 1.63 | 74 | 8 | 46 | 46 | Silty Clay |
| 1 | 2520.2 | 3 | 2518.2 | 22.7 | 4.8 | 30.9 | 7.8 | 19.2 | 3.71 | 48 | 10 | 57 | 33 | Silty Clay Loam |
| 3 | 2518.2 | 4.3 | 2516.9 | 8.9 | 4.6 | 26.3 | 8.1 | 28 | 6.69 | 63 | 1 | 67 | 33 | Silty Clay Loam |
| 4.3 | 2516.9 | 6.3 | 2514.9 | 9.1 | 4.7 | 25 | 8 | 30.8 | 7.46 | 74 | 2 | 61 | 37 | Silty Clay Loam |
| 6.3 | 2514.9 | 8.3 | 2512.9 | 2.2 | 1.9 | 5 | 8.3 | 13.6 | 7.22 | 44 | 28 | 57 | 15 | Silt Loam |
| 8.3 | 2512.9 | 10.3 | 2510.9 | 1.7 | 1.8 | 4.1 | 8.5 | 14.2 | 8.36 | 68 | 1 | 72 | 28 | Silty Clay Loam |
| 10.3 | 2510.9 | 12.3 | 2508.9 | 1.6 | 1.9 | 3.2 | 8.3 | 16.3 | 10.5 | 78 | 4 | 63 | 33 | Silty Clay Loam |
| 12.3 | 2508.9 | 14.3 | 2506.9 | 1.6 | 1.9 | 3.3 | 8.2 | 15.4 | 9.87 | 72 | 3 | 71 | 26 | Silt Loam |
| 14.3 | 2506.9 | 16.3 | 2504.9 | 16.8 | 5.5 | 19.1 | 7.8 | 40.5 | 9.55 | 61 | 18 | 59 | 23 | Silt Loam |
| 16.3 | 2504.9 | 18.3 | 2502.9 | 5.9 | 3.9 | 8.3 | 8 | 30.6 | 11.5 | 110 | 1 | 63 | 37 | Silty Clay Loam |
| 18.3 | 2502.9 | 20 | 2501.2 | 21.1 | 6.4 | 22.4 | 7.7 | 48 | 10.3 | 110 | 1 | 53 | 47 | Silty Clay |

Statistical Summary

| | | | | | | | | | | |
|---------|------|-----|------|-----|------|------|------|-----|------|------|
| Min | 1.6 | 1.2 | 3.2 | 7.5 | 3.5 | 1.63 | 44 | 1 | 46 | 15 |
| Average | 8.7 | 3.5 | 13.9 | 8.0 | 23.6 | 7.9 | 72.9 | 7.0 | 60.8 | 32.5 |
| Max | 22.7 | 6.4 | 30.9 | 8.5 | 48 | 11.5 | 110 | 28 | 72 | 47 |
| Number | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.23

OVERBURDEN ANALYSIS DATA FOR SOSH-27

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2533.7 | 2 | 2531.7 | 2.2 | 0.66 | 2.6 | 6.3 | 1.2 | 0.76 | 54 | 6 | 55 | 39 | Silty Clay Loam |
| 2 | 2531.7 | 3.3 | 2530.4 | 3 | 0.89 | 4.1 | 7.8 | 1.9 | 0.99 | 58 | 8 | 47 | 45 | Silty Clay |
| 3.3 | 2530.4 | 5 | 2528.7 | 1.3 | 0.64 | 2.7 | 8.1 | 2.1 | 1.52 | 48 | 14 | 54 | 32 | Silty Clay Loam |
| 5 | 2528.7 | 6.5 | 2527.2 | 1.1 | 0.89 | 3.4 | 8.3 | 4.6 | 3.09 | 64 | 1 | 58 | 42 | Silty Clay |
| 6.5 | 2527.2 | 7.3 | 2526.4 | 1.3 | 1.1 | 4.1 | 8.3 | 6.2 | 3.74 | 120 | 1 | 42 | 58 | Silty Clay |
| 7.3 | 2526.4 | 9.2 | 2524.6 | 5.7 | 2.5 | 15.6 | 7.8 | 9.4 | 2.89 | 73 | 1 | 61 | 39 | Silty Clay Loam |
| 9.2 | 2524.6 | 11.2 | 2522.6 | 20.9 | 4.6 | 38.6 | 7.8 | 13.4 | 2.46 | 83 | 1 | 64 | 36 | Silty Clay Loam |
| 11.2 | 2522.6 | 12.2 | 2521.6 | 10.9 | 3.7 | 25.1 | 7.8 | 13.8 | 3.24 | 76 | 18 | 51 | 31 | Silty Clay Loam |
| 12.2 | 2521.6 | 14.2 | 2519.6 | 14.2 | 4.1 | 29.5 | 7.7 | 14.7 | 3.14 | 46 | 60 | 17 | 23 | Sandy Clay Loam |
| 14.2 | 2519.6 | 16.2 | 2517.6 | 6.9 | 2.7 | 15 | 7.9 | 11.3 | 3.42 | 47 | 60 | 17 | 23 | Sandy Clay Loam |
| 16.2 | 2517.6 | 18.2 | 2515.6 | 12.1 | 3.4 | 23.5 | 7.6 | 12.3 | 2.92 | 44 | 62 | 17 | 21 | Sandy Clay Loam |
| 18.2 | 2515.6 | 20 | 2513.7 | 8.9 | 2.9 | 19.3 | 7.7 | 10.1 | 2.7 | 45 | 61 | 18 | 21 | Sandy Clay Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|------|------|------|-----|------|------|------|------|------|------|
| Min | 1.1 | 0.64 | 2.6 | 6.3 | 1.2 | 0.76 | 44 | 1 | 17 | 21 |
| Average | 7.4 | 2.3 | 15.3 | 7.8 | 8.4 | 2.6 | 63.2 | 24.4 | 41.8 | 34.2 |
| Max | 20.9 | 4.6 | 38.6 | 8.3 | 14.7 | 3.74 | 120 | 62 | 64 | 58 |
| Number | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.24

OVERBURDEN ANALYSIS DATA FOR SOSH-28

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2534.8 | 1 | 2533.8 | 6.6 | 1.2 | 4.4 | 6.7 | 1.5 | 0.62 | 43 | 26 | 46 | 28 | Clay Loam |
| 1 | 2533.8 | 2 | 2532.8 | 3.2 | 0.64 | 1.6 | 7.7 | 2.1 | 1.37 | 43 | 38 | 40 | 22 | Loam |
| 2 | 2532.8 | 4 | 2530.8 | 1.4 | 0.72 | 1.1 | 8 | 4.9 | 4.38 | 56 | 4 | 59 | 37 | Silty Clay Loam |
| 4 | 2530.8 | 5.7 | 2529.2 | 1.8 | 1 | 1.8 | 7.9 | 7.3 | 5.48 | 74 | 1 | 56 | 44 | Silty Clay |
| 5.7 | 2529.2 | 6.8 | 2528.0 | 1.8 | 1.8 | 2.2 | 8.1 | 15.6 | 11 | 49 | 22 | 56 | 22 | Silt Loam |
| 6.8 | 2528.0 | 8.3 | 2526.5 | 4.7 | 4.2 | 8.8 | 8.1 | 38.8 | 14.9 | 55 | 12 | 63 | 25 | Silt Loam |
| 8.3 | 2526.5 | 8.8 | 2526.0 | 0.8 | 1.9 | 1.4 | 8.2 | 18.3 | 17.3 | 130 | 1 | 51 | 49 | Silty Clay |
| 8.8 | 2526.0 | 10 | 2524.8 | 0.8 | 1.8 | 1.1 | 8.2 | 16.9 | 17.6 | 130 | 1 | 55 | 45 | Silty Clay |
| 10 | 2524.8 | 12 | 2522.8 | 3.4 | 3.1 | 4.3 | 7.9 | 28.1 | 14.3 | 110 | 10 | 63 | 27 | Silty Clay Loam |
| 12 | 2522.8 | 14 | 2520.8 | 5.8 | 4 | 7.2 | 7.9 | 36.9 | 14.5 | 110 | 14 | 60 | 26 | Silt Loam |
| 14 | 2520.8 | 16 | 2518.8 | 6.3 | 4.7 | 8 | 8.1 | 43.2 | 16.2 | 110 | 2 | 67 | 31 | Silty Clay Loam |
| 16 | 2518.8 | 18 | 2516.8 | 1 | 2.7 | 1.8 | 8.4 | 25.9 | 21.9 | 150 | 1 | 66 | 33 | Silty Clay Loam |
| 18 | 2516.8 | 20 | 2514.8 | 0.6 | 2.3 | 1 | 8.5 | 21.6 | 24.6 | 200 | 1 | 60 | 40 | Silty Clay |

Statistical Summary

| | | | | | | | | | | |
|---------|-----|------|-----|-----|------|------|-----|------|------|------|
| Min | 0.6 | 0.64 | 1 | 6.7 | 1.5 | 0.62 | 43 | 1 | 40 | 22 |
| Average | 2.9 | 2.3 | 3.4 | 8.0 | 20.1 | 12.6 | 97 | 10.2 | 57.1 | 33.0 |
| Max | 6.6 | 4.7 | 8.8 | 8.5 | 43.2 | 24.6 | 200 | 38 | 67 | 49 |
| Number | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.25

OVERBURDEN ANALYSIS DATA FOR SOSH-29

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2524.0 | 2 | 2522.0 | 2.3 | 0.63 | 2.4 | 7.7 | 2 | 1.32 | 72 | 4 | 48 | 48 | Silty Clay |
| 2 | 2522.0 | 3.7 | 2520.4 | 27.7 | 3.9 | 21.7 | 7.7 | 10.1 | 2.04 | 61 | 2 | 43 | 55 | Silty Clay |
| 3.7 | 2520.4 | 5.7 | 2518.4 | 19.5 | 5 | 30 | 8 | 27.8 | 5.59 | 49 | 6 | 65 | 29 | Silty Clay Loam |
| 5.7 | 2518.4 | 7 | 2517.0 | 10.7 | 4.6 | 18.5 | 7.9 | 32.8 | 8.59 | 64 | 1 | 63 | 37 | Silty Clay Loam |
| 7 | 2517.0 | 9 | 2515.0 | 3.6 | 4.6 | 9.6 | 8.2 | 43.6 | 17 | 84 | 1 | 55 | 45 | Silty Clay |
| 9 | 2515.0 | 11 | 2513.0 | 1.3 | 3.2 | 3.5 | 8.4 | 30.1 | 19.4 | 110 | 1 | 70 | 30 | Silty Clay Loam |
| 11 | 2513.0 | 13 | 2511.0 | 1.6 | 3.5 | 3.4 | 8.3 | 33.4 | 21.3 | 86 | 8 | 66 | 26 | Silt Loam |
| 13 | 2511.0 | 15 | 2509.0 | 0.9 | 2.4 | 1.6 | 8.4 | 22.3 | 20.2 | 170 | 1 | 49 | 51 | Silty Clay |
| 15 | 2509.0 | 17 | 2507.0 | 14.2 | 5.6 | 13.9 | 7.9 | 48.3 | 12.9 | 120 | 2 | 68 | 30 | Silty Clay Loam |
| 17 | 2507.0 | 19 | 2505.0 | 6.2 | 4.7 | 8.1 | 8.1 | 42.9 | 16 | 130 | 7 | 65 | 28 | Silty Clay Loam |
| 19 | 2505.0 | 20 | 2504.0 | 1.8 | 3.3 | 2.9 | 8.3 | 30.8 | 20.1 | 160 | 1 | 69 | 31 | Silty Clay Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|------|------|------|-----|------|------|-----|-----|------|------|
| Min | 0.9 | 0.63 | 1.6 | 7.7 | 2 | 1.32 | 49 | 1 | 43 | 26 |
| Average | 8.2 | 3.8 | 10.5 | 8.1 | 29.5 | 13.1 | 101 | 3.1 | 60.1 | 37.3 |
| Max | 27.7 | 5.6 | 30 | 8.4 | 48.3 | 21.3 | 170 | 8 | 70 | 55 |
| Number | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.26

OVERBURDEN ANALYSIS DATA FOR SOSH-40

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2551.6 | 2 | 2549.6 | 12.4 | 5.1 | 31.2 | 7.7 | 31.1 | 6.66 | 60 | 1 | 55 | 45 | Silty Clay |
| 2 | 2549.6 | 4 | 2547.6 | 5.8 | 4.6 | 20.5 | 8.1 | 34.1 | 9.41 | 57 | 4 | 57 | 39 | Silty Clay Loam |
| 4 | 2547.6 | 6 | 2545.6 | 3.3 | 4 | 11.1 | 8.4 | 33.4 | 12.4 | 43 | 32 | 40 | 28 | Clay Loam |
| 6 | 2545.6 | 8 | 2543.6 | 1 | 2.1 | 2.5 | 8.5 | 18.3 | 13.8 | 34 | 48 | 35 | 17 | Loam |
| 8 | 2543.6 | 9.3 | 2542.3 | 0.8 | 1.9 | 2.1 | 8.5 | 17 | 14 | 38 | 38 | 42 | 20 | Loam |
| 9.3 | 2542.3 | 11.3 | 2540.3 | 0.3 | 1.2 | 0.7 | 8.8 | 11.4 | 15.6 | 37 | 43 | 38 | 19 | Loam |
| 11.3 | 2540.3 | 13.3 | 2538.3 | 0.4 | 1 | 0.6 | 8.5 | 9.6 | 13.4 | 31 | 69 | 18 | 13 | Sandy Loam |
| 13.3 | 2538.3 | 14 | 2537.6 | 0.4 | 1 | 0.8 | 8.5 | 9.5 | 12.4 | 31 | 65 | 23 | 12 | Sandy Loam |
| 14 | 2537.6 | 16 | 2535.6 | 0.3 | 0.7 | 0.4 | 8.6 | 6.4 | 11.3 | 33 | 77 | 13 | 10 | Sandy Loam |
| 16 | 2535.6 | 18 | 2533.6 | 0.3 | 0.74 | 0.4 | 8.6 | 6.6 | 11.6 | 32 | 79 | 12 | 9 | Sandy Loam |
| 18 | 2533.6 | 20 | 2531.6 | 0.4 | 0.82 | 0.5 | 8.5 | 7.6 | 11.6 | 31 | 81 | 11 | 8 | Loamy Sand |

Statistical Summary

| | | | | | | | | | | |
|---------|------|-----|------|-----|------|------|----|------|------|------|
| Min | 0.3 | 0.7 | 0.4 | 7.7 | 6.4 | 6.66 | 31 | 1 | 11 | 8 |
| Average | 2.3 | 2.1 | 6.4 | 8.4 | 16.8 | 12.0 | 39 | 48.8 | 31.3 | 20.0 |
| Max | 12.4 | 5.1 | 31.2 | 8.8 | 34.1 | 15.6 | 60 | 81 | 57 | 45 |
| Number | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.27

OVERBURDEN ANALYSIS DATA FOR SOSH-41

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2553.4 | 2 | 2551.4 | 1.8 | 0.62 | 1.6 | 7.8 | 3.6 | 2.75 | 50 | 10 | 60 | 30 | Silty Clay Loam |
| 2 | 2551.4 | 4 | 2549.4 | 4.3 | 5.9 | 16.7 | 8.3 | 60 | 18.5 | 55 | 20 | 50 | 30 | Silty Clay Loam |
| 4 | 2549.4 | 6 | 2547.4 | 6.1 | 8.2 | 31.8 | 8.5 | 85.5 | 19.6 | 56 | 31 | 41 | 28 | Clay Loam |
| 6 | 2547.4 | 8 | 2545.4 | 6.3 | 9.3 | 35.9 | 8.5 | 102 | 22.3 | 68 | 21 | 49 | 30 | Clay Loam |
| 8 | 2545.4 | 10 | 2543.4 | 3 | 7.8 | 18.4 | 8.6 | 86.7 | 26.5 | 74 | 27 | 47 | 26 | Loam |
| 10 | 2543.4 | 11 | 2542.4 | 16.2 | 12 | 48.3 | 8.6 | 142 | 24.9 | 63 | 25 | 47 | 28 | Clay Loam |
| 11 | 2542.4 | 13 | 2540.4 | 23.6 | 11 | 50.6 | 8.3 | 122 | 20 | 97 | 1 | 62 | 38 | Silty Clay Loam |
| 13 | 2540.4 | 15 | 2538.4 | 23.2 | 11 | 49.6 | 7.9 | 113 | 18.7 | 140 | 1 | 31 | 69 | Clay |
| 15 | 2538.4 | 16.8 | 2536.5 | 21.6 | 11 | 47.8 | 8 | 115 | 19.5 | 110 | 1 | 60 | 40 | Silty Clay |
| 16.8 | 2536.5 | 18.8 | 2534.5 | 23.1 | 11 | 50.8 | 8 | 116 | 19 | 96 | 11 | 55 | 34 | Silty Clay Loam |
| 18.8 | 2534.5 | 20 | 2533.4 | 10.7 | 8.6 | 34 | 7.9 | 87.3 | 18.4 | 110 | 3 | 58 | 39 | Silty Clay Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|------|------|------|-----|------|------|-----|------|------|------|
| Min | 1.8 | 0.62 | 1.6 | 7.8 | 3.6 | 2.75 | 50 | 1 | 31 | 26 |
| Average | 12.7 | 8.8 | 35.0 | 8.2 | 93.9 | 19.1 | 84 | 13.7 | 50.9 | 35.6 |
| Max | 23.6 | 12 | 50.8 | 8.6 | 142 | 26.5 | 140 | 31 | 62 | 69 |
| Number | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.28

OVERBURDEN ANALYSIS DATA FOR SOSH-43

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|------------|
| 0 | 2562.6 | 2 | 2560.6 | 1 | 0.46 | 1 | 7.7 | 3.1 | 3.15 | 70 | 3 | 54 | 43 | Silty Clay |
| 2 | 2560.6 | 4 | 2558.6 | 0.7 | 1.3 | 1.6 | 8.4 | 11.4 | 10.6 | 93 | 1 | 48 | 51 | Silty Clay |
| 4 | 2558.6 | 6 | 2556.6 | 4.9 | 3.6 | 12.5 | 8.3 | 28.8 | 9.75 | 86 | 1 | 52 | 48 | Silty Clay |
| 6 | 2556.6 | 8 | 2554.6 | 8.2 | 4.2 | 15.9 | 8.2 | 31.3 | 9.03 | 70 | 7 | 52 | 41 | Silty Clay |
| 8 | 2554.6 | 10 | 2552.6 | 4.4 | 3.1 | 8.2 | 8.1 | 24.3 | 9.65 | 75 | 7 | 51 | 42 | Silty Clay |
| 10 | 2552.6 | 12 | 2550.6 | 3 | 2.5 | 5.4 | 8 | 20.1 | 9.82 | 46 | 33 | 38 | 29 | Clay Loam |
| 12 | 2550.6 | 14 | 2548.6 | 0.9 | 1.5 | 1.6 | 8.3 | 13 | 11.6 | 46 | 37 | 43 | 20 | Loam |
| 14 | 2548.6 | 15.2 | 2547.4 | 1.4 | 1.7 | 2.7 | 8.2 | 13.9 | 9.72 | 54 | 27 | 51 | 22 | Silt Loam |
| 15.2 | 2547.4 | 17.2 | 2545.4 | 1 | 1.1 | 1.3 | 8.3 | 8.3 | 7.84 | 44 | 39 | 44 | 17 | Loam |
| 17.2 | 2545.4 | 18 | 2544.6 | 0.9 | 1.1 | 1.5 | 8.3 | 8.3 | 7.74 | 58 | 28 | 54 | 18 | Silt Loam |
| 18 | 2544.6 | 20 | 2542.6 | 0.4 | 0.67 | 0.8 | 8.2 | 5.2 | 6.86 | 32 | 71 | 19 | 10 | Sandy Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|-----|------|------|-----|------|------|----|------|------|------|
| Min | 0.4 | 0.46 | 0.8 | 7.7 | 3.1 | 3.15 | 32 | 1 | 19 | 10 |
| Average | 2.4 | 1.9 | 4.8 | 8.2 | 15.2 | 8.7 | 61 | 23.1 | 46.0 | 31.0 |
| Max | 8.2 | 4.2 | 15.9 | 8.4 | 31.3 | 11.6 | 93 | 71 | 54 | 51 |
| Number | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.29

OVERBURDEN ANALYSIS DATA FOR SOSH-45

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2564.6 | 2 | 2562.6 | 2.8 | 0.47 | 1.7 | 7.3 | 0.5 | 0.35 | 33 | 51 | 31 | 18 | Loam |
| 2 | 2562.6 | 4 | 2560.6 | 1.8 | 0.55 | 2.6 | 7.8 | 1.2 | 0.82 | 39 | 51 | 26 | 23 | Sandy Clay Loam |
| 4 | 2560.6 | 6 | 2558.6 | 0.9 | 0.46 | 2.5 | 8 | 1.2 | 0.89 | 30 | 79 | 14 | 7 | Loamy Sand |
| 6 | 2558.6 | 8 | 2556.6 | 1.4 | 1.2 | 3.2 | 8.3 | 6.9 | 4.57 | 29 | 76 | 15 | 9 | Sandy Loam |
| 8 | 2556.6 | 8.5 | 2556.1 | 2.3 | 3 | 8.2 | 8 | 22.6 | 9.88 | 60 | 41 | 30 | 29 | Clay Loam |
| 8.5 | 2556.1 | 10.5 | 2554.1 | 0.4 | 1.3 | 1.2 | 8.5 | 10.4 | 11.6 | 120 | 13 | 58 | 29 | Silty Clay Loam |
| 10.5 | 2554.1 | 12.5 | 2552.1 | 0.8 | 1.7 | 2.2 | 8.2 | 13.8 | 11.2 | 120 | 2 | 60 | 38 | Silty Clay Loam |
| 12.5 | 2552.1 | 14.5 | 2550.1 | 0.9 | 1.7 | 2.1 | 8.1 | 13.8 | 11.2 | 150 | 7 | 30 | 63 | Clay |
| 14.5 | 2550.1 | 16.5 | 2548.1 | 3.6 | 2.6 | 5.8 | 7.9 | 18.8 | 8.65 | 130 | 7 | 56 | 37 | Silty Clay Loam |
| 16.5 | 2548.1 | 18.5 | 2546.1 | 2 | 2.1 | 3.1 | 7.9 | 15.7 | 9.85 | 130 | 5 | 62 | 33 | Silty Clay Loam |
| 18.5 | 2546.1 | 20 | 2544.6 | 5.8 | 3.4 | 8 | 7.8 | 25.4 | 9.67 | 87 | 29 | 46 | 25 | Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|-----|------|-----|-----|------|------|------|------|------|------|
| Min | 0.4 | 0.46 | 1.2 | 7.3 | 0.5 | 0.35 | 29 | 2 | 14 | 7 |
| Average | 2.1 | 1.7 | 3.7 | 8.0 | 11.8 | 7.2 | 84.4 | 32.8 | 38.9 | 28.3 |
| Max | 5.8 | 3.4 | 8.2 | 8.5 | 25.4 | 11.6 | 150 | 79 | 62 | 63 |
| Number | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown

APPENDIX 2.3-7.30

OVERBURDEN ANALYSIS DATA FOR SOSH-46

| Sample Top Depth (ft) | Sample Top Elevation (ft) | Sample Bottom Depth (ft) | Sample Bottom Elevation (ft) | Calcium (meq/l) | EC (mmhos/cm) | Magnesium (meq/l) | pH (S.U.) | Sodium (meq/l) | SAR | Saturation (%) Percentage | Percent Sand (%) | Percent Silt (%) | Percent Clay (%) | Texture |
|-----------------------|---------------------------|--------------------------|------------------------------|-----------------|---------------|-------------------|-----------|----------------|------|---------------------------|------------------|------------------|------------------|-----------------|
| 0 | 2575.7 | 2 | 2573.7 | 4.9 | 3.5 | 10.3 | 8 | 25.5 | 9.26 | 84 | 9 | 48 | 43 | Silty Clay |
| 2 | 2573.7 | 4 | 2571.7 | 20 | 6.8 | 33.9 | 8 | 48 | 9.24 | 78 | 5 | 52 | 43 | Silty Clay |
| 4 | 2571.7 | 6 | 2569.7 | 11.2 | 5.7 | 21.2 | 8.2 | 45.3 | 11.3 | 88 | 1 | 53 | 46 | Silty Clay |
| 6 | 2569.7 | 8 | 2567.7 | 20.3 | 6.6 | 26.1 | 8.1 | 48.7 | 10.1 | 87 | 3 | 49 | 48 | Silty Clay |
| 8 | 2567.7 | 10 | 2565.7 | 20.3 | 6.5 | 25 | 8 | 48 | 10.1 | 84 | 1 | 50 | 49 | Silty Clay |
| 10 | 2565.7 | 12 | 2563.7 | 21.1 | 6.2 | 24.1 | 7.8 | 44 | 9.25 | 90 | 1 | 48 | 51 | Silty Clay |
| 12 | 2563.7 | 13.8 | 2561.8 | 21.7 | 6.1 | 24.2 | 7.9 | 42.2 | 8.81 | 88 | 1 | 53 | 47 | Silty Clay |
| 13.8 | 2561.8 | 15.8 | 2559.8 | 21.4 | 6.1 | 24 | 7.9 | 42.6 | 8.94 | 80 | 3 | 56 | 41 | Silty Clay |
| 15.8 | 2559.8 | 16.2 | 2559.5 | 21.2 | 6 | 23.3 | 7.9 | 40.4 | 8.57 | 76 | 13 | 49 | 38 | Silty Clay Loam |
| 16.2 | 2559.5 | 18 | 2557.7 | 23.1 | 5.4 | 20 | 7.8 | 32.8 | 7.06 | 29 | 67 | 22 | 11 | Sandy Loam |
| 18 | 2557.7 | 20 | 2555.7 | 23.8 | 5.6 | 20.4 | 7.8 | 35 | 7.43 | 31 | 63 | 25 | 12 | Sandy Loam |

Statistical Summary

| | | | | | | | | | | |
|---------|------|-----|------|-----|------|------|------|------|------|------|
| Min | 4.9 | 3.5 | 10.3 | 7.8 | 25.5 | 7.06 | 29 | 1 | 22 | 11 |
| Average | 19.0 | 5.9 | 23.0 | 7.9 | 41.1 | 9.1 | 74.1 | 15.2 | 45.9 | 39.0 |
| Max | 23.8 | 6.8 | 33.9 | 8.2 | 48.7 | 11.3 | 90 | 67 | 56 | 51 |
| Number | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |

NOTES:

- EC: Electrical Conductivity
- SAR: Sodium Adsorption Ratio
- Analyses performed by Energy Laboratories of Casper, WY
- No analysis available for blank geochemistry cells
- Arithmetic mean shown